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Explorative Study of the Humboldt Network

Department Evaluation and Statistics

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Executive Summary

Since it was founded just over 60 years ago, the Alexander von Humboldt Foundation has evolved a centrepiece that has become its unique feature – the Humboldt Network. Today, it embraces more than 26,000 Humboldtians of all disciplines in over 140 countries around the world as well as their hosts in Germany. The fellows' membership in the Network is for life – in keeping with the motto: "Once a Humboldtian – always a Humboldtian".

In order to become actively involved in the Humboldt Network, Humboldtians have access to a variety of alumni sponsorship tools following their first Foundation-sponsored research stay. For example, they can receive financial support from the Foundation for a further research stay in Germany lasting up to three months, or they can apply for financial support to hold a conference known as a Humboldt Kolleg together with other Humboldtians in their own countries.

By maintaining, strengthening and expanding academic connections between fellows and their German colleagues as well as amongst Humboldtians around the globe, the Foundation nurtures its Humboldt Network with two main goals in mind: to help (1) internationalise the German academic and research landscape and (2), beyond academic cooperation, to contribute to German foreign cultural and educational policy.

But are Humboldtians taking advantage of these tools? How do they connect with each other and with researchers in Germany? What would they like to see improved?

This study examines the objectives of the Humboldt Foundation's networking activities by analysing and evaluating the Foundation's individual alumni sponsorship tools (see Chapter 5), as well as by conducting an explorative study to describe the structure of the Network ("mapping", see Chapter 6). "Mapping" the Humboldt Network and its functionality is designed to reveal the members' networking habits and motivation as well as to shed light on the role of Alexander von Humboldt Foundation headquarters in this process.

Quantitative as well as qualitative methods were used to meet the diverse requirements of this study. Its core is a comprehensive online survey of various sub-groups in the Network. In addition, the study includes guided interviews with alumni, political representatives and Humboldt Foundation staff, as well as two group discussions with fellowship recipients. In addition, internal reports and records as well as the Humboldt Foundation database were analysed with regard to the use of alumni tools. The bulk of the data was collected during the first half of 2014; subsequently the data was analysed and the report written.

According to the results of the study, in the vast majority of cases, the utilisation of the various alumni tools fulfils the respective objectives (see Chapter 5). The analysis of the

various alumni sponsorship tools, however, also shows that awareness of these tools, and hence their usage, varies greatly between regions. Alumni from developing and transition countries benefit to a much greater extent from alumni sponsorship tools than those from high-tech countries. Alumni from Africa, the Middle East and Asia also demonstrate closer personal bonds with the Foundation as well as a stronger connection with Germany. Moreover, alumni from these groups attest to a feeling of particularly strong “family ties” with the Humboldt Network. By comparison, this sense of belonging to the Network and connection with Germany is less prominent in researchers from high-tech countries, in particular from North America (see Chapter 6.2.2). According to the outcomes of this study, in these countries there is still potential for stronger ties to and greater involvement in the Network, which remains to be tapped.

These insights clearly indicate that the Humboldt Network is a network in the traditional sense: the funded scientists maintain stable and sustainable connections with Germany and the Foundation, as well as with other Humboldtians worldwide (see Chapter 6.1). Many consider their membership of the Humboldt Network and the opportunity to connect with other outstanding researchers as personally and academically enriching (see Chapter 6.2.3). Most Humboldtians feel a bond with Germany, the Foundation and the Humboldt Network that lasts well beyond their initial research stay (see Chapter 6.1.1). In addition to the academic and professional benefits, this connection also has a distinct emotional dimension. The personal experience of sustained individual support (“Once a Humboldtian, always a Humboldtian”) can generate a sense of personal appreciation that far outlasts the initial sponsorship period (see Chapter 6.1).

Beyond the personal benefit to the Humboldtians and their hosts, the global Humboldt Network also offers great science-policy benefits concerning the internationalization of Germany as research location. As the outcomes of this study demonstrate (see Chapter 6.1), it facilitates close and lasting contacts between top-level international researchers around the world and academia in Germany. It is not only the visiting scientists’ research stays and the ensuing connections and collaborations that greatly help to internationalise German science. In addition, Humboldtians who stay in Germany on a permanent basis introduce their own international network into their collaborations. Germans who conduct research abroad on the Humboldt Foundation’s Feodor Lynen Fellowships also return to Germany from their host country with new contacts. All in all, it can be assumed that the networking activities based on Humboldt Foundation sponsorship strengthen the competitiveness of German research and enhance its international visibility.

As expected, the insights gained from this explorative study prove that not all Humboldt alumni exhibit the same level of activity in the Network. Nevertheless the majority of them are approachable and willing to be called upon to act both for the Humboldt Foundation and for German international cultural and educational policy. This includes, in

particular, communicating a realistic image of Germany and its science and research landscape. In addition, some alumni actively serve as contacts and a sounding board for German policy and science (see Chapter 6). Humboldtians also help recruit junior researchers for a research stay in Germany. Their profound knowledge of the German research landscape and German culture, politics and society, as well as the experience of having received individual sponsorship in their own careers and personal advancement from a publicly-funded German foundation makes most Humboldtians important partners and advocates for German foreign cultural and educational policy (see Chapter 6.3).

Altogether, the results of the study lead to the conclusion that the use of alumni sponsorship tools achieves both key objectives of fostering and extending the Humboldt Network.

Core Results and Recommendations

The following summarises the core results of the study as well as the resulting recommendations:

1. Alumni Tools

The Humboldt Network includes researchers of various age groups and from different academic and cultural backgrounds. The Alexander von Humboldt Foundation addresses the diverse needs of these groups by offering a wide range of alumni sponsorship activities. The results of the study demonstrate that this strategy is effective: survey respondents rated the respective tools as positive and beneficial to their own careers.

The information collected in the scope of the study further proves that the various alumni sponsorship activities are used effectively for maintaining and developing contacts within the Humboldt Network and thus contribute to internationalising Germany as a research location.

Room for improvement does seem to emerge when the positive rating achieved by the existing alumni tools is set against the low awareness or limited usage of them in some parts of the network. Future strategic considerations about expanding and developing the portfolio could set new targeted priorities – always taking account of the financial leeway available within the Foundation budget.

Recommendations:

Alumni tools in general:

Looking at the dimensions “Awareness”, “Usage” and “Rating” of alumni tools, there are noticeable differences between both the various programme groups and the alumni’s countries of origin and academic fields. Also, at several points in the study it is revealed that information gaps of varying degrees exist with regard to the alumni sponsorship activities that are available. Broader, more consistent marketing efforts would be desirable to enhance awareness amongst the members of the Network and render the use of tools more calculable for alumni in general.

The results also show that apparently, a large proportion of collaborations within the Network are funded by third parties, without direct support from the Humboldt Foundation. Nevertheless, the Foundation’s alumni tools are of vital importance to academic cooperation, in particular in countries that offer few funding alternatives. Accordingly, alumni from Africa and Asia generally rate the importance of alumni sponsorship activities and the Network for their personal academic careers much higher than North American or European alumni.

For fostering its Network, the Humboldt Foundation must strive to offer Humboldtians and hosts an appealing, sustainable network with interesting collaborative partners for all members. Therefore, alumni who cooperate with hosts in Germany or with one

another using third-party funds should remain visible in the Humboldt Network and available as contacts for activities. This will require increased efforts to involve alumni from academic fields and regions – in particular high-tech countries – who have demonstrated less activity in the past in networking activities (e.g. by expanding the alumni tool “Research Group Linkages”).

The Foundation offers both alumni tools for largely individualised sponsorship (e.g. printing subsidies, book donations) as well as tools that are mainly designed to strengthen the Network in specific regions or in general (e.g. Kollegs, Colloquia). In order to continue using the funds available in the best interests of the Foundation, individual tools should undergo a cost-benefit analysis to establish their usefulness. This also begs the question as to whether proactive, strategic tools that reach a large number of Humboldtians (e.g. Kollegs, Colloquia) ought to be given priority over more reactive tools that tend to benefit individuals (e.g. printing subsidies, book donations).

Specific alumni tools:

- The majority of alumni are very satisfied with the tool, *Renewed Research Stays in Germany*. Those alumni abroad who did voice criticism expressed the wish to extend the duration of a renewed stay in Germany to up to six months. They also felt it should be possible to apply for it sooner than three years after completing the initial fellowship period. To maintain or even increase the appeal of the tool in the future, headquarters should consider whether such modifications would make sense.
- About half of the *hosts in Germany* know that it is possible to receive financial support from the Foundation for a return visit to their alumni abroad. The Foundation should continue to publicise and expand this tool in order to involve hosts more in Network activities and enlist their support for marketing purposes. The results of the study also suggest that many hosts feel a strong bond with the Foundation and are willing to get involved.
- The survey showed that a third of Feodor Lynen alumni are not aware of the Foundation’s alumni sponsorship tools. The Foundation should assess whether the portfolio of tools for this group could be redesigned to better meet the needs of Lynen alumni and involve them more in the Network than has previously been the case. Moreover, Lynen alumni rarely take advantage of the opportunity to undertake a further research stay with Humboldtians abroad. One of the objectives of this tool is to foster connections between German researchers and partners in transition and developing countries. So far, only a small number of Lynen fellows has completed a stay in countries in this category; even fewer of them used alumni sponsorship for a renewed stay with their respective host. The Foundation should, therefore, consider measures to enhance the appeal of a stay

- with Humboldtians in transition and developing countries for Lynen alumni. It would make sense to develop the tool of Renewed Research Stays for this purpose.
- The results of the study show that alumni sponsorship meets its objectives with regard to *Research Group Linkages*. Research Group Linkages are a particularly effective tool for recruiting young researchers for the Humboldt Network. Currently, the programme is only open to alumni from nations with weak currencies. In order to create additional opportunities for scientific exchange and involve more groups in the Network, the programme could be expanded to include alumni from other countries. By supporting linkages between institutes in Germany and institutes in high-tech countries it might be possible to increase the access to the potential of these regions for the Network.
 - The results of the study prove that the *Humboldt Alumni Award* works well and should be continued in the same manner.
 - From the survey participants' perspective, *Humboldt Kollegs* are an excellent networking tool that promotes regional exchange and facilitates the involvement of junior researchers. The respondents' only criticism concerns the selection of topics, which is sometimes considered too broad. The programme's sponsorship guidelines do, however, allow for more specific topic areas. It should, therefore, be communicated more clearly that Kollegs do not have to be interdisciplinary. In addition, the Foundation's objective of regional networking, which is just as important as academic exchange, should be made clearer to those participating in this type of event.
 - The results of the study suggest that *Humboldt Colloquia* intensify the bonds between the alumni who participate in a given region as well as their connection with the Foundation. Foundation headquarters should, therefore, definitely retain Humboldt Colloquia as a strategic tool to continue the targeted expansion and maintenance of the Humboldt Network possibly by focusing on specific regions.
 - Many alumni who participated in the survey expressed their desire for better access to electronic knowledge bases such as journals, databases etc. The Foundation should consider re-allocating resources from *book donations and print subsidies* to electronic media, or supplementing them with electronic media. In this context, the Foundation could also examine the possibility of granting every Humboldtian access to digital archives as soon as they become members of the Humboldt Network. Such exclusive access would add yet greater value to membership of the Network.
 - Alumni consider *equipment subsidies* an important factor that supports the continuity of their research activities. In particular, they help alumni from transition and developing countries to remain on a par with their international academic communities and should therefore continue to be available to this group.

Need for new alumni tools:

The results of the study suggest that there is a two-fold need for additional alumni tools: Firstly, there should be further initiatives to support and expand academic networking amongst the alumni themselves. Secondly, to maintain the excellence of the Network, tools are needed to enhance the appeal and usefulness of membership, in particular for alumni from high-tech countries. In addition to expanding Research Group Linkages, this could be achieved by organising events that specifically cater for the interests and needs of Humboldtians from these countries (high-level events).

2. Bonding with the Humboldt Network at an early stage

In general, the connection with Germany as well as involvement in the Network is significantly stronger amongst alumni who have already participated in one of the Foundation's networking events. Taking part in these events as well as in the study trip organised by the Foundation and the personal contacts with Foundation staff that ensue seem to form the basis for later involvement in the Humboldt Network and a bond with Germany. Alumni whose stay in Germany ended less than three years previously felt a particularly close bond with the Foundation.

Recommendation:

The response rates to the online survey can be seen as an indicator of Humboldtians' bond with Germany and the Foundation. The response rate was particularly high amongst alumni whose initial stay ended less than three years previously, but it dropped significantly as the interval since the stay in Germany increased. This shows that the bond is strongest immediately following the first research stay sponsored by the Foundation.

Moreover, there is a positive correlation between participation in networking events organised by the Foundation and later involvement in the Network. This leads to the conclusion that events are a way – perhaps the way – of making fellows identify with Germany and the Foundation during their initial research stay, and thus recruiting them for the Network on a sustainable basis. The Foundation should also reach out to sponsorship-holders who have not participated in these events after their research stay in order to retain them for the Network. Due to their strong bonds with Germany and the Foundation during the first three years after completing their initial research stay, it seems advisable to systematically reach out to alumni during this period.

3. Lynen Alumni / German Network

The outcomes of the study confirm insights that had already been gained from the evaluation of the Lynen Programme: overall, Lynen alumni have a weaker emotional bond with the Humboldt Network and are less committed to Foundation purposes. They also

use alumni sponsorship tools to a significantly lesser extent. The evaluation of the Lynen Programme as well as the online survey in this study show that, whilst cooperation with the Humboldt host does continue after completing the research stay abroad, it is generally less sustainable than cooperation with other researchers in the host country¹. In addition, approximately one fifth of Lynen alumni no longer work at a university or publicly-funded research institution today. Thus it is clear that this group has a very different kind of bond with the Network and the Foundation.

And yet despite this, due to their successful careers², their affinity with international academic cooperation and not least the fact that they represent a younger generation of researchers in the Network, Lynen alumni should be seen as a group that can play a central role in maintaining and expanding the Humboldt Network.

Furthermore, the German Network also comprises the group of Humboldt fellows' hosts. Some of the insights gained from this study suggest that a number of these researchers feel a close bond with the Foundation and might be willing to get more involved in the Network.

Recommendation:

The Foundation should explore whether and to what extent the group of Lynen alumni could be involved more in Network activities. Due to their special connection with the Foundation, this group should be analysed separately in order to better assess their needs with regard to alumni sponsorship and to collect more information about their motivation for international networking.

According to the outcomes of the online survey, Lynen alumni are interested in more exchange within the Network, but apparently there is no appropriate platform for such exchange. The Foundation's own online social network, Humboldt Life, could serve this purpose in the future. In addition, the Foundation could consider facilitating additional alumni meetings, either in the context of Foundation events or in cooperation with the "German Association of Humboldtians" (DGH).

The results of the study suggest that a number of hosts would like to get more involved in the Network. It should, therefore, be considered whether this potential could be tapped, for example by inviting hosts to the Foundation's networking events more often.

Since 2012, personnel budget constraints at headquarters have forced the Foundation to significantly reduce its activities for the Network in Germany. From a strategic point of view and based on the outcomes of the study as described above, this step should be reconsidered since the value of the German Network is very substantial for the entire Humboldt Network. One point to consider in this context is that despite the fact

¹ Compare section 6.1.2 as well as section 8.2.4 in the final evaluation report on the Feodor Lynen Programme. This report draws the conclusion that "Lynen fellows prioritise internationalisation over integration into the Humboldt Network [...]" (ibid, p. 101)

² See the evaluation results of the Feodor Lynen Research Fellowship Programme.

that alumni sponsorship is not particularly cost-intensive, it requires a large amount of human resources (high levels of personnel in relation to the funding required).

4. Ambassador Scientists

Much of the information that was collected, in particular from the document analysis and individual interviews, clearly indicates that Ambassador Scientists abroad are a highly motivated and vital group for the Network.

Recommendation:

Ambassador Scientists abroad perform vital tasks on behalf of the Foundation locally, which means they are in a position to assume a central role in maintaining and expanding the Humboldt Network. The study shows that these particularly committed alumni are still somewhat uncertain as to what their role really is. The Foundation could do more to manage expectations, for example by communicating more specific information (such as the option of having travel expenses reimbursed), by providing more information material, by showcasing best practices on the website, or by reviewing and potentially rewriting the “job description”. There are also clues to suggest that Ambassador Scientists would like to network more. For example, many participants rated the gathering first held at the Foundation’s Annual Meeting in 2013 as very beneficial. Humboldt Life has also been offered to Ambassador Scientists and could play an important role as a future networking and exchange tool.

5. Access to information about individuals in the Network

At various points in the study, alumni and hosts express the desire to find each other more easily in the Network and to make contacts with other Humboldtians via online searches.

Recommendations:

Alumni and their hosts suggest improving access to information about Network members and creating ways of searching for other Humboldtians using certain criteria (e.g. Who is currently in Germany? Where are Humboldtians in my country?). It seems that members are either not sufficiently aware of the “Searching the Network” option on the Foundation website, or it does not fully meet their needs for a quick, comprehensive search.

Alumni abroad as well as hosts and Lynen alumni in Germany greatly welcome the recently added option for exchange and networking via a social media tool (Humboldt Life). At the beginning of 2015, however, the development of Humboldt Life had to be put on hold for financial reasons. This measure should be reconsidered as soon as possible in order to expand this networking tool and make it appealing for the long term.

6. Promoting Young Talent

Throughout the online survey as well as in the guided interviews Humboldt alumni stress the great importance of promoting young talent. Humboldt alumni help recruit new, excellent researchers for the Humboldt Network in many different ways, in particular by introducing the Foundation's programmes to young researchers directly or by helping them apply for fellowships. The Foundation should continue to support and promote this commitment, since early contact with young researchers is key for the continuous renewal and expansion of the Humboldt Network.

Recommendation:

The results of the study illustrate how strongly alumni feel about involving young researchers and how committed they are to bringing young researchers into the Network. The Foundation should continuously evaluate whether existing alumni tools fully exploit opportunities to open the Network to new generations. One possibility to push this opening could be seen in creating better opportunities for Humboldt alumni to recruit young researchers for Humboldt sponsorship independently.

1 Introduction

The Alexander von Humboldt Foundation is a non-profit foundation established by the Federal Republic of Germany for the purpose of promoting international cooperation in research. It enables highly-qualified academics from all over the world to spend extended periods working on research in Germany, and supports and sponsors the scientific and cultural links that are generated in the process. Since it was established in 1953, personalised support during their stay in Germany and lasting contact with alumni have been the hallmark of the Humboldt Foundation. On this basis, a network has grown, currently embracing more than 26,000 researchers worldwide, that the Humboldt Foundation fosters and supports with various sponsorship measures. The precondition for the Humboldt Foundation remaining attractive for highly-qualified researchers is the quality of its sponsorship programmes.

One core element of quality assurance are external programme evaluations which have been conducted regularly since the Humboldt Foundation adopted an evaluation strategy in 2006; this was updated in 2012 in the form of an evaluation and monitoring strategy. In addition to evaluating individual programmes, the strategy now includes the examination of cross-programme themes that are of importance for the Humboldt Foundation as a whole. The present “Explorative Study of the Humboldt Network” marks the launch of this new field of evaluation at the Humboldt Foundation. The study focusses on the one hand on evaluating alumni sponsorship tools, thus complementing the results of previous programme evaluations; on the other, it takes a more in-depth look at the networking activities of Humboldt alumni across the world than was the case in previous evaluations; it also studies in greater detail other factors that influence the extent and intensity of networking activities amongst Humboldtians as well as between Humboldtians and their German hosts, or their engagement in the Humboldt Network. In many respects, this study can only hope to scratch the surface of such a multilayered phenomenon as the Humboldt Network, which is shaped by so many regional and subject-related differences. For this reason, it was decided that the analysis should take the form of an “explorative study”.

Following an introductory presentation of the Humboldt Network from the Foundation’s point of view (Chapter 2), the goals and design of the explorative study (Chapter 3) as well as the methods used (Chapter 4) are elaborated. Chapter 5 contains a description of strategies and tools for alumni sponsorship as well as the evaluation of insights gained into the individual tools with the help of various survey methods. Chapter 6 then seeks to map the Humboldt Network; the sub-chapters address the various forms of networking between the actors in the Humboldt Network as well as the role of the Foundation in networking activities. A further sub-chapter examines the forms of cooperation between Humboldtians which were not previously accessible to the Foundation.

The final summary in Chapter 7 also covers the recommendations for consolidating and extending the Humboldt Network which are formulated on the basis of the insights gained during the explorative study.

2 The Humboldt Network as seen by the Humboldt Foundation

2.1 The principle of building and cultivating networks

The Alexander von Humboldt Foundation's core task is to grant research fellowships and research awards to particularly well-qualified, postdoctoral researchers from abroad, allowing them to spend extended periods working on research at appropriate scientific institutions in Germany.

The researchers are selected solely on the basis of their academic performance and manifest potential; there are no quotas for individual countries or disciplines. The Humboldt Foundation's sponsorship portfolio addresses scientists and scholars at all career stages: research fellowships are granted to both young postdocs and experienced researchers (application procedure); research awards are designed for eminent, internationally-renowned researchers (nomination procedure). In the experience of Humboldt headquarters, its high quality standards, which are recognised worldwide, and the Foundation's resulting reputation make Humboldt Foundation sponsorship particularly attractive to researchers abroad.

Since it was established in 1953, the Humboldt Foundation's long-term, indeed, life-long, dedication to maintaining contact with those it sponsors – also known as **"Humboldtians"** – has been its brand. No other organisation, whether in Germany or other countries, has to the same extent embraced the philosophy of the life-long promotion of individual careers and cultural networking from the very beginning. Represented by its president and staff at headquarters, the Humboldt Foundation sees its networking role as that of a powerful catalyst between Humboldtians and their hosts as well as other (junior) researchers at home and abroad. From the very moment of approving sponsorship, it supports long-term networking in many different ways, employing a raft of sponsorship tools and measures.³

Programme evaluations show that most alumni continue their careers in academia, although appointments to high political and scientific offices are not unusual. Amongst Humboldtians, such high-ranking personalities as Nobel laureates, university rectors and presidents, academy presidents, state presidents, ministers, state secretaries, members of parliament, constitutional judges and ambassadors are to be found. And as previous evaluations have demonstrated, the long-term value of Humboldt Foundation sponsorship

³ Just how essential it is to create bonds from the word go is also confirmed by studies on alumni bonding in other contexts. See, for example, Markus F. Langer, Frank Ziegele und Thorsten Hennig-Thurau, "Hochschulbindung - Entwicklung eines theoretischen Modells, empirische Überprüfung und Ableitung von Handlungsempfehlungen für die Hochschulpraxis. Abschlussbericht zum Kooperationsprojekt Hochschulbindung", Hannover, April 2001. The study comes to the conclusion that in higher education "the foundations for successful alumni activities are already laid while students are still at university." (p. 73) The study also emphasises the importance of "emotional commitment" for successful alumni bonding (ibid).

for the individual's career path and academic development is explicitly emphasized by many alumni.

2.2 Scope and character of the Humboldt Network

At present, there are some 27,000 Humboldtians living in more than 140 countries.⁴ Together with their hosts in Germany, they constitute the **Humboldt Network**.⁵ The following brief presentation of important statistical data is designed to provide an overview of the scope and design of the current Humboldt Network.

Approximately half the Humboldtians have their current geographical focus in Europe. A fifth is to be found in North America or Asia. The remaining ten per cent are distributed in roughly equal proportions throughout Sub-Saharan Africa, Australia, Central and South America as well as the Middle East and North Africa (see Table 1).

Table 1: Current Humboldt Network by region

Region	Per cent
Sub-Saharan Africa	2.1%
Asia	19.7%
Australia, New Zealand, Oceania	2.3%
Europe	49.4%
Central and South America	3.4%
Middle East, North Africa	2,6%
North America	20.4%
Total	26,988
	100.0%

Examining the current Humboldt Network by faculty and discipline reveals the following picture: 40 per cent of Humboldtians are natural scientists. The most-frequently represented disciplines are physics and chemistry. A fifth of those sponsored conduct research in the life sciences, another quarter in the humanities and social sciences. Just below 12 per cent of Humboldtians are engineering scientists.

⁴ All individuals who received fellowships commencing between 1953 and the end of 2014 with a current correspondence address. As of call for responses: 09.02.2015

⁵ The term "network" was introduced in the Annual Report for the year 2000.

Table 2: Current Humboldt Network by faculty and discipline

Faculty	Per cent	Discipline	Per cent
Humanities	17.6%	Humanities and Social Sciences	25.9%
Social and Behavioural Sciences	8.3%		
Biology	8.2%		
Medicine	10.3%	Life Sciences	20.7%
Agricultural Science, Forestry, Horticulture and Veterinary Medicine	2.1%		
Chemistry	16.2%		
Physics	15.9%	Natural Sciences	41.5%
Mathematics	4.9%		
Geosciences (incl. Geography)	4.6%		
Engineering	11.9%	Engineering	11.9%
Total	26,988	Total	26,988
	100.0%		100.0%

With regard to gender distribution, it can be observed that male fellows and award winners are over-represented in the Humboldt Network: 84 per cent in comparison with only 16 per cent of female Humboldtians. Table 3 presents the distribution of gender in the various faculties. There are marked variations in the humanities and social sciences as well as in biology and medicine where the number of women is somewhat above average. Variations in the opposite direction, on the other hand, can be observed in the engineering sciences, mathematics, physics and agricultural science.

Table 3: Current Humboldt Network by faculty and gender

Faculty	Male	Female	Total
Humanities	74.2%	25.8%	100%
Social and Behavioural Sciences	77.7%	22.3%	100%
Biology	76.9%	23.1%	100%
Medicine	80.5%	19.5%	100%
Agricultural Science, Forestry, Horticulture and Veterinary Medicine	91.0%	9.0%	100%
Chemistry	85.6%	14.4%	100%
Physics	91.2%	8.8%	100%
Mathematics	90.8%	9.2%	100%
Geosciences (incl. Geography)	86.4%	13.6%	100%
Engineering	92.4%	7.6%	100%
Total	83.8%	16.2%	100%

For the purpose of analysing Humboldtians' networking activities in the context of the present study, it is not only of interest to examine the regional and subject-related composition of the network but also the age structure of its members. Members become part of the network from the moment a positive decision is made to grant a fellowship or research award. Whilst the majority of fellows are between 30 and 40 years of age at this juncture, most award winners only join the network at a later point in life.

Table 4 presents the current⁶ age distribution of Humboldtians in the network. It reveals that, at 20 per cent, the age groups between 40 and 49 as well as between 50 and 59 are the most numerous. The two subsequent decades are, however, also well represented. Overall, a quarter of Humboldtians are now 70 or older⁷.

Table 4: Current Humboldt Network by current age cohort

Current age cohort	Number	Per cent
19-29	267	1.0%
30-39	3,972	14.7%
40-49	5,597	20.7%
50-59	5,762	21.4%
60-69	4,810	17.8%
70-79	4,194	15.5%
80-89	2,100	7.8%
90 and older	275	1.0%
age not stated	11	0.0%
Total result	26,988	100.0%

In the further course of the study, it will be interesting to establish whether Humboldtians are more or less actively involved in networking during a particular phase of their professional lives, that is, also at a certain age.

2.3 The Humboldt Foundation's central measures and goals in cultivating the Humboldt Network

The Humboldt Foundation implements a large portfolio of sponsorship and networking measures to cultivate the Humboldt Network. The maintenance and development of connections within the Humboldt Network can be subsumed under two central goals which interfuse and complement each other in many ways.

During their research stay, research fellows and research award winners are supported by their academic hosts at their respective institutions. The relationship between hosts and sponsorship recipients is effectively the basis for the Humboldt Network. Consequently, an important step on the path to understanding the Humboldt Foundation's network was to consider hosts more in terms of clients. This was initiated in 2005 when the Humboldt Foundation conducted a strategic re-organisation (see the subsequent discussion on the Germany Network for further details).⁸

⁶ The reference date for age is 31.12.2014, not the date of granting the fellowship or award.

⁷ The Foundation is not always informed when deaths occur in the Humboldtian Network. Thus, the groups of older individuals in particular may include an indeterminate number of deceased Humboldtians.

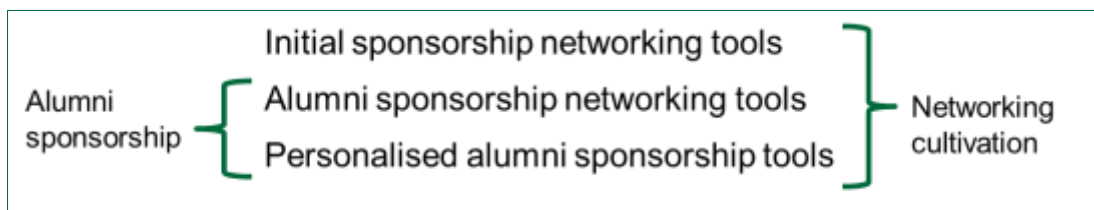
⁸ Fostering relations with hosts was the subject of a study by Dr Gerrit Limberg, Head of Division in the Selection Department, entitled "Beziehungsmarketing im wissenschaftlichen Netzwerk der Alexander von Humboldt-Stiftung in Deutschland" MS (2010). See p. 5 for changes in the perception of the hosting role.

It is not unusual for sponsorship recipients to make new contacts to German academics during their research stay, or to foster existing ones. The character and intensity of collaboration and contacts are influenced, amongst other things, by the career stage the Humboldtians have reached. The earlier programme evaluations conducted by external partners had already indicated that cooperation between sponsorship recipients and hosts, and in some cases between sponsorship recipients and other German researchers, frequently continued after the period sponsored by the Humboldt Foundation had come to an end.

The Humboldt Foundation offers a range of networking and alumni promotion tools⁹ which allow Humboldtians not only to sustain and develop the contacts they make to German colleagues and the German research base during and after their initial research stay but also to connect with other Humboldtians. In a recent evaluation by the German Council of Science and Humanities, one of the points emphasised was that the subsequent research stays in Germany that are open to alumni “are invaluable in terms of sustainable promotion”.¹⁰ Moreover, these tools are designed to support the continued positive development of individuals’ careers in research and teaching and thus directly help to promote alumni’s ability to keep abreast of academic developments (personalised alumni sponsorship tools: material subsidies).

It follows from this that promoting individuals and cultivating the network go hand in hand (see Figure 1).

Figure 1: Dovetailing of networking and personalised alumni sponsorship



A further element of dovetailing individual sponsorship and cultivating the network is the opportunity offered to research fellows and award winners to become hosts themselves: in the context of Feodor Lynen Research Fellowships, German postdocs and experienced researchers are able to spend an extended period working on research at a Humboldtian’s own institute abroad. As previous programme evaluations have shown, Humboldtians often make contact with suitable junior researchers from Germany during their stay at the German host institute.

Academic collaboration between sponsorship recipients and their German hosts, additional German researchers and other Humboldtians (Humboldt Research Fellows,

⁹ See Appendix for a complete overview of the individual tools; detailed description of alumni sponsorship tools in Ch. 5.1.

¹⁰ Statement on the Alexander von Humboldt Foundation (AvH), Bonn, and on promoting the international academic transfer of individuals in Germany (ibid. 3445-13), p. 142, Bonn, 2013

Research Award Winners and/or Lynen Research Fellows) also form the basis for subject-related sub-networks within the Humboldt Network. These go beyond bilateral host-sponsorship recipient relationships and often continue to develop without any explicit promotional activity on the part of the Humboldt Foundation.¹¹

The Humboldt Foundation is convinced that the connections between sponsorship recipients and hosts that are cultivated over long periods make a significant contribution to internationalising the German academic and research landscape.

- **The long-term maintenance, consolidation and development of academic contacts, particularly between sponsorship recipients and German colleagues as well as amongst Humboldtians across the world, is therefore designated as the central Goal 1 of the Humboldt Foundation's efforts to cultivate the network.**

In addition to this, the long-term bonding which the Humboldt Foundation promotes between Humboldtians and Germany has considerable potential for German foreign cultural and educational policy, that is, for utilising scientific collaboration for foreign and developmental policy goals, for building and conveying common values and for promoting peaceful international cooperation.

The basis for this is a special feature of the Humboldt Foundation, which sponsorship recipients repeatedly describe as unique:¹² the personalised support for research fellows and research award winners provided by the staff at Humboldt Foundation headquarters. It appears that this is where the indispensable “roots” of subsequent networking and alumni activities originate. Even after the research stay has come to an end and alumni have returned to their own countries, they are able to remain in contact with “their” programme advisors in the Sponsorship and Network Department. This often leads to a lifelong, personal relationship with the institution, Humboldt Foundation, which complements Humboldtians’ academic links with Germany and, in the Foundation’s experience, also promotes the development of an emotional bond with Germany.

During the research stay, the Humboldt Foundation also supports the acquisition and enhancement of German language skills which are fundamental to social integration in

¹¹ The survey of award winners’, hosts’ and Lynen Fellows’ networks in the context of evaluating the Research Award Programmes revealed that sub-networks amongst these three groups include up to 200 actors. Networking with Humboldt Research Fellows and Georg Forster Research Fellows did not feature in this evaluation. (See “Evaluation der Forschungspreisprogramme, Endbericht”, Sept. 2009, p. 24f.)

¹² This is documented by many responses to the surveys conducted during programme evaluations. Quite apart from this, the Humboldt Foundation frequently receives feedback confirming satisfaction with the support provided, for example in the final reports research fellows are asked to submit after the initial sponsorship period. It also features piecemeal in the series “View onto Germany: How Foreign Researchers See Germany”, for the last time in 2011. Now that online submission has been introduced, final reports will be evaluated annually.

Germany, both at the host institute and beyond. Research fellows, for instance, are offered a two-week study tour of different German cities which allows them to become better acquainted with Germany in all its diversity. A very special experience, which has proven to be formative, is the traditional reception held for Humboldtians and their families during the Humboldt Foundation's Annual Meeting by the Federal President in the grounds of Schloss Bellevue. Concurrently, these and other networking events promote exchange between sponsorship recipients from the most diverse disciplines and nations even during their initial sponsorship period. Experience shows that the special bond with Germany as well as with the institution, Humboldt Foundation, is what "cements" the relationship between Humboldtians of differing nationality, language background and culture.

Humboldtians' in-depth knowledge of the German research landscape, German culture, politics and society as well as their experience of having their personal careers and personal advancement sponsored by a publicly-funded German foundation makes them into potential partners and multipliers for disseminating a realistic image of Germany and its scientific and research landscape throughout the world.

Ambassador Scientists abroad, who work for the Foundation in an honorary capacity, act as special contacts. For a period of three to six years, they provide information in their own countries on Germany as a research destination and the Humboldt Foundation's programmes; they also advise junior researchers and inform the Foundation about new developments in science and research at home. Currently, 51 alumni from various academic disciplines are active as Ambassador Scientists in 40 different countries (as of February 2015) across the globe. They are usually appointed for a (renewable) period of three years.

In the United States, the Humboldt Foundation cooperates closely with the American Friends of the Alexander von Humboldt Foundation, an association of American alumni. In the country with the largest number of Humboldtians worldwide, the American Friends help the Foundation with its work with alumni as well as its marketing and fundraising activities. It also maintains contact with some 80 so-called "Humboldtians on Campus" who act as contacts at their universities and in their specialist communities.

In 70 countries, Humboldtians have got together to establish more than 100 Humboldt Associations¹³ with the aim of fostering Humboldtians' common identity and contact to the Humboldt Foundation as well as informing junior researchers about Germany as a destination for research.

¹³ The first Humboldt Clubs were founded in Tokyo and Kyoto in 1962 during the first official visit to Japan by the then Secretary General Heinrich Pfeiffer. They were followed by Athens in 1963/64, Bombay, India, and Taipei/Taiwan in 1965, and Turkey, Spain, Argentina, Brazil (Porto Alegre) and Hiroshima (Japan) in 1966.

Humboldt Associations are often important hubs for regional sub-networks. To the Humboldt Foundation's knowledge, Humboldt Associations also conduct cross-border collaboration, particularly to promote scientific exchange.

Association presidents, some of whom also take on other functions (such as Ambassador Scientists), are also important contacts for the Humboldt Foundation.

The Foundation is convinced that promoting a bond between Humboldtians and both the Foundation and Germany as well as fostering cross-border relationships between Humboldtians of differing nationality makes a contribution to German foreign cultural and educational policy that goes beyond the field of academic collaboration.

- **Supporting German foreign cultural and educational policy is therefore designated as the central Goal 2 of the Humboldt Foundation's efforts to cultivate the network**

In many respects, the two central goals presented here are neither able, nor intend, to be clearly differentiated. Rather, in many cases, the interfusion of the two central goals generates added value which allows the members of the Humboldt Network, the Humboldt Foundation, the research and science location, Germany, and politicians to draw additional benefits from the Humboldt Network.

In the course of the aforementioned re-organisation of the Foundation in 2005, the term "Germany Network" was also introduced¹⁴. Apart from the alumni of the Lynen Programme and those sponsorship recipients who have remained in Germany, this is mainly composed of Humboldtians' hosts, expert representatives and independent peer reviewers. The tasks involved in developing and fostering the "Germany Network" were entrusted to the Foundation's Selection Department. Thus the relevant staff in the department's subject groups act "as contacts for all requests from hosts, reviewers, selection committee members and alumni in Germany which are not linked to a concrete sponsorship measure."¹⁵

In the logic of the Humboldt Foundation's funding philosophy, the German hosts are the first obstacle potential applicants have to overcome. Only when an applicant has obtained a positive expert review from a host and confirmation that a research position will be available is he or she able to submit an application to the Humboldt Foundation. Consequently, it is very beneficial for the selection procedure if hosts and potential hosts share an understanding of the criteria set down by the Foundation. In the last resort, the

¹⁴ Previously there was no systemic maintenance or cultivation of networking for this group of actors in the Humboldt Network.

¹⁵ Source: "Strategieorientierte Reorganisation der Alexander von Humboldt-Stiftung – Grobkonzept", unpublished strategy paper, Bonn 2005.

number of applications in a particular field depends on the international visibility of the individual representatives of that field, that is, the (potential) hosts. Furthermore, the individual representatives of that field must be aware of the Foundation's programmes if they are to be able to inform researchers interested in coming to Germany about a possible source of funding.

The main goals associated with developing and cultivating the Germany Network are

- to publicise the programmes in disciplines in which the Humboldt Foundation is not yet well known but which enjoy international visibility
- to communicate the selection criteria to "calibrate" (potential) hosts
- to integrate alumni living in Germany into the Humboldt Network as a whole

The Humboldt Foundation continuously strives to optimise the development and cultivation of the Humboldt Network at home and abroad in order to achieve its central goals as described above.

To this end, it is necessary to constantly develop the networking portfolio and to adopt various measures designed to extend the network, increase its diversity and rejuvenate it. One milestone in this context is "Humboldt Life", a Web 2.0 based social network, which has been gradually introduced since June 2014. It offers sponsorship recipients and hosts new professional and personal networking opportunities. It will also open up new paths for the Foundation to discover what Humboldtians and hosts need in terms of networking support. In addition, Humboldt Foundation fellows and alumni can connect with researchers and other Germany alumni across the world in the Web 2.0 based "Alumniportal Deutschland". As well as a global online community, the Alumniportal Deutschland provides information on areas such as science and research and German language, society and culture.

Additional networking tools in the field of public outreach:

- "Humboldt Kosmos"¹⁶ – the Humboldt Foundation's magazine – is published twice a year and distributed to all hosts and partners in Germany as well as to political and media representatives. In portraits, interviews, reports and studies, it showcases network members and their work, disseminates information on the Foundation's activities and features overarching themes relating to research, diplomacy and internationality.
- A regularly published Newsletter, bilingual Press Releases and a Press Review on the Humboldt Foundation website regularly report on news from the Foundation and the Humboldt Network.

¹⁶ The alumni magazine was launched in 1958 under the title "Mitteilungen der Alexander von Humboldt-Stiftung".

The programme evaluations conducted in the past have already generated new networking tools. One exemplary instance is the Bonn Humboldt Award Winners Forum which was held for the first time in 2011 and was a direct response to the evaluation of the research award programmes. The Forum is the only subject-related event (2011: Macromolecular Science; 2012: Philosophy; 2013: Physics) run by the Humboldt Foundation and promotes specialist exchange between research award winners, research fellows and junior researchers from Germany. It also serves to enhance the visibility of the internationally renowned research award winners in the Humboldt Network and beyond.

In addition to the ongoing measures and others already initiated to improve support for networking activities and to increase the exploitation of scientific potential within the network, the Humboldt Foundation wants to underpin and supplement its decade-spanning empirical data and observations as well as the insights gained from the programme evaluations by specifically spotlighting the network.

2.4 Relationships within the Humboldt Network

The Humboldt Foundation has observed that sponsorship recipients usually foster up to three types of relationship within the Humboldt Network which may differ considerably from one case to another:

- I. connections to one or more academic hosts and collaborative partners in Germany
- II. connections to other Humboldt Foundation sponsorship recipients of the same or different nationality and/or specialist field, e.g. in the context of scientific collaborations, alumni associations etc.
- III. personal contact to one or more members of staff at the Humboldt Foundation which often continue beyond the duration of the research stay

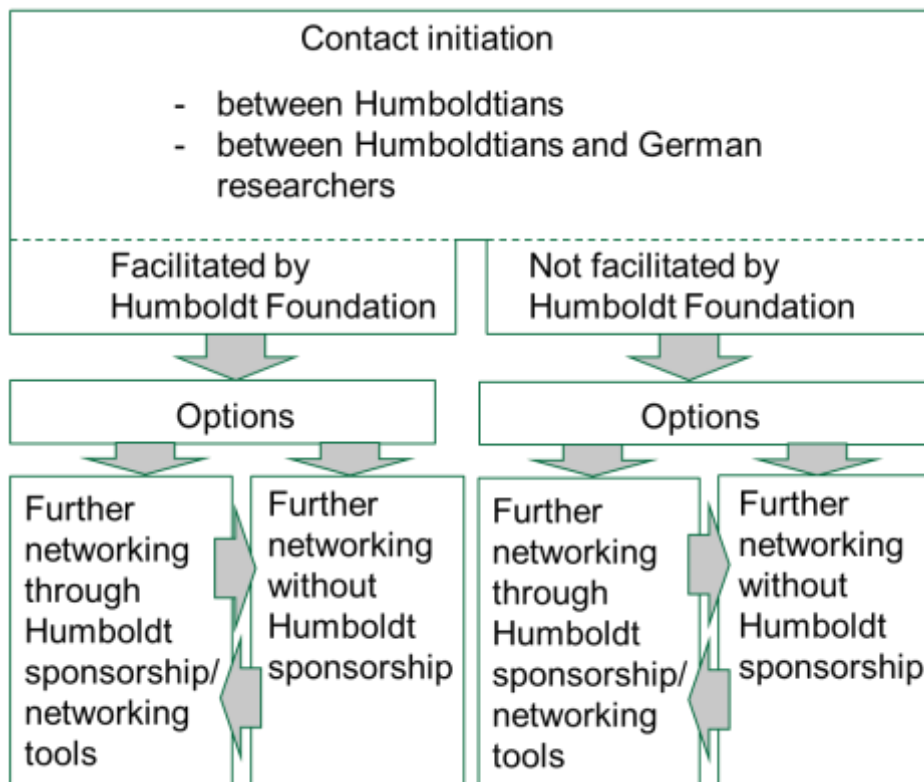
Overlapping occurs at various points in the relationships described under I and II, particularly in the context of extensive specialist networks about which the Humboldt Foundation is already well informed. Beyond this, the Foundation suspects that a considerable proportion of these relationships are fostered outside its field of vision, not least because collaborations between Humboldtians and hosts are also supported by other organisations at home and abroad. Currently, the Humboldtians' linkages with one another described under II can only be sponsored to a limited extent (e.g. in the context of Humboldt Kollegs) with the funding tools at the Humboldt Foundation's disposal; essentially, scientific collaborations are restricted to those involving a German partner. Moreover, it can be assumed that Humboldtians' contacts abroad as well as at bi- and tri-national level are also developed in the framework of other networks (academies, specialist associations). The Humboldt Foundation is thus unable to assess the areas and

scope of those collaborations, which do not involve Humboldt sponsorship and take place beyond its horizons.

When engaging in their own networking and involving others (e.g. by encouraging junior researchers to apply to the Humboldt Foundation), individuals understandably pursue their own agenda, such as advancing their own careers or tightening the networking between their own faculties or institutes and the research location, Germany. From the Humboldt Foundation's point of view, this does, in turn, also contribute to achieving its central goals of cultivating the network; the Foundation would, however, like to be able to assess individuals' motivation for their engagement in the Humboldt Network more precisely.

Numbers I and II of the basic types of potential connections within the Humboldt Network cited above can be both Humboldt-centred and Humboldt-sponsored as well as self-referential, that is, independent of mediation or sponsorship by the Foundation.

Figure 2: Evolution of networking with or without sponsorship from the Humboldt Foundation



As Figure 2 shows, the boundaries are potentially open to interaction. Collaborations that are facilitated by Humboldt Foundation sponsorship can be continued without this support. At the same time, the Foundation can also sponsor existing collaborations, partially and for certain periods of time.

3. Explorative Study: goals and research design

As described in Chapter 2, the Humboldt Network is shaped by various different factors – both by the alumni sponsorship and networking instruments provided by the Humboldt Foundation with their respective sponsorship goals and by the continued efforts of sponsorship recipients, hosts and staff at the Foundation to build and foster relationships. In order to be able to continue achieving the Foundation’s two aforementioned central goals for cultivating its network as fully as possible, a study of the network must examine two elements: one is the “visible” networking that is facilitated by initial sponsorship and the alumni sponsorship and networking tools; the other is composed of factors that are much more difficult to access and exploit, but which are also important for assessing the existing potential of the Humboldt Network. In some cases, the latter is underused or completely untapped (see, for example, the areas described in Chapter 2.4 on collaborations not involving Humboldt Foundation sponsorship).

The question of the individual’s motivation for actively participating in the network should also be considered in this context. As described, existing engagement does basically promote the Foundation’s goals for the Humboldt Network; so far, however, no attention has been paid to individuals who do not, or hardly, engage with or use the network. Nor is there very much information on any indirect contributions these Humboldtians make to the goals of the Humboldt Foundation/Humboldt Network in other contexts. It is therefore fundamentally important to know about the factors that encourage or discourage the individual’s networking activities in order, for example, to assess whether the existing sponsorship tools are appropriate or whether there is greater potential for personal initiative within the network.

The evaluation of alumni sponsorship proposed in the Foundation’s updated evaluation and monitoring strategy (May 2012) is therefore being embedded in a more far-reaching explorative study of the Humboldt Network in order to accommodate questions such as those outlined above. It now goes beyond a narrow definition of the Foundation’s alumni activities to examine the network members’ other networking-related activities, motivation and potential, and to address the “relatively unknown” facets of networking activity.

In addition to its very positive evaluation of the Foundation’s networking activities, the German Council of Science and Humanities recommended regular monitoring of the goals pursued and tools employed in the Foundation’s alumni and networking activities, especially against the backdrop of the fast-changing global academic landscape.¹⁷ This

¹⁷ Statement on the Alexander von Humboldt Foundation (AvH), Bonn, and on promoting the international academic transfer of individuals in Germany (ibid. 3445-13), p. 140f.

corresponds to the Foundation's goal to ensure that the Humboldt Network continues to be as attractive as possible: thus in the Humboldt Foundation's "Strategic Focus" (adopted by the Board of Trustees in November 2013), one of the three central goals is to "continue the systematic development of the Humboldt Network and exploit its potential to greater effect."¹⁸ In order to develop appropriate measures it is essential to initially conduct a comprehensive inventory of networking habits in the Humboldt Network and address any relevant suggestions and wishes.

Thus part of the basis for the inventory to be conducted in the explorative study is an evaluation of the alumni sponsorship tools and other individual networking tools that are currently available. Knowledge about the effectiveness of existing alumni sponsorship and individual networking tools is the precondition for making decisions on which tools possibly no longer meet the target group's actual needs and should therefore be adapted or even discontinued; decisions also need to be made on whether new instruments are required and for what purpose.

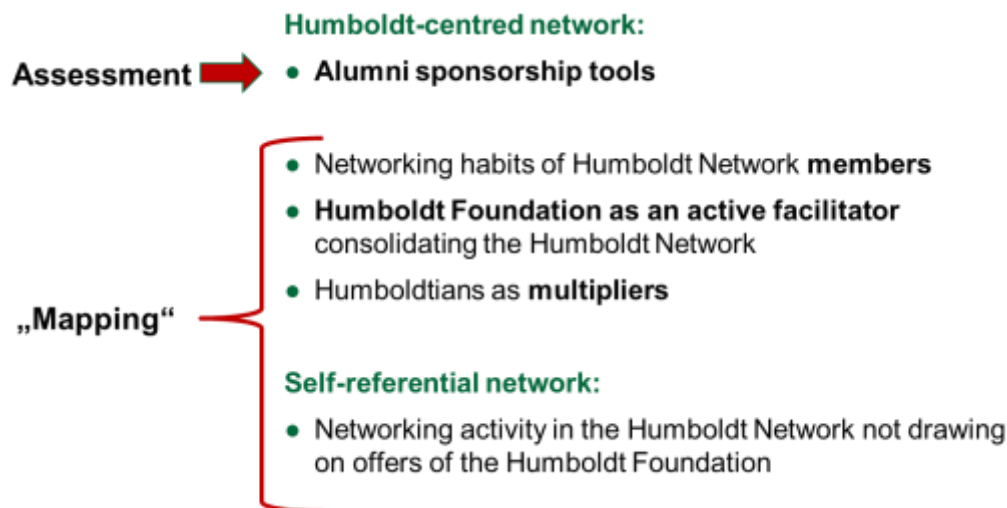
Furthermore, mapping should be undertaken to spotlight other Foundation-centred networking activities, including various regional and specialist areas and activities in the Humboldt Network that reflect the diversity of its members throughout the world. Special attention should also be paid to the role of the Humboldt Foundation in networking activities, as it should to self-referential networking activities amongst Humboldtians and hosts that are not Foundation-centred.

With regard to the explorative study the following aspects ensue from this:

- Investigation of the impact and evaluation of the Humboldt Foundation's alumni sponsorship and alumni networking tools (Chapter 5)
- Description of the networking habits of members of the Humboldt Network (sponsorship recipients and hosts) (Chapter 6.1)
- Description of the role of the Humboldt Foundation as an actor in consolidating the Humboldt Network (Chapter 6.2)
- Humboldtians as multipliers (Chapter 6.3)
- Networking activities in the Humboldt Network not drawing on offers made by the Humboldt Foundation (Chapter 6.4)

¹⁸ The Foundation considers the other major challenges to be: "to sustain the appeal of fellowships and award programmes" and "to use visibility and a culture of welcome to strengthen the position of Germany and Europe in the contest for research markets." Both of these also influence the future of the Humboldt Network in various ways.

Figure 3: Objectives of the individual aspects of the study



The objective of the explorative study is thus to gain a better understanding of the various aspects of everyday networking practice, both involving and not involving support from the Humboldt Foundation, as well as other existing potential within the network. For this purpose, Humboldtians' activities outside the Humboldt Network, which do however help to achieve the Foundation's central goals, should also be considered.

A comprehensive examination of whether the Foundation's central goals for the network have been achieved over and beyond this is intentionally not the objective of the explorative study. Given that the Humboldt Network is anchored in more than 130 countries and almost every conceivable academic discipline, an overall view of this kind would be impossible.

On the basis of the results produced by the study, an assessment will be made as to whether additional/alternative measures should be considered going beyond the existing toolkit in order to achieve the central goals associated with cultivating the network. The results of the study should also provide some answers to the question as to which activities can enhance the visibility of the Humboldt Network. Another important knowledge objective is to acquire more precise information on the added value the Humboldt Network offers its members – also in comparison to reference networks.

The research design is thus related to the approaches employed by networking research (e.g. in sociology and economics), which primarily examines the use and benefit of a network by and for the individual. In this context, individuals are usually understood as the members of (diverse) networks in which they participate to a greater or lesser extent ("strong" or "weak" relationships; purpose-related use, etc.)¹⁹. On the strength of insights

¹⁹ For more information on this approach see, for example: Per Kropp, Netzwerke und Arbeitsmarktprozesse, in: Christian Stegbauer, Roger Häußling (eds.): Handbuch der Netzwerkforschung, Wiesbaden 2010, pp. 635-646.

into the particular value a certain network offers its members, inferences can be drawn on the status of this network in comparison with other (competing) networks and thus also on the character of the respective network itself. Not least because the Humboldt Network is so heterogeneous (e.g. in comparison with networks within individual academic disciplines), this approach seems especially appropriate.

4 Methods used

The methods used for this study are based on the insights gained from the previous evaluations of the Humboldt Foundation's research award and research fellowship programmes.²⁰

By examining the state of knowledge it was possible to determine the areas of knowledge to be tapped more precisely or newly. It soon became clear that the quantitative information already available, e.g. on networking amongst Humboldtians during and after the research stay sponsored by the Humboldt Foundation, barely allowed any conclusions to be drawn on the quality of networking activities. It could therefore essentially be used as a source of helpful indications for further, more specific investigations. One of the findings from the evaluation of the Humboldt Research Fellowship Programme, for instance, claims that after completing their Humboldt-sponsored research stay, 35 per cent of those surveyed cooperated long-term with other Humboldtians they had met during their stay in Germany.²¹ This immediately begs further questions that could not be addressed in the programme evaluation, such as whether these contacts were made at the respective German host institute or at Humboldt Foundation networking events, or whether the cooperation has also been supported by the Humboldt Foundation etc.

Thus this examination of existing results revealed the need for a raft of essential, additional information about how Humboldtians' networking activities evolve and the forms they take, which seemed to require more precise questioning. Consequently, a new survey was developed using multiple methods which was also used for evaluating individual programmes and has proved very effective. This approach combines quantitative methods (online survey) and qualitative methods (guided interviews and discussions, systematic content analysis) and is described in more detail in the following.

4.1. Online survey

In order to generate as broad a data basis as possible and to gain an overview of networking activities amongst all cohorts, the online survey of Humboldtians and hosts was very broadly-based and conducted as a full census in the research fellowship programmes and research award programmes.

²⁰ The evaluations of the research award programmes (Humboldt and Bessel Research Awards) and the research fellowship programmes were completed in the period 2009 to 2013.

²¹ Evaluation of the Humboldt Research Fellowship Programme, Final Report, 2011, p. 68, Figure 22.

4.1.1 Survey groups

The survey addressed alumni of the following research fellowship programmes (initial sponsorship completed before 31.12.2013):

- Humboldt Research Fellowship Programme
- Georg Forster Research Fellowship Programme
- Feodor Lynen Research Fellowship Programme

The survey also addressed all research award winners (final instalment of award amount paid by 31.12.2013) in the following programmes:

- Humboldt Research Award
- Bessel Research Award, Fraunhofer-Bessel Research Award
- other research awards: Reimar Lüst Award, Philipp Franz von Siebold Award, Konrad Adenauer Research Award, Helmholtz-Humboldt Research Award (*discontinued*), Wolfgang Paul Award (*discontinued*)

For the purposes of a differentiated evaluation, the research fellows and research award winners were divided up into programme groups (see Table 66, p. 226, attached) based on the amount of time that had elapsed since the end of their initial sponsorship period or since payment of the final instalment of the award amount (reference date: 31.12.2013): 0-2 years, 3-5 years, 6-8 years, 9-15 years. In the case of the Humboldt Research Fellowship Programme and the Feodor Lynen Research Fellowship Programme, additional groups were created: 16-25 years and 26+ years. As the Georg Forster Research Fellowship Programme was only launched in 1997, these periods are not relevant. In the case of the research awards, corresponding groups were not created due to the comparatively advanced age of research award winners at the time the award was granted in comparison with research fellows.

Those who were originally granted a research fellowship and later received a research award (“fellow-award winners”) were categorised as award winners and – depending on when the last instalment of the award amount was paid – assigned to the relevant groups. Moreover, where possible in the research fellowship programmes, the groups were divided once again to take account of the career-stage linked sponsorship introduced in 2008 (postdocs up to four years after completing their doctorates; experienced researchers up to 12 years after completing their doctorates).

Special groups were created for almost all alumni of the Humboldt Research Fellowship Programme and the research award programmes resident in the United States because they had already been surveyed in the context of the Alumni Survey²² conducted by the

²² Survey of US Humboldtians, Spring 2012, Summary Report. The objective of the survey was to gain a better understanding of the needs of alumni in the United States and thus to be able to support them better. 2,043 individuals were addressed, some 50 per cent of alumni resident in the US, as representative of

American Friends of the Alexander von Humboldt Foundation in 2012. Some of the issues addressed here (particularly with regard to contacts with Germany) had already been dealt with in some detail in that context. It was therefore decided to send the alumni in the United States a questionnaire which did not include these areas. In order to facilitate the “US short module” it was necessary to subsume them under special groups. Alumni resident in the United States in the category “0-2 years since the end of initial sponsorship or receiving the last instalment of the award amount” were not surveyed in 2012 and could therefore be assigned to the regular survey groups in the respective programmes.

All in all, this resulted in 43 groups of research fellows and research award winners as well as their hosts.

Individuals sponsored under the following programmes were not included in the online survey or the explorative study:

- German Chancellor Fellowship Programme, International Climate Protection Fellowship Programme, Wardwell Fellowship Programme: In the context of the explorative study, the main focus is on exploring the research-related activities in the network. When selecting fellows in the context of these programmes, however, the criteria of excellence is not applied and thus these programmes do not address the target group at the heart of this study. Given that they have a different focus, the small group embracing these programmes would have to be examined separately. This is not on the agenda of the explorative study of the Humboldt Network.
- Alexander von Humboldt Professorship: Firstly, sponsorship of all the professorships is still ongoing. Secondly, as this group was surveyed when preparing a pre-study for the evaluation of the Alexander von Humboldt Professorship in 2013 and will be surveyed once again for the evaluation in 2015, it was decided not to include Humboldt Professors even if they had previously received sponsorship under another of the Humboldt Foundation’s programmes and/or also work as hosts.
- Sofja Kovalevskaja Award Programme: in view of the programme evaluation scheduled to begin in 2014, it was decided not to survey this group. Programme alumni who had already received sponsorship under another of the Humboldt Foundation’s programmes were not surveyed either in order to avoid adding to the potential burden of the imminent programme evaluation.²³

the entire population. 1,023 individuals, that is, 50.1 per cent of those surveyed responded. The constitution of this group of respondents is also representative of the entire population of Humboldt alumni in the US (see Summary Report p. 3). Information given in the explorative study that derives from the Alumni Survey is always clearly attributed.

²³ A Sofja Kovalevskaja award winner was present at a discussion round held during the 2013 Humboldt Award Winners Forum in Bonn, creating an opportunity for a younger researcher to be included in the discussion with the research award winners.

- Max Planck Research Award Programme: here, too, it was decided not to survey the award winners due to the programme evaluation scheduled for 2015.
- Anneliese Maier and Georg Forster Research Award Programmes: sponsorship of these programmes, which were launched in 2011 and 2012 respectively, is still ongoing.

Furthermore, the following were not addressed:

- sponsorship recipients who were over the age of 70 at the time of the survey
- sponsorship recipients for whom the Humboldt Foundation only holds a private address and who are therefore assumed to have ceased academic or professional activity
- individuals who had already been surveyed in interviews or discussion rounds prior to the start of the online survey or were scheduled to do so

Moreover, in addition to the groups of alumni mentioned above, all hosts in Germany who had hosted at least one individual sponsored by the Humboldt Foundation between 2001 and 2013 (in the context of an initial stay or alumni sponsorship)²⁴ were included in the online survey.

The group divisions amongst the hosts were determined by the intensity of hosting between 2001 and 2013: 1 guest, 2-3 guests, 4 guests.²⁵

Alumni of the Feodor Lynen Programme who fulfilled the hosting criteria were also included in the hosts' survey because it is of particular interest to discover whether and how these individuals' perception of the hosting role is influenced by their own status as alumni.²⁶

For the same reason, alumni of the other research fellowship programmes and research award programmes who are working in Germany in a permanent academic capacity and were hosts during the period under consideration, were also included in the hosts' survey. Just like the Lynen alumni, these individuals were also divided into groups in accordance with the intensity of hosting. This produced a total of nine groups of hosts.

By taking all the groups cited into consideration, a population of 18,055 individuals was determined (4,369 hosts; 13,686 sponsorship recipients), which was divided into 52 groups (see Table 66, p. 213, attached).²⁷ This precise differentiation has a number of

²⁴ At least one of the individuals hosted by the respective hosts also had to belong to the group of alumni surveyed.

²⁵ For this indicator the hosting of individuals who did not belong to the group of alumni surveyed was included.

²⁶ Result of the study on "Beziehungsmarketing im wissenschaftlichen Netzwerk der Alexander von Humboldt-Stiftung in Deutschland", MS (2010) by Dr Gerrit Limberg showing that applications supported by hosts with alumni status were generally more successful in the selection process (ibid. p. 40).

²⁷ 52 groups instead of 55 because groups 39-41 are missing. It was originally planned to include alumni of

advantages: creating groups means that the response behaviour of individuals with a particular sponsorship profile who did not receive a specific questionnaire can be evaluated separately (e.g. alumni who have been granted both a research fellowship and a research award).

The differentiation of groups according to the amount of time that has elapsed since they were sponsored and the division according to programmes also facilitates diverse evaluation scenarios which enhance the added value of the results of the online survey.

4.1.2 Questionnaire modules

On the basis of the individual characteristics of the various groups surveyed, different versions of the questionnaire were prepared. Most of those surveyed (68%) either received Questionnaire A (“Alumni Questionnaire”) or Questionnaire B (“Hosts’ Questionnaire”). Questionnaire A addressed alumni of the Humboldt Research Fellowship Programme and the Georg Forster Programme as well as the research award winners programmes²⁸, Questionnaire B the hosts in Germany who are not Humboldt Foundation alumni themselves²⁹.

Special and hybrid forms of these versions were created for other groups. For example, a modified version of Questionnaire A was sent to alumni of the Feodor Lynen Research Fellowship Programme (Questionnaire C³⁰). In addition, combinations of various questionnaires were compiled, for example, a combination of questionnaires B and C for alumni of the Feodor Lynen Research Fellowship Programme who are resident in Germany and have already hosted Humboldt sponsorship recipients.

In total, this meant that – depending on target group – ten different versions of the questionnaire were used (see Figure 26 in Appendix I).

With regard to content, the survey covered a wide range of topics. Apart from diverse questions on networking behaviour, respondents were asked for information on and assessments of the Foundation’s individual alumni tools. In order to get as detailed answers as possible whilst keeping the effort required of the respondents to an acceptable level, a rotational design (modules) was used to address some matters. This meant that,

the Feodor Lynen Programme working in an academic capacity and acting as hosts outside of Germany in the survey. However, as this group is very small, only comprising 43 individuals, it was decided to dispense with the survey (and preparing the additional questionnaire) for viability reasons. By dispensing with this part of the survey, groups 39-41 were lost, which created a gap in the list of survey groups. As the provider was already preparing the online survey at this juncture, the groups from 38 onwards were not re-numbered as this would have increased the amount of time and effort.

²⁸ Questionnaire A (Alumni Questionnaire) was sent to a total of 8,351 alumni who are currently working in Germany in an academic capacity (Groups 12-13, 15, 16, 18, 20, 22-29)

²⁹ Questionnaire B (Hosts’ Questionnaire) was sent to a total of 4,039 hosts (Groups 31, 33, 35).

³⁰ Questionnaire C (Lynen Questionnaire) was sent to a total of 1,027 alumni of the Feodor Lynen Programme (Groups 14, 17, 19, 21).

depending on their eligibility to apply and their utilisation of offers, individual participants were assigned additional modules in order to evaluate various alumni sponsorship tools. However, the individuals addressed were never sent more than three of these tool models in order to avoid undue effort and the danger of them breaking off the survey. The relevant modules were automatically forwarded to the participants in accordance with a pre-determined key³¹.

In total, this meant that 16 different question modules were developed for the individual alumni sponsorship tools:

Modules for alumni of the Humboldt and Georg Forster Research Fellowship Programmes and the award winners programmes

- Module K: financial support for short visits to Germany lasting up to 30 days
- Module L: financial support for a further research stay in Germany
- Module M: book donations (for countries with weak currencies)
- Module N: procurement of scientific equipment (for countries with weak currencies)
- Module O: sponsorship for research group linkages
- Module P: Humboldt Kolleg
- Module Q: Humboldt Colloquium
- Module X: printing subsidies

Modules for alumni of the Feodor Lynen Research Fellowship Programme

- Module W: research visits to Humboldt alumni abroad lasting up to three months
- Module XL: printing subsidies
- Module Y: invitations to Humboldt researchers to visit Germany

Modules for hosts in Germany:

- Module R: sponsorship for a visit by a researcher from Germany to a Humboldtian's own institute ("Sur-Place Programme")
- Module S: sponsorship for a research group linkage
- Module T: Humboldt Colloquium
- Module I: Humboldt Kolleg
- Module Z: financial support for a further research stay by a Humboldtian lasting from one to three months

An overview of the distribution of modules amongst the various survey groups can be found in Appendix II.

³¹ Selection was made on the basis of a list of priorities: Priority 1 – research group linkages. Priority 2 – short visits / further research stays. Priority 3: book donations / equipment subsidies. Priority 4: Kolleg / colloquium. Priority 5: printing subsidies.

4.1.3 Conducting the online survey

The technical and organisational management of the survey (programming the questionnaires, despatch, managing the responses including technical support, evaluating the results) was outsourced to the firm Syspons/Rambøll (Berlin) after an open, competitive tender. The survey began on 27 May 2014 and finished on 7 July 2014. In this period, two reminders were sent out.

Following the survey, the same provider was also contracted to conduct the further analysis of the data. As a first step, this comprised a quantitative evaluation of response behaviour to all the questions across all the groups as well as the response behaviour to all the questions across the clusters (alumni according to programmes, HFST alumni according to initial sponsorship and career stage, Lynen alumni according to period since initial sponsorship and hosts according to alumni status and number of researchers hosted).

In addition, a strategy was developed by the Division of Evaluation and Statistics for further thematic evaluation. Based on the core questions in the strategy underlying the study, it formulated its central knowledge interests relating to the individual aspects of the study and defined the essential, relevant questions in the various modules to be evaluated on the basis of changing variables such as gender, age, professional position, continent, discipline and area of science. Based on this evaluation strategy, the provider conducted an additional analysis of the survey results which were included on a further electronic evaluation tape (see Evaluation strategy in Appendix II).

The open questions were analysed by the Humboldt Foundation itself. MAXQDA software was used to evaluate the central open questions. Depending on the length of the answers, during the qualitative analysis, a random sample was taken and this was evaluated.

For the purpose of presenting the online survey results, which begins in Chapter 5, the respondents were divided up into three superordinate groups and subsequently considered separately.³²

The three groups comprise the alumni of the research fellowship and research award programmes abroad (alumni abroad), the alumni of the Lynen Programme (Lynen alumni) and, finally, the group of hosts.³³ Considering the groups separately seems particularly

³² The precise allocation of the various groups of individuals to these three superordinate groups is described in the evaluation strategy (see Appendix II).

³³ Whereby there were two groups that contained overlapping subgroups: firstly, the group of Lynen alumni who have already hosted Humboldtians from abroad. On the basis of which function would be most relevant to the network, this group was given the hosts' questionnaire with additional references to sponsorship as fellows. Secondly, there was the group of alumni abroad who have already hosted one or more Lynen Fellows. This group was surveyed in their function as sponsorship recipients.

meaningful because, on the one hand, the content design of the questionnaires is tailored to the respective groups and on the other, because different questions emerge in the context of the research design for the various different groups that should be investigated separately.

4.1.4 Response and mapping of the population

Table 5 provides a general overview of the responses to the survey. Of the 18,055 individuals in the basic population, it was possible to contact 15,919 by email. 2,136 individuals could not be reached because their email addresses were inaccurate or they were absent for the entire duration of the survey.

Of the 15,919 individuals who thus received the questionnaires, a total of 6,951 participated in the survey. The return rate was therefore 43.7 per cent. In relation to the basic population, this means that it was possible to reach 38.5 per cent of individuals.

Table 5: Basic population and overall return rate

	Number	Percentage
Basic population	18,055	100.0%
Could not be reached (inaccurate email address, parental leave, other 'out-of-office' replies for the entire survey period)	2,136	11.8%
Survey recipients	15,919	88.2%
Valid replies (return rate)	6,951	
Return rate for actual survey recipients		43.7%
Return rate for basic population		38.5%

As previously mentioned, when evaluating the data generated by the online survey, it was decided to differentiate between three major groups: (1) the group of alumni abroad (Humboldt alumni) was considered separately from the groups of Lynen alumni (2) and hosts (3).

Table 6: Basic population and questionnaire return rate by respondent group

	Basic population in numbers N	Proportion of basic population in %	Return rate of questionnaires in numbers n	Proportion of questionnaires in %	Return rate of basic population in %
Humboldt alumni (abroad)	12,263	67.9%	5,075	73.0%	41.4%
Lynen alumni	1,423	7.9%	552	7.9%	38.8%
Hosts	4,369	24.2%	1,324	19.0%	30.0%
Total	18,055	100.0%	6,951	100.0%	38.5%

Table 6, which juxtaposes returns for the three major respondent groups with reference to the basic population, clearly illustrates that the group of Lynen alumni is statistically relevant: both with regard to basic population and questionnaire return rates the proportion was 7.9 per cent.

Humboldt alumni, on the other hand, are somewhat over-represented: in comparison with the figure of 68 percent for the basic population, the proportion of this group amongst respondents was 73 percent. It could be observed that alumni of the Humboldt and Georg Forster Research Fellowship Programmes in particular responded more frequently (HFST: 59.2% of the basic population and 62.9% in the survey; GF: 3.1% of the basic population and 4.7% in the survey).

The proportion of award winners in the basic population and in the survey was almost equal (6.5% of the basic population and 5.5% in the survey).

Compared with the proportion of 24.2 per cent of the basic population, hosts responded rather less frequently. They accounted for 19 per cent of the group of survey participants.

Considering the returns with reference to the 52 different survey groups (see Section 4.1.1 on the survey groups), in all groups, the rate is highest amongst those who received initial sponsorship within the last two years. Depending on programme, the return rate in these groups is between 52.2 per cent and 73.8 per cent and drops continually as the length of time since initial sponsorship increases. This group of sponsorship recipients (still) probably feels even more closely connected to the Foundation and was therefore even more willing to spend time answering the Foundation's questionnaire.

The highest return rate was registered by Georg Forster alumni. Amongst the group of experienced researchers from 0-2 years after initial sponsorship, a peak rate of 73.8 per cent (n = 45) was reached. The return rate amongst research award winners who had previously been fellows and whose research stay as award winners was conducted within the last two years was also remarkably high (66.7%, n = 16)³⁴. According to the return rates, these members of the network also seem to feel particularly connected to the Foundation. By contrast, the figures for Humboldtians from the United States are comparatively low (see Table 66, p. 213).

When comparing the returns in an empirical study it should be noted that high return rates are not in themselves a sign of quality. Rather, it is crucial that the returns correspond in structural terms with the basic population. This means that even studies with high return rates may produce distorted results in relation to the basic population, e.g. because significantly more older or younger individuals have responded. Thus, in the following, the returns are mapped and examined in the light of gender, academic field, region and age to discover whether they are sufficiently representative of the basic population. Recording representativeness precisely is, however, almost impossible

³⁴ Values excluding USA, as this group was surveyed separately (see Group 49)

because not all factors – and their interactions – can be examined. If structural variations are observed with regard to the characteristics named, this is strong evidence of systematic failures.

Representativeness by gender

In the groups of Humboldt and Lynen alumni, the proportion of female participants in the survey was approximately 17 per cent; female hosts accounted for 12 per cent. Table 7 shows the representativeness of these groups according to gender distribution.

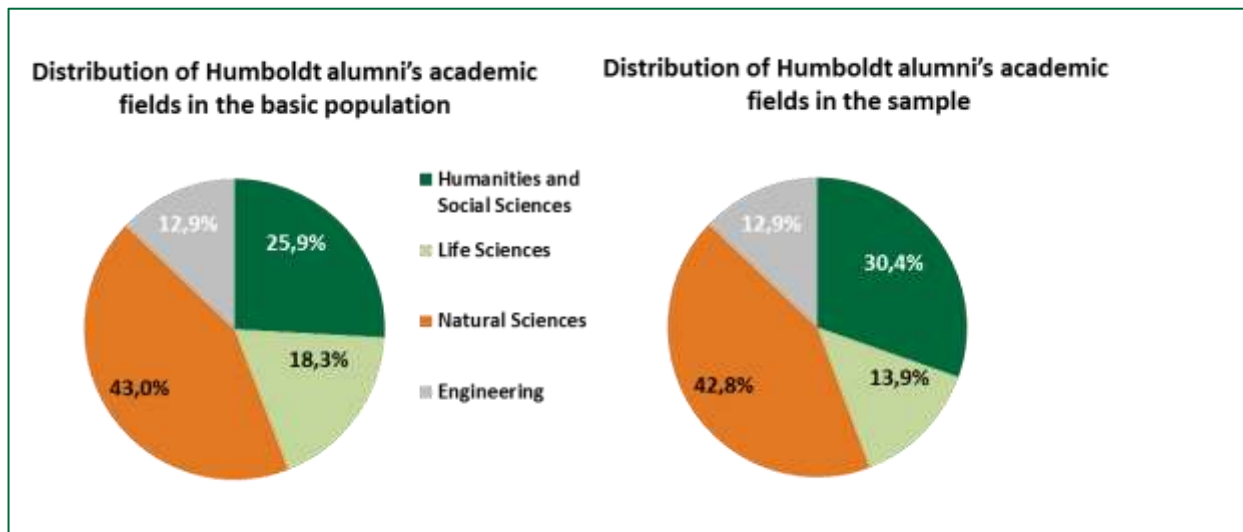
Table 7: Representativeness by gender

		male	female	N/n
Humboldt alumni	Basic population	83.4%	16.6%	12,263
	Return rate	83.6%	16.4%	5,075
	Responses	4,243	832	5,075
Lynen alumni	Basic population	83.3%	16.7%	1,423
	Return rate	82.4%	17.6%	552
	Responses	455	97	552
Hosts	Basic population	88.9%	11.1%	4,369
	Return rate	87.8%	12.2%	1,324
	Responses	1,163	161	1,324
Total	Basic population	15,303	2,752	18,055
	Responses	5,861	1,090	6,951

Representativeness by academic field

Almost a third of Humboldt alumni (abroad) who participated in the survey belong to the group of humanities scholars and social scientists (30.4%). The largest proportion is composed of natural scientists (42.8%). Alumni in the life sciences account for 13.9 per cent, engineering scientists for 12.9 per cent. Figure 4 juxtaposes distribution according to academic fields in the basic population with distribution in returns. In comparison with the proportion in the basic population, Humboldt alumni (abroad) in the humanities and social sciences responded rather more often, life scientists rather less often.

Figure 4: Representativeness by academic field (alumni abroad)



At 53.6 per cent of participants, natural scientists also constitute the largest group amongst Lynen alumni, followed by life scientists at 14.7 per cent and engineering scientists at 8.1 per cent. Thus in comparison with the basic population, Lynen alumni in the humanities are more frequently represented (the proportion of the basic population is 21.5%). Just as in the case of Humboldt alumni abroad, life scientists in this group also responded somewhat less frequently. In the natural and engineering sciences the proportions were roughly equal.

Amongst hosts there were only marginal variations in the proportions for participants with different academic fields in the basic population and in the sample so that with regard to the participants' specialist areas the survey was representative overall.³⁵

Representativeness by region

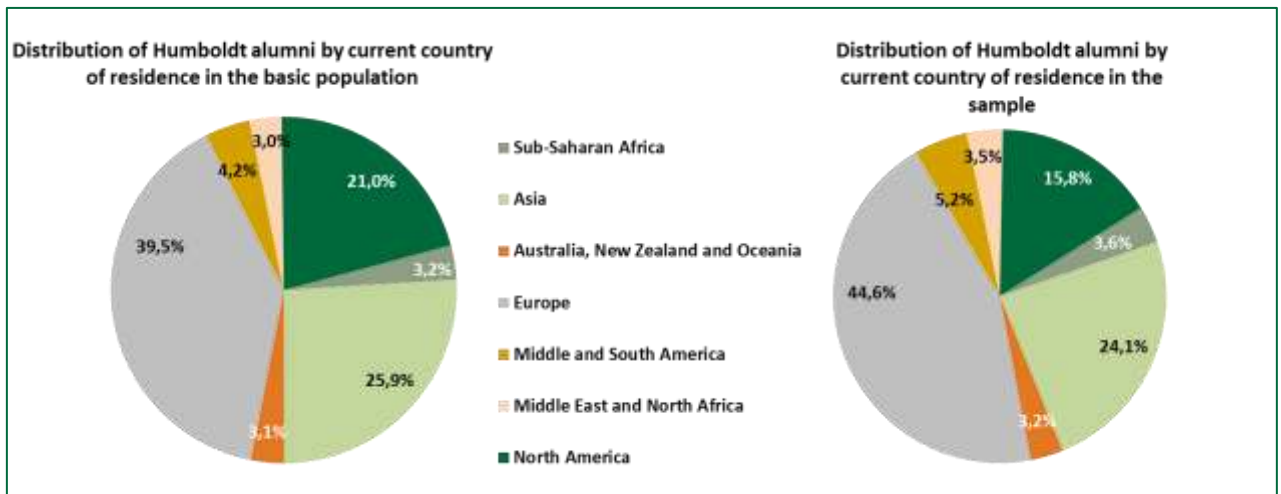
In the context of the survey, Humboldt alumni were asked to name the country in which they currently have their professional focus. Figure 5 reveals that the bulk of survey respondents in this group (44.6%) are resident in countries within Europe. A quarter of alumni have their centre of vital interests in Asia, 15 per cent in North America. If the distribution in the sample is compared with that in the basic population, Humboldt alumni resident in Europe are somewhat over-represented whilst North American alumni are represented rather less frequently.

Lynen alumni were asked to name the country that hosted them during their fellowship stay. According to the returns, nearly 70 per cent of Lynen alumni chose the United States as the destination for their initial stay. 20 percent chose a European country and 5.6 per cent went to Australia.

³⁵ For a detailed presentation of the Lynen alumni and hosts see Table 63, p. 205.

In comparison with the basic population, the distribution of Lynen alumni according to region in the sample is representative (see Table 64, p. 210, Appendix I).

Figure 5: Representativeness by current country of residence (alumni abroad)



Representativeness by age

In the assessment of survey respondents according to age, different results emerge for the three major groups. Lynen alumni are younger on average: approximately three-quarters are currently aged between 36 and 55; only just over 10 per cent are 56 or older.

Humboldt alumni, on the other hand, are almost equally distributed amongst the three middle age groups and are somewhat older on average (26%-30% in the age groups between 36 and 65 respectively). At the time of the survey, nearly 10 per cent were 66 or older.

As was to be expected, the older generations are even more strongly represented amongst hosts: approximately a third is currently between 46 and 55 or between 56 and 65 years of age respectively; a quarter is 66 or older.

In comparison with the basic population, the alumni sample is representative. Hosts in the group aged 66 or over responded somewhat more frequently than hosts aged between 36 and 45 or 46 and 55 (see Table 65, p. 211).

Current field of activity and professional position

Another demographic characteristic that was examined in the sample was the alumni's and hosts' current fields of activity and professional positions. Table 8 presents the findings by gender.

Nearly all alumni abroad (93 per cent) and approximately three-quarters of the Lynen Fellows are still currently employed at a university or non-university research institution. Roughly a fifth of Lynen alumni, on the other hand, work in business or the public sector.

Considering alumni who work at university from the point of view of position and gender, it emerges that a larger proportion of male alumni abroad hold W3 positions. In the case

of Lynen alumni, too, more men hold W3 positions than women, whereby the differences are somewhat less pronounced. It is noticeable that female Lynen Fellows more frequently work at non-university research institutions, whilst male Lynen Fellows tend to work for companies if they are not employed by universities.

Table 8 : Respondents' current professional field by gender

Professional field and position		Humboldt alumni			Lynen alumni			Hosts		
		female	male	Total	female	male	Total	female	male	Total
At a university	Full professor or equivalent	36.9%	51.8%	49.4%	11.8%	16.9%	16.0%	65.1%	59.3%	60.0%
	Associate professor, senior lecturer, reader or equivalent	24.0%	16.2%	17.5%	19.4%	17.1%	17.5%	11.4%	6.9%	7.4%
	Assistant professor, lecturer, researcher or equivalent	12.2%	8.7%	9.3%	11.8%	12.4%	12.3%	2.0%	1.0%	1.1%
	Postdoc	4.7%	2.6%	3.0%	10.8%	8.7%	9.0%		0.3%	0.2%
	Emeritus	1.7%	1.9%	1.9%		0.2%	0.2%	2.7%	9.9%	9.0%
	In another position	2.0%	1.4%	1.5%	9.7%	7.5%	7.9%	4.7%	1.7%	2.0%
At a non-university research institution		10.0%	10.5%	10.4%	23.7%	9.4%	11.9%	12.1%	14.7%	14.3%
With a company		2.6%	2.1%	2.2%	5.4%	19.0%	16.5%		0.1%	0.1%
In the public sector		0.5%	0.9%	0.8%	2.2%	3.7%	3.5%		0.1%	0.1%
Self-employed		0.4%	0.6%	0.6%	3.2%	2.6%	2.7%		0.1%	0.1%
No longer working (emeritus, retired)		0.9%	1.3%	1.2%	1.1%	0.9%	1.0%	1.3%	5.2%	4.7%
Other:		4.0%	1.9%	2.3%	1.1%	1.6%	1.5%	0.7%	0.8%	0.8%
Replies		743	3,833	4,576	93	427	520	149	1,078	1,227
Unavailable		89	410	499	4	28	32	12	85	97
Total number of respondents (n)		832	4,243	5,075	97	455	552	161	1,163	1,324

An assessment of professional fields with regard to discipline shows that a tenth of Humboldt alumni from the life sciences is employed outside of academia³⁶. With the exception of humanities scholars and social scientists, between four and five per cent of the Humboldt alumni surveyed were employed outside of academia. Moreover, amongst life scientists a further three per cent work in other fields (see Table 9).

³⁶ Outside of academia means: for companies, in the public sector or self-employed. Working in academia means: all areas within universities and at non-university research institutions.

Table 9: Humboldt alumni by current professional field (short) and academic field

Professional field	Humanities and Social Sciences	Life Sciences	Natural Sciences	Engineering	Total	
Academia	94.4%	90.5%	93.0%	93.0%	4,210	93.1%
Business/public sector/self-employed	1.5%	5.1%	4.2%	4.3%	159	3.5%
No longer working	1.6%	1.1%	1.0%	0.9%	53	1.2%
Other	2.5%	3.3%	1.9%	1.9%	102	2.3%
Replies	1,376	630	1,933	585	4,524	100.0%
Unavailable					551	
Total number of respondents (n)					5,075	

Amongst Lynen alumni this tendency is even clearer. Just over 90 per cent of the humanities scholars and social scientists surveyed are employed in academia; in the three other disciplines, by contrast, the proportion is only between 67 per cent and 97 per cent (see Table 10).

Table 10: Lynen alumni by current professional field (short) and academic field

Professional field	Humanities and Social Sciences	Life Sciences	Natural Sciences	Engineering	Total	
Academia	91.6%	74.3%	67.0%	73.2%	375	74.4%
Business/public sector/self-employed	5.9%	18.9%	31.1%	26.8%	116	23.0%
No longer working	0.8%	1.4%	1.1%	0.0%	5	1.0%
Other	1.7%	5.4%	0.7%	0.0%	8	1.6%
Replies	119	74	270	41	504	100.0%
Unavailable					48	
Total number of respondents (n)					552	

Conclusion

In general, it can be said that the return rates for the survey clearly reflect the basic population with regard to the main demographic characteristics. Minor variations can be largely ignored when evaluating the contents of the responses.

4.2. Guided interviews and discussions

Between October 2013 and June 2014, members of various target groups were interviewed with the help of interview guidelines (see overview in Table 11). In addition, discussion rounds were held with several participants during Humboldt Foundation events.

The interviews and discussions with sponsorship recipients and hosts served as a qualitative addition to the online survey and were also helpful in formulating the questions for the online survey. Moreover, the interviews meant that additional target groups (embassy staff, Humboldt Foundation staff) could be included.

The interview guidelines were based on the questions developed for the investigative aspects of the strategy for the Explorative Study; Humboldtians were, however, also asked about their experiences with alumni sponsorship tools. With the aid of preparatory research on the interviewees in the data base and on the internet, sample guidelines (see example in Appendix II) for certain target groups were further personalised.

It was pleasing that all those participating in interviews and discussion rounds were happy to have the sessions recorded. Professional help was sought to transcribe the recordings in German and English. The Evaluation and Statistics Division then evaluated the discussions using MAXQDA software. This allows the questions and/or key terms to be coded and thus supports both quantitative and qualitative evaluation. Finding appropriate quotations with the help of content coding, for example, is made significantly easier.³⁷

This method of analysis was also used for evaluating the answers to open questions in the online survey as well as for evaluating the professional fields (see Section 4.3).

Table 11: Interviews and discussions

Sponsorship status/ connection with Humboldt	Academic field	Region	Date/occasion
<i>Guided interviews</i>			
Humboldt Foundation employee	-----	-----	14 February 2014; Foundation headquarters
Fellow, ambassador scientist	Life Sciences	Sub-Saharan Africa	07 March 2014, Humboldt Colloquium Kenia
Fellow, project partner	Natural Sciences	Sub-Saharan Africa	07 March 2014, Humboldt Colloquium Kenia
Award winner, AGNES representative	Humanities and Social Sciences	Sub-Saharan Africa	07 March 2014, Humboldt Colloquium Kenia
Fellow, project partner	Life Sciences	Sub-Saharan Africa	07 March 2014, Humboldt Colloquium Kenia
Fellow, president of a Humboldt Association	Life Sciences	Central and South America	17 March 2014, Foundation headquarters
Former Deputy Secretary General of the Humboldt Foundation	-----	-----	18 March 2014, Foundation headquarters
Fellow and award winner	Engineering Sciences	USA	20 March 2014, PRT Symposium Bamberg
Award winner	Humanities and Social Sciences	Europe	20 March 2014, PRT Symposium Bamberg

³⁷ This method was used, for example, for the chapters on the Humboldt Family and activity in the network.

4 – Methods used

Sponsorship status/ connection with Humboldt	Academic field	Region	Date/occasion
Guided interviews			
Fellow and award winner	Humanities and Social Sciences	Northern Africa/Middle East	21 March 2014, PRT Symposium Bamberg
Fellow and award winner	Life Sciences	Europe	21 March 2014, PRT Symposium Bamberg
Host	Natural Sciences	Europe	22 March 2014, PRT Symposium Bamberg
Foreign Office official	-----	-----	27 May 2014, Berlin
Fellow, ambassador scientist	Natural Sciences	Central and South America	04 June 2014, Foundation annual meeting
Humboldt Foundation employee	-----	-----	06 June 2014, Berlin
President of the American Friends of the Alexander von Humboldt Foundation	-----	USA	11 June 2014, Foundation headquarters
Humboldt Foundation employee	-----	-----	12 June 2014, Foundation headquarters
Humboldt Foundation employee	-----	-----	12 June 2014, Foundation headquarters
Humboldt Foundation employee	-----	-----	17 June 2014, Foundation headquarters
Group discussion			
Fellow, award winner, host	Natural Sciences	USA	11 October 2013, Bonn Humboldt Award Winners Forum (BHPF)
Award winner	Natural Sciences	Europe/USA	11 October 2013, BHPF
Award winner, host, Nobel Prize winner	Natural Sciences	USA	11 October 2013, BHPF
Award winner, host	Natural Sciences	Europe	11 October 2013, BHPF
Fellow	Engineering Sciences	Northern Africa/ Middle East	03 June 2014, Foundation annual meeting
Fellow	Life Sciences	Europe	03 June 2014, Foundation annual meeting
Fellow, project partner	Humanities and Social Sciences	Central and South America	03 June 2014, Foundation annual meeting
Telephone interviews			
Embassy of Spain	-----		20 January 2014
Embassy of Canada	-----		23 January 2014
Written replies to guided interview			
Fellow, project partner, ambassador scientist	Life Sciences	Sub-Saharan Africa	07 March 2014, Humboldt Colloquium Kenia

4.3 Systematic content analysis

In the framework of systematic content analysis based on guided interviews, documents available to the Humboldt Foundation such as reports on the use of alumni sponsorship tools and other secondary documents (ambassador scientists' activity reports) were evaluated on a random basis with the help of the MAXQDA programme. In the case of the material on alumni sponsorship tools, the relevant questions were developed on the basis of Logic Charts (see Chapter 5.4 ff.).

Suitable material was pre-selected with the assistance of the programme departments. The documents evaluated include:

- final reports on Humboldt Kollegs: 20 reports from 2009 to 2013 (see also Chapter 5.4.3.1)
- research group linkages: reports on 20 research group linkages from 2008 to 2012 (see also Chapter 5.4.2.4)
- German researchers' stays abroad: 30 reports from 2009 to 2013 (see also Chapter 5.4.2.2)
- evaluation of various documents on two selected colloquia (case studies) (see also Chapter 5.4.3.2)
- reports by Humboldt alumni award winners: all reports since the launch of the award in 2009 (see also Chapter 5.4.2.5)
- activity reports by ambassador scientists: 58 reports from 2007 to 2013 by 32 individuals (see also Chapter 6.1.6)

5 Alumni sponsorship tools

The overarching goal of the Humboldt Foundation's alumni sponsorship is to foster contacts in order to "build and extend a sustainable bond between Germany and academic elites abroad" (from: "Fortschreibung des Nachkontakt-Konzeptes der Alexander von Humboldt-Stiftung", December 2002). This translates into the following concrete measures:

- developing, perpetuating and consolidating long-term academic collaborations, including those going beyond initial sponsorship
- recruiting alumni as multipliers for German research and culture
- strengthening the worldwide Humboldt Network with a focus on subjects and regions
- promoting the internationalisation of Germany as a research location
- marketing both Germany as a research location, by communicating a positive image of Germany, as well as the Humboldt Foundation itself

The Humboldt Network comprises academics of completely different ages, subjects and cultures. This segmentation in the network is reflected in the Foundation's alumni sponsorship. A large number of cultural, subject- und career-specific features are taken into account in order to promote each academic individually and appropriately. In addition to this needs-related sponsorship, alumni sponsorship measures also pursue strategic goals, for example by supporting researchers in certain regions in special ways. The alumni tools are also designed to support Humboldtians' willingness to engage actively in the Humboldt Network and spark independent networking initiatives.

5.1 Development and goals of alumni sponsorship

From the very beginning, the Humboldt Foundation practised active alumni and network promotion, which, in 1985, was consequentially anchored in its statutes as one of the Foundation's core purposes. § 2, para. 3 of the Foundation's mission reads: "The statutory purpose will be fulfilled, in particular, by the Foundation granting research fellowships and research awards to highly-qualified academics [...] and thus giving them the opportunity to conduct a research project in the Federal Republic of Germany, by adopting measures to promote international academic cooperation and by fostering and promoting the links ensuing from them."

The goal of the alumni programme, which has been gradually built up since 1956³⁸, is to *promote* research fellows and award winners abroad, *sustainably and individually*, by

³⁸ The first step was taken in 1956 when it was laid down that former Humboldt visiting researchers (the first fellowships were granted in 1954) could apply for subsidies.

flexibly supporting their career paths and development so that they are able to conduct internationally visible and compatible research and maintain contact with Germany.

The individual programmes relating to alumni sponsorship and network promotion are currently based on the “Guidelines and Information for Research Fellows”.³⁹ The prerequisite for alumni sponsorship is that the recipient has been selected for one of the Humboldt Foundation’s sponsorship programmes by one of its selection committees and has subsequently continued to produce a high-level of performance and academic activity. Alumni programmes are not tethered to any career stage or age limit.

Alumni are introduced to these sponsorship opportunities in various different ways. Firstly, the portfolio of offers is presented and explained on the Foundation’s website. Secondly, sponsorship recipients are informed about it during their initial research stay, for example at the networking meetings. In addition to this, their attention is specifically drawn to various sponsorship opportunities on other occasions, both by letter and during personal conversations with Humboldt Foundation staff, for example at events run by the Foundation. One of the criteria used to design individual contact once the sponsorship period has come to an end are the hosts’ recommendations in the final reviews for the decision to grant alumni sponsorship. To what extent the individual alumni tools can be pitched is also dependent on the budgetary situation at the time.

Changing general conditions have meant that the sponsorship tools have constantly had to be adapted. In addition to the statutes (see above), the basis for today’s form of alumni sponsorship are the 1997 “Follow-up Strategy”⁴⁰ and the 2002 update⁴¹ as well as the “Guidelines and Information for Research Fellows”.⁴²

The motivation for drawing up a follow-up strategy was a query received from the “Bundesrechnungshof” (Federal Audit Office) in 1997 asking how the Foundation intended to fulfil its follow-up tasks given the growth in the number of alumni and stagnating budgets. The strategy included various measures designed to condense and rationalise whilst still seeking to improve the Follow-up Programme (such as promoting initiatives by individuals, shifting the percentage of individual follow-up measures, increasing exploitation of potential amongst Lynen Fellows etc.). The long-term importance of alumni sponsorship programmes for German foreign cultural and educational policy was

³⁹ Quotation: “It is the Alexander von Humboldt Foundation's aim to sponsor their alumni on a long-term and individual basis. Contact should be maintained after the end of the initial research stay in Germany in order to strengthen the relationships to specialist colleagues in Germany and permanently consolidate academic collaboration. Finally, alumni sponsorship should make it possible for the academic work embarked upon to be continued successfully abroad.” (as of March 2012)

⁴⁰ Alexander von Humboldt Foundation Follow-up Strategy, March 1997

⁴¹ Alexander von Humboldt Foundation Follow-up Strategy, update, December 2002

⁴² In the respectively valid version

highlighted, and it was decided that a continuing high level of performance and activity by research fellows would be the prerequisite for sponsorship under the alumni programme; age restrictions were not introduced.

Changes in both the general conditions for international academic cooperation and in political interests made it necessary to update the 1997 Follow-up Strategy in 2002. Significant factors included:

- much greater competition for the best minds (increasing numbers of attractive sponsorship opportunities for internationally mobile researchers)
- a greater need for building and developing a sustainable bond between Germany and academic elites in research, culture, politics and business abroad
- consolidating the worldwide Humboldt Network as a “network of knowledge” as well as building and strengthening credible, individual contacts based on trust as the foundation for long-term collaborative projects designed to help internationalise the German academic landscape
- utilising the members of the worldwide Humboldt Network to market Germany as a destination for research

In operational terms, the Foundation drew the following conclusions:

- to amalgamate programme-specific alumni offers under one programme for which alumni of all programmes would be equally eligible to apply (some offers still exclusively address alumni from developing countries and transition economies)
- to introduce flexibility in the length of stays in favour of the frequency of stays
- to showcase follow-up contact as an added value over and above initial sponsorship and as a qualitative difference from other funding providers

5.2 The Feodor Lynen Programme as an alumni sponsorship tool

The Feodor Lynen Programme is one of the most important elements of alumni sponsorship. The programme enables postdoctoral researchers from Germany to spend extended periods working on research with Humboldtians abroad (usually co-financed by them) who are themselves alumni of the Foundation’s fellowship and award programmes. It thus promotes both the academic advancement of junior researchers from Germany and their integration in the network as well as connecting alumni abroad with the Humboldt Network. The programme is named after Feodor Lynen, the Munich biochemist and Nobel laureate, who campaigned to open up the international Humboldt Network to German junior researchers when he was president of the Foundation. Since 1979, well over 3,000 fellows have now been sponsored on this basis.⁴³ The Lynen Programme is thus an alumni measure in terms of a follow-up programme as well as an outgoing fellowship

⁴³ See the 2014 Guidelines and Information for Feodor Lynen Research Fellows.

programme for German junior researchers. In 2012, the Feodor Lynen Programme underwent comprehensive evaluation. The results revealed the extent to which the Lynen Programme strengthens the Foundation's network and promotes the fellows' internationalisation and career development.⁴⁴ As this programme was comprehensively evaluated it does not feature in this analysis. In the context of this study, only the Foundation's alumni tools that can be used by Lynen sponsorship recipients are evaluated.

5.3 Implementing objectives

As described in Chapter 2 (explanation of Figure 1), the Foundation's alumni sponsorship tools are used to cultivate the Humboldt Network because they not only directly promote networking (networking tools such as Humboldt Kollegs and Research Group Linkages) but also help sponsorship recipients to remain on a par with the academic community (personalised alumni sponsorship tools, e.g. equipment subsidies).

The evaluation of alumni sponsorship tools is based on quantitative and qualitative criteria which should make it possible to assess the attractiveness and effectiveness of the existing portfolio in relation to the respective sponsorship goal as well as for achieving the Humboldt Foundation's central goals for the network. Furthermore, suggestions for modifying and/or extending the toolkit should be collated in order to be able to optimise the process of achieving the central goals. As a first step, the various goal and impact levels were defined on the basis of the programme descriptions for the individual tools. Taking note of overarching goals, programme goals, outcome and impact, these were then further broken down and systematised⁴⁵ in Logic Charts.

When it comes to evaluating impact, the outcome level, which comprises the results after the sponsorship measure has been completed, is particularly relevant; the downstream, long-term impacts (impact levels) and the overarching goals must be considered in connection with the Humboldt Foundation's central goals for the network, given that each of the individual alumni sponsorship tools contributes to achieving these goals.

When analysing each of the various tools the entire spectrum of methods described in Chapter 4 was employed; the core element was the survey on the use of alumni sponsorship tools with the aid of a raft of optional special modules in the context of the online survey (see the complete list in Chapter 4.1.2).

⁴⁴ See the Final Report on the Evaluation of the Alexander von Humboldt Foundation's Feodor Lynen Fellowship Programme, Technopolis, July 2012

⁴⁵ It was decided not to present the output level (immediate quantifiable results) separately.

5.4 Results of the qualitative and quantitative survey methods

As explained in Chapter 4, the idea behind the study was based on an inventory and evaluation of the alumni sponsorship tools currently in use as well as additional networking tools. For this purpose, all alumni and hosts were asked to comment on their awareness and use of the various sponsorship measures and to evaluate those they had already used. The information gathered in this way allows inferences to be drawn on the impact of the alumni sponsorship tools and recommendations to be derived for adapting them.

Section 5.4.1 initially presents an overview of the awareness and usage of sponsorship opportunities amongst alumni and hosts before addressing the individual tools in Section 5.4.2 ff. After a brief description of the tool, it is broken down in relation to its respective goals (in the form of a so-called Logic Chart). Following this, the results of evaluating the Foundation's data base⁴⁶ are presented and juxtaposed with the results of the online survey. The sub-chapters close with a description of the results achieved using other methods (e.g. document analysis) and a short conclusion.

5.4.1 Awareness and usage of alumni sponsorship tools

This section presents an overview of awareness and usage of the individual sponsorship tools amongst the three groups of survey participants (alumni abroad, Lynen alumni, hosts). In the case of alumni abroad, the evaluation was also differentiated according to sponsorship status, region of origin and discipline.

Alumni abroad

All alumni abroad were asked the question about the use of alumni tools in slightly different ways, with the exception of fellows and award winners whose initial sponsorship only came to an end in the last two years as they would not usually make use of alumni sponsorship in this period.⁴⁷

Table 12 provides an overview of the awareness and usage of alumni sponsorship instruments amongst Humboldtians abroad.

When making a comparison it should be remembered that tools like equipment subsidies, book donations and research group linkages are only open to alumni from countries with weak currencies. The list of eligible countries is continually updated according to

⁴⁶ It should be noted that the data base evaluations only refer to individuals sponsored. As it is not possible to access application data, it is not clear how many individuals submitted applications for alumni sponsorship which were not approved.

⁴⁷ Apart from this, alumni are only eligible to apply for "sponsorship for further research stays" after a period of three years.

requirements (for the status quo see Table 73 and Table 74 in the appendix, p. 220 and p. 221).

Table 12: Awareness and usage of alumni sponsorship tools amongst alumni abroad (online survey)

Tool	Received/ participated	Valid in %	Aware, but not (yet) used	Valid in %	Unaware	Valid in %	Total replies	Missing ⁴⁸
Short research stay in Germany	789	22.0%	1,711	47.7%	1,090	30.4%	3,590	1,485
Further stay in Germany	1,349	36.0%	1,738	46.4%	659	17.6%	3,746	1,329
Book donations	642	21.0%	1,173	38.3%	1,245	40.7%	3,060	2,015
Equipment subsidies	666	21.7%	1,199	39.1%	1,204	39.2%	3,069	2,006
Printing subsidies	198	5.9%	1,266	37.7%	1,892	56.4%	3,356	1,719
Research group linkage	95	3.2%	1,008	34.2%	1,848	62.6%	2,951	2,124
Humboldt Kolleg	740	21.2%	1,265	36.3%	1,483	42.5%	3,488	1,587
Humboldt Colloquium	582	16.9%	1,418	41.3%	1,437	41.8%	3,437	1,638

The alumni sponsorship tool used by far the most frequently by sponsorship recipients in the research fellowship, research award and Georg Forster programmes is the opportunity to return to Germany, involving a one-month to three-month visit in the context of a further research stay. Only 18 per cent of the individuals who answered this question were completely unaware of this tool.

Each of the tools “short research stay up to 30 days”, “book donations”, “equipment subsidies” and “Humboldt Kolleg” were used by just over a fifth of the survey respondents in this group. Some way behind came attendance at a Humboldt Colloquium, which was cited by 582 individuals. Least use was made of the tools “printing subsidy” and “sponsorship for a research group linkage”. In general, these last two sponsorship opportunities are least well-known amongst this group of respondents.⁴⁹

With regard to awareness of the various tools there are hardly any serious differences: between 34 per cent and 47 per cent of respondents are aware of the alumni sponsorship opportunities but have not (yet) made use of them. The most well-known tool amongst alumni is the option of returning to Germany by means of a further research stay or short research stay, followed by participation in a Humboldt Colloquium. Nevertheless, at

⁴⁸ 779 alumni in the sample were not asked this question (as their initial sponsorship ended less than two years previously). 438 individuals were not eligible to apply for book donations and equipment subsidies. To this should be added the number of ‘missing values’, which ranges from 550 to 907 for the individual tools (skipped question, stopped the survey etc.).

⁴⁹ In the case of research group linkages, one reason could be that the circle of eligible applicants is restricted (see Ch. 5.4.2.4). The option of applying for printing subsidies is also restricted to a certain circle of individuals and thus possibly less well known for this reason.

approximately 30 per cent, the proportion of respondents who were not aware of the possibility of a further short stay in Germany is still fairly high.

A comparison of the groups with differing sponsorship status (see Table 13) reveals that award winners, in particular, make less use of alumni sponsorship opportunities⁵⁰.

Table 13: Usage of alumni sponsorship tools amongst alumni abroad, broken down according to sponsorship status (online survey)

Tool	Humboldt research fellowship alumni		Georg Forster alumni		Research award alumni		Total alumni abroad in %
	received/ participated	%	received/ participated	%	received/ participated	%	
Short stay in Germany	718	23.3%	35	21.2%	36	10.6%	22.0%
Further research stay in Germany	1,192	37.0%	87	48.1%	70	20.2%	36.0%
Book donations	560	21.0%	73	42.9%	9	4.0%	21.0%
Equipment subsidies	591	22.1%	64	36.8%	11	4.9%	21.7%
Printing subsidies	177	6.1%	15	9.7%	6	1.9%	5.9%
Research group linkage	77	3.0%	13	8.4%	5	2.2%	3.2%
Humboldt Kolleg	635	21.2%	78	44.6%	27	8.4%	21.2%
Humboldt Colloquium	523	17.7%	39	23.9%	20	6.2%	16.9%

As was to be expected, alumni of the Georg Forster Fellowship Programme take above average advantage of book donations and equipment subsidies; however, the proportion of those in this group who apply for further research stays or have participated in a Kolleg or colloquium is also well above average. Proportionately, the spectrum of alumni sponsorship tools is apparently used most intensively by Georg Forster alumni.

The breakdown according to current country of residence shows that in percentage terms alumni in Africa, Central and South America as well as in the Middle East make particularly generous use of alumni sponsorship tools (see Table 14). The more intensive user behaviour amongst this group is also revealed in their use of tools which are open to all alumni, such as further research stays, Kollegs and colloquia. However, alumni from the three regions of origin named only account for some eight per cent of all the members of the Humboldt Network (see Table 1), which means that – in relation to alumni sponsorship as a whole – the quantitative dimension of this varying usage tends to be limited.

Furthermore, it is noticeable that a large proportion of North Americans stated that they were not aware of the sponsorship measures. Proportionately, the level of alumni tool usage in this group is also particularly low.

⁵⁰ In this context it should be remembered that book donations and equipment subsidies are only open to alumni in countries with weak currencies. Very few of the award winners come from these countries.

Alumni abroad were also evaluated on their user behaviour with regard to disciplines (see Table 71 in the appendix, p. 217). Humanities scholars and social scientists apply for short and further research stays particularly frequently and use book donations and printing subsidies more often. This group also participates more frequently in Kollegs and colloquia than alumni in other disciplines. Equipment subsidies, on the other hand, are more popular in the natural sciences, life sciences and engineering sciences.

5 – Alumni sponsorship tools

Table 14: Usage of alumni sponsorship tools amongst alumni abroad, broken down by current country of residence (online survey)⁵¹

		Short research stay	Further research stay	Book donations	Equipment subsidies	Printing subsidies	Research group linkage	Kolleg	Colloquium
Sub-Saharan Africa (n=90-113)	Received/participated	28.8% (31)	60.2% (68)	54.1% (59)	43.6% (48)	17.2% (17)	4.4% (4)	54.5% (61)	37.4% (37)
	Aware, but not yet used	47.1% (49)	31.9% (36)	22.9% (25)	31.8% (35)	42.4% (42)	32.2% (29)	34.8% (39)	40.4% (40)
	Unaware	23.1% (24)	8.0% (9)	22.9% (25)	24.5% (27)	40.4% (40)	63.3% (57)	10.7% (12)	22.2% (22)
Asia (n=716-815)	Received/participated	20.0% (154)	33.7% (275)	14.7% (108)	17.7% (133)	2.9% (21)	2.0% (14)	24.7% (187)	17.2% (128)
	Aware, but not yet used	50.8% (391)	49.8% (406)	44.7% (329)	45.8% (345)	39.5% (284)	33.7% (241)	36.3% (275)	41.8% (312)
	Unaware	29.2% (225)	16.4% (134)	40.6% (299)	36.5% (275)	57.6% (414)	64.4% (461)	39.0% (295)	41.0% (306)
Australia, New Zealand and Oceania (n=109-126)	Received/participated	26.0% (32)	37.3% (47)	4.6% (5)	2.7% (3)	3.7% (4)	2.7% (3)	18.8% (22)	25.0% (30)
	Aware, but not yet used	44.7% (55)	51.6% (65)	50.5% (55)	53.6% (59)	38.5% (42)	36.6% (41)	43.6% (51)	46.7% (56)
	Unaware	29.3% (36)	11.1% (14)	45.0% (49)	43.6% (48)	57.8% (63)	60.7% (68)	37.6% (44)	28.3% (34)
Europe (n=1,465-1,675)	Received/participated	24.3% (392)	37.9% (634)	22.5% (341)	23.3% (351)	8.2% (123)	3.5% (51)	20.9% (323)	17.3% (265)
	Aware, but not yet used	46.8% (755)	46.3% (776)	37.2% (564)	37.2% (560)	41.8% (629)	35.4% (519)	37.8% (586)	43.8% (670)
	Unaware	28.9% (467)	15.8% (265)	40.3% (611)	39.4% (593)	50.0% (753)	61.1% (895)	41.3% (640)	38.9% (595)
Central and South America (n=161-179)	Received/participated	24.6% (43)	37.4% (67)	35.5% (61)	37.2% (64)	2.4% (4)	6.2% (10)	30.2% (51)	26.4% (43)
	Aware, but not yet used	53.7% (94)	45.3% (81)	44.2% (76)	43.6% (75)	47.0% (77)	42.2% (68)	46.2% (78)	42.3% (69)
	Unaware	21.7% (38)	17.3% (31)	20.3% (35)	19.2% (33)	50.6% (83)	51.6% (83)	23.7% (40)	31.3% (51)
Middle East, North Africa (n=109-131)	Received/participated	29.3% (34)	57.3% (75)	35.8% (43)	34.2% (40)	6.4% (7)	6.3% (7)	27.7% (33)	15.0% (17)
	Aware, but not yet used	42.2% (49)	27.5% (36)	37.5% (45)	33.3% (39)	43.1% (47)	39.3% (44)	27.7% (33)	38.1% (43)
	Unaware	28.4% (33)	15.3% (20)	26.7% (32)	32.5% (38)	50.5% (55)	54.5% (61)	44.5% (53)	46.9% (53)
North America (n=215-608)	Received/participated	13.8% (82)	24.8% (151)	3.3% (7)	4.6% (10)	3.0% (17)	0.9% (2)	7.7% (44)	7.1% (41)
	Aware, but not yet used	46.0% (273)	48.0% (292)	24.2% (52)	25.8% (56)	21.7% (123)	21.2% (46)	29.9% (172)	33.8% (194)
	Unaware	40.2% (239)	27.1% (165)	72.6% (156)	69.6% (151)	75.3% (427)	78.0% (170)	62.4% (359)	59.1% (339)

⁵¹ Only certain countries are eligible to apply for book donations, equipment subsidies and research group linkages. The list of countries is continuously updated to reflect global economic developments. The current lists of countries can be found in the appendix (Table 73 and Table 74).

Lynen alumni

Those sponsored under the Feodor Lynen Programme were asked about the three alumni tools for which they are eligible to apply: further research stays of up to three months with Humboldt alumni abroad, short stays (up to two weeks) by Humboldtians in Germany and printing subsidies for book publications. As Lynen alumni are not eligible to apply for further research stays within two years of initial sponsorship, this group of Lynen alumni was only surveyed on their use of the tool “printing costs”.⁵²

Table 15: Awareness and usage of alumni support tools amongst Lynen alumni (online survey)

Tool	Received/ participated	Valid %	Aware, but not (yet) used	Valid %	Unaware	Valid %	Total replies	Missing⁵³
Further research stay of up to 3 months with alumni abroad	51	12.3%	222	53.5%	142	34.2%	415	137
Short stay of up to 2 weeks by Humboldt Foundation alumni in Germany	16	3.9%	213	52.6%	177	43.6%	406	146
Printing subsidies	11	2.7%	135	33.3%	259	64.0%	405	147

Overall, the Lynen alumni who participated in the survey only make modest use of alumni sponsorship tools. The most popular tool was a further research stay with Humboldt alumni abroad.

Nevertheless, more than half of the Lynen alumni are aware of the opportunities for further research and short stays, which begs the question as to why these tools are only seldom used.

Only about a third of the survey respondents in this group was aware of printing subsidies and, so far, only a few have grasped the opportunity.

One possible reason for this modest usage may be that, although many Lynen alumni are still working in research, they are not employed by publicly-funded universities and non-university research institutions but by industry (see Table 10, p. 51). For them, alumni tools are therefore possibly not such an attractive option.

⁵² This group was asked about the tool “printing subsidies” in the questionnaire and not in the form of a separate module.

⁵³ This number includes the 112 survey respondents whose initial fellowship ended less than two years previously as well as the 25 to 35 ‘missing values’ (skipped the question, stopped the survey etc.).

Hosts

By taking part in the Foundation’s networking events at home and abroad, as well as by becoming involved in certain forms of cooperation, those hosting Humboldt Research Fellows and Award Winners are also able to participate in the Foundation’s alumni programmes but are not eligible to apply for them themselves.

In total, hosts were asked about five alumni sponsorship tools, including sponsorship for their own stays at the institutes of Humboldt alumni abroad and support for further research stays by Humboldtians in Germany, from which they benefit as well. Building a research group linkage is a particularly intensive form of networking between Humboldtians and researchers in Germany. Alumni and hosts are eligible to apply jointly for sponsorship for this form of cooperation whereas, for example, sponsorship for a host’s stay in a Humboldtian’s own country has to be applied for and partially financed by the Humboldtian. Invitations to Kollegs and colloquia are initiated by the organisers, either alumni abroad or the Foundation itself.

Table 16: Awareness and usage of alumni support tools amongst hosts (online survey)

Tool	Received/ participated	Valid %	Aware, but not (yet) used	Valid %	Unaware	Valid %	Total replies	Missing ⁵⁴
German researchers staying at home institute of the visiting scientist (previously ‘Sur Place’)	108	9.4%	546	47.4%	498	43.2%	1,152	172
Humboldt Colloquium	81	7.2%	450	40.0%	593	52.8%	1,124	200
Humboldt Kolleg	61	5.5%	348	31.6%	691	62.8%	1,100	224
Research group linkage	53	4.9%	294	27.4%	727	67.7%	1,074	250
Further research stay by Humboldtians in Germany	580	48.4%	479	39.9%	140	11.7%	1,199	125

Hosts have clearly benefitted most from further research stays by Humboldtians in Germany. This is also far and away the most well-known alumni sponsorship tool amongst hosts. By contrast, few hosts take advantage of the offer to spend time working abroad with a Humboldtian although more than half of those surveyed in this group were aware of the opportunity. Moreover, only a handful of hosts have so far participated in Humboldt Foundation events abroad. In the context of the survey, just under five per cent of hosts (n = 53) responded that they had participated in a research group linkage; the majority of this group were unaware of the tool. This is probably due to the fact that hosts do not automatically receive information about alumni sponsorship opportunities because

⁵⁴ This number only includes ‘missing values’ (skipped the question, stopped the survey etc.).

the sponsorship applications have to be submitted by the alumni, and not all countries are eligible to apply (see Section 5.4.1, p. 59). Furthermore, research group partnerships are not promoted by the Foundation “across the board”.

Conclusion

In summary, it can be stated that alumni abroad are aware, above all, of opportunities for further research stays in Germany and frequently make use of them. Some way behind comes participation in Humboldt Foundation events abroad. Proportionately, Georg Forster Research Fellows benefit most from the alumni sponsorship options; by contrast, the award winners only use them to a limited extent. The differences in user behaviour amongst alumni from certain countries and disciplines will be addressed in greater detail when dealing with the individual alumni tools in the following. Sponsorship recipients in the Lynen Programme are also reticent when it comes to applying for alumni sponsorship measures. Like alumni abroad, hosts are most familiar with the opportunities for further research stays in Germany. Many hosts are also aware of the option to apply for sponsorship to stay with a Humboldtian they had formerly hosted at his or her university abroad. However, they seldom take advantage of this offer.

5.4.2 Alumni sponsorship networking tools

Alumni sponsorship networking tools include both Further Research Stays for visiting researchers in Germany as well as financial support provided by the Foundation for reciprocal visits by hosts abroad. These tools will now be presented in detail and analysed to ascertain whether they achieve their central goals, where their strengths lie and where there is need for improvement.

5.4.2.1 Sponsorship for Further Research Stays in Germany for alumni from abroad

Once they have completed the initial research stay in Germany and returned to their own countries, alumni usually have to wait three years before they can apply for a further research stay (the minimum period between sponsorship for subsequent further research stays is also usually three years). Two different tools exist for this purpose: Short Visits (up to 30 days) and Further Research Stays (one to three months).

5.4.2.1.1 Research stays up to three months

Further research stays up to three months are often used to continue or complete research begun during the initial research stay in Germany, or to initiate new joint research projects with specialist colleagues in Germany.

This tool has been in existence since 1959. It was introduced five years after the first fellowships had been granted by the Alexander von Humboldt Foundation, which was founded in Bonn in 1953, as “a re-invitation programme for former research fellows for short-term research stays in the Federal Republic of Germany”. In the following years, follow-up contact with former research fellows became a particular focus of the fellowship programme. In 1971, 26 former research fellows were invited to Germany for a further research stay. The opportunity to invite Humboldt Research Award Winners back to Germany was introduced in 1979.

Up until 2002, financing for further research stays was restricted to a total sponsorship period of up to 24 months (including the initial sponsorship period), which meant that further research stays could last more than three months. In order to reach a larger number of alumni with this sponsorship tool and thus to create a broader basis for distributing the resources available, the Board agreed to the decision to abolish the regulation restricting sponsorship to a total period of 24 months (on the basis of the “Fortschreibung des Nachkontakt-Konzeptes der Alexander von Humboldt-Stiftung (2002)”) ⁵⁵.

Alumni are free to choose their academic host for the further stay and are expected to base their decisions exclusively on subject-related criteria. The decision as to whether an application is approved is determined by the applicant’s academic qualifications and activities, the academic quality and relevance of the proposed research project and the significance of the further research stay in academic and foreign cultural policy terms. Account is also taken of the amount of sponsorship already granted (and the amount of time that has elapsed since the last Humboldt Foundation sponsorship). Financial support is provided at the same level as the valid monthly fellowship. Travel expenses to and from Germany are not usually covered.

Systematisation of tool goals

Overarching goals	- To cultivate and develop the worldwide Humboldt Network
Programme goals	- To sustainably cultivate and develop contacts between Humboldt alumni and German academics - To continue or complete research begun during the initial research stay in Germany
Programme activities	- Joint completion of research work - Continuation of existing collaborations

⁵⁵ In the context of the online survey for this study, alumni of all intakes were asked about their use of this tool. No particular attention was paid to the changes in the general conditions relating to time periods.

Outcome	<ul style="list-style-type: none"> - Maintenance (fostering) and development of personal networks - Joint activities involving the host and alumnus/alumna (e.g. publications, lectures, workshops) - Development and promotion of collaborations
Impact (mid term)	<ul style="list-style-type: none"> - Formation/development of collaborations between alumnus/alumna and German academics - Maintenance and development of an emotional bond with Germany - Mediating a feeling of personal esteem - Close connection between alumni and Germany - Promotion of a realistic image of Germany
Impact (long term)	<ul style="list-style-type: none"> - Strengthening the Humboldt Network - Strengthening and internationalising Germany as a location for research

Methods

In addition to a data base query, the online survey was the main method used to investigate the use and impact of the tool. Both alumni (Module L) and academic hosts in Germany (Module Z) were surveyed on their experiences. It was decided to dispense with an evaluation of the final reports written by sponsorship-recipients immediately after the stay as these reports concentrate on research-related results and are less interested in a general evaluation of the tool. Given the modest results to be expected from analysing these documents, the effort involved in acquiring these reports seemed disproportionate. As well as evaluating the online survey, Humboldtians were also asked to report on their experiences with further research stays financed by the Humboldt Foundation in the guided interviews.

Analysis of the data base

The analysis of the data base with regard to the use of further research stays shows a clear increase between 1984 and 2003 (see Table 17). In the last few years, the number of applications approved ranged from about 330 to just under 420 per year. In 2013, the number dropped somewhat: only 270 individuals came to Germany on the strength of further sponsorship (see Table 18). This decline is largely explained by the fact that the Foundation was subject to budgetary restraints at the time which also had implications for alumni sponsorship.

Table 17: Further research stays – individuals sponsored per decade 1959-2013 (data base)⁵⁶

Type of sponsorship	1959-1963	1964-1973	1974-1983	1984-1993	1994-2003	2004-2013	Total
Georg Forster Humboldt fellowship					13	145	158
Award winner	14	518	1,626	2,695	2,471	1,964	9,288
Other fellowships			40	180	260	332	812
				3	37	80	120
Total	14	518	1,666	2,878	2,781	2,521	10,378

Table 18: Further research stays – individuals sponsored per year 2004-2013 (data base)⁵⁷

Type of sponsorship	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
Georg Forster Humboldt fellowship	13	15	17	9	24	31	25	27	28	25	214
Award winner	346	331	300	301	254	262	292	291	245	203	2,825
Other fellowships	38	44	37	51	39	63	77	53	54	33	489
	10	8	19	10	5	9	15	15	6	7	104
Total	407	398	373	371	322	365	409	386	333	268	3,632

Altogether, more than a quarter of alumni have taken advantage of Foundation support for a further research stay in Germany (see Table 19). Due to the length of time the programme has been in operation, the proportion is highest in the Humboldt Research Fellowship Programme. However, more recently, almost every fifth award winner and Georg Forster Fellow has taken advantage of this tool for a further stay in Germany.

Table 19: Further research stays (3 months) – percentage of individuals sponsored in the Humboldt Network (data base)

Type of sponsorship	Number of individuals sponsored	Individuals in the network	Percentage
Georg Forster Humboldt fellowship	149	684	21.8%
Award winner	6,818	22,516	30.3%
Other fellowships	747	4,182	17.9%
	113	908	12.4%
Total	7,827	28,290	27.7%

⁵⁶ Individuals sponsored were counted once per decade regardless of how often they received support within this ten-year period. It was decided to break down the support by decade because it provides a summary view of the total duration and development of each tool over time.

⁵⁷ Individuals sponsored were counted once per year. Alumni who applied for sponsorship in several years were counted once each year. Therefore the number of individuals does not match the number of individuals sponsored in the decade 2004-2013, as in this period, individuals were only counted once per decade.

Results of the online survey of alumni abroad

Sponsorship for further research stays in Germany lasting up to three months is by far the most frequently-used tool. More than a third of alumni abroad (n = 1,349, 36% of 3,746 respondents) who took part in the survey have benefitted from a further research stay in Germany after their first sponsorship period. Nearly all the rest of this group was at least aware of the tool (46.4%) even though they had not taken advantage of it at the time of the survey (see Table 12, p. 60).

As it is possible to apply for further research stays more than once, Humboldtians were also asked about the frequency of usage.

Table 20: Further research stays – frequency of usage amongst alumni abroad (online survey)

“How often have you used Humboldt sponsorship tools to finance a further research stay in Germany?”	Number of replies	Valid % of replies
Once	581	517%
Twice	275	24.5%
Three times or more	268	23.8%
Total	1,124	100%

Nearly half of the researchers who answered this question had already returned to Germany twice or more frequently with the support of the Foundation after the initial sponsorship period (see Table 20). With reference to the basic population in the sample this equates to a proportion of just over 10 per cent.

Proportionately, the tool is used more often by humanities scholars and social scientists, and rather more seldom by life scientists. With regard to region of origin, a particularly large percentage of survey participants who had already benefitted from a further research stay gave their region of origin as Africa or the Middle East. The proportion of American alumni in this group, on the other hand, falls significantly below average (see Table 14, p. 63).

As was to be expected, the share of those using this tool grows in proportion to the increase in the length of time that elapses after initial sponsorship. In the group of alumni whose initial stay took place more than nine years previously, between 41 per cent and 43 per cent of survey participants had already benefitted from a further stay in Germany; in the group six to eight years after initial sponsorship, the proportion was 32 per cent and in the group three to five years after initial sponsorship it was 17 per cent.

According to the survey respondents, further stays in Germany are used, first and foremost, to continue research work that was started at the host institute (n = 616, that is, 53.9% of 1,143 respondents). By contrast, only 20 per cent of alumni stated that they

completed their project during their stay at the host institute, which could suggest that, more often than not, permanently established cooperation is the outcome.

Just over 40 per cent of respondents also used their stay to work on joint publications with colleagues in Germany. An equally high proportion initiated new research projects with other partners outside the host institute during their stay in Germany. This can be seen as clear proof that contacts are indeed intensified and extended after the initial stay in Germany⁵⁸. At the host institute itself, roughly a third of respondents embarked on a new project during their further stay.

More than half of Humboldtians state that they returned to Germany with a member of their family, which can also lead to a sustainable bond with the host country. Only a relatively small proportion of researchers, however, were accompanied by colleagues or junior researchers from their own countries (3.4% and 5.2% respectively)⁵⁹. This option only exists in the context of “tandem re-invitations” and is not on offer to all alumni.⁶⁰ Notwithstanding this, 20 alumni (out of 50 who were accompanied in this way) were able to report that junior researchers did subsequently apply for a Humboldt Fellowship; 13 were successful.

Nearly all Humboldtians abroad (n = 1,044, that is, 9.3% of 1,119 respondents) managed to renew and consolidate the contacts they had previously made in Germany during the further stay; interestingly, the majority of these contacts were to colleagues at other institutes (73%). However, well over half the respondents refreshed their contacts to previous hosts or colleagues at the host institute. Approximately a third of alumni fostered private contacts in the context of the stay.

The supposition that further research stays are used intensively to extend and develop researchers’ personal networks was endorsed by the fact that more than 90 per cent of alumni (n = 1,003 of 1,089 respondents) stated that they had made new contacts during this period that were important for their academic work. Furthermore, in approximately one third of cases, new contacts were made to individuals outside of Germany during the stay. In the majority of cases (some 87%), these new contacts generated long-lasting academic cooperation which was often (some two-thirds of cases) also (partially) financed

⁵⁸ This is confirmed by the answers to the open question evaluating the tool (see below).

⁵⁹ The evaluation of the open questions on this tool shows that, apparently, financing travel expenses is often a problem. As in response to another open question some alumni recommend that alumni should be accompanied by junior researchers, it can be assumed that many are not aware that this option already exists.

⁶⁰ In the context of an invitation, alumni can choose to be accompanied by a junior researcher. The latter should be a potential candidate for an Alexander von Humboldt Foundation research fellowship and should use the stay to experience Germany as a location for research and possibly establish initial contacts with future hosts. The junior researchers included should be doctoral candidates or, preferably, postdoctoral researchers. (Source: Programme Information on tandem re-invitations, Humboldt Foundation)

by the Humboldt Foundation⁶¹. Almost equally as often, however, other sources of finance were used to continue collaboration, such as university resources in particular. Other important funders included national research funding institutions (National Science Foundation etc.), governments, and the DAAD and DFG.

Using an open question alumni were asked to evaluate the usefulness of this tool and suggest improvements. An evaluation of altogether 842 responses to this question revealed broadly-based satisfaction with the option of using further research stays to continue, intensify or even launch collaborations. Additional advantages of a stay in Germany included being able to focus exclusively on research without the usual commitments at one's own institution and also to benefit from the good infrastructure facilities at German universities:

It allows quality research time in a supporting environment. It permits me to sustain existing collaborations and initiate new ones. For me it's currently excellent.

(Humboldt alumnus/-a, Australia, online survey)

Another quotation underscores the sustainable impact of the tool:

It is an excellent opportunity to develop a long-term connection to an institution and to broaden one's network in Germany. In part as a result of my return visit, I am now serving on the board of an SFB project, and will be returning to my host institution as a Visiting Professor over the next 5 years.

(Humboldt alumnus/-a, North America, online survey)

Some alumni particularly emphasise the advantages of a stay at a somewhat later stage in their careers because they were then established researchers and often addressing new research themes. They were then able to build new collaborations with German researchers on these themes. It was also easier to leave one's own institution for short stays at a later career stage:

The scheme is very important to solidify contacts and also to foster research amongst senior scholars, who are otherwise far more heavily burdened than more junior scholars by their own home universities' demands (administration and teaching).

(Humboldt alumnus/-a, Europe, online survey)

A positive aspect of a further research stay mentioned by many was the opportunity to inform oneself about new developments in one's subject and the status of research in Germany or to connect with the international debate in the research area:

⁶¹ In roughly a quarter of cases (24.4%, n = 201,) the stay was exclusively financed by the Humboldt Foundation; in just under 40 per cent (n = 325), partially, and in 36 per cent of cases (n = 299) the Foundation was not involved in the financing.

For researchers in poor countries, such as myself, the Humboldt sponsored research stays in Germany have been an essential link to the international community and the German colleagues in particular.

(Humboldt alumnus/-a, Europe, online survey)

Another advantage of the tool explicitly cited by some respondents was the opportunity to find a new host and/or be able to develop contacts to other institutions.⁶² One alumnus (award winner, Asia, online survey) even described it as a “*starting point to have new collaborators (in new generation) in Germany*”.

The following quotation appropriately summarises the positive evaluation by alumni almost across the board:

I think they are an outstanding tool because they are so flexible that one can integrate them into the timeframe of one's own professional and private life on the one hand, whilst being able to decide on one's own host institute on the other. [...] After an exhausting year of teaching, I can spend time researching in libraries in peace, share ideas with colleagues and work on my publication.

(Humboldt alumnus/-a, Europe, online survey)

Suggestions for improving the tool largely refer to greater flexibility in the time frame: many researchers would welcome the opportunity to apply for a further research stay more often than just once in three years. Some alumni also think the duration of the measure is too short and suggest creating an opportunity to extend the stay up to six months.⁶³ Alternatively, some alumni (n = 9) suggest being able to divide up the three months into several stays.

Other suggestions for improvement referred, for example, to covering travel expenses (n = 16), particularly for Humboldtians from distant countries or those with weak currencies, and to the financial provisions of the sponsorship measure (n = 10).

Results of the online survey of hosts

Of the 1,324 hosts who participated in the survey, 580 had already had one or more Humboldtian(s)⁶⁴ to stay for up to three months in the context of a further research stay. This is almost half (48%) of those who provided information on this point (n = 1,199). The large majority of the remainder (n = 479, 40%) were at least aware of the tool.

⁶² Amongst other things, this may often be necessary if the host for the initial stay has retired or died, for example.

⁶³ Of 206 alumni abroad who made a suggestion for improving the tool in their responses, 50 (24%) said they would like to be able to extend the stay. A further 47 individuals described the waiting period of three years before applying for further sponsorship as too long.

⁶⁴ 227 hosts (40.5%) stated that they had only hosted one alumnus/alumna for a further research stay, 237 (42.3%) had hosted two to three Humboldtians and 96 (17.1%) had even hosted more than three alumni in the context of further research stays.

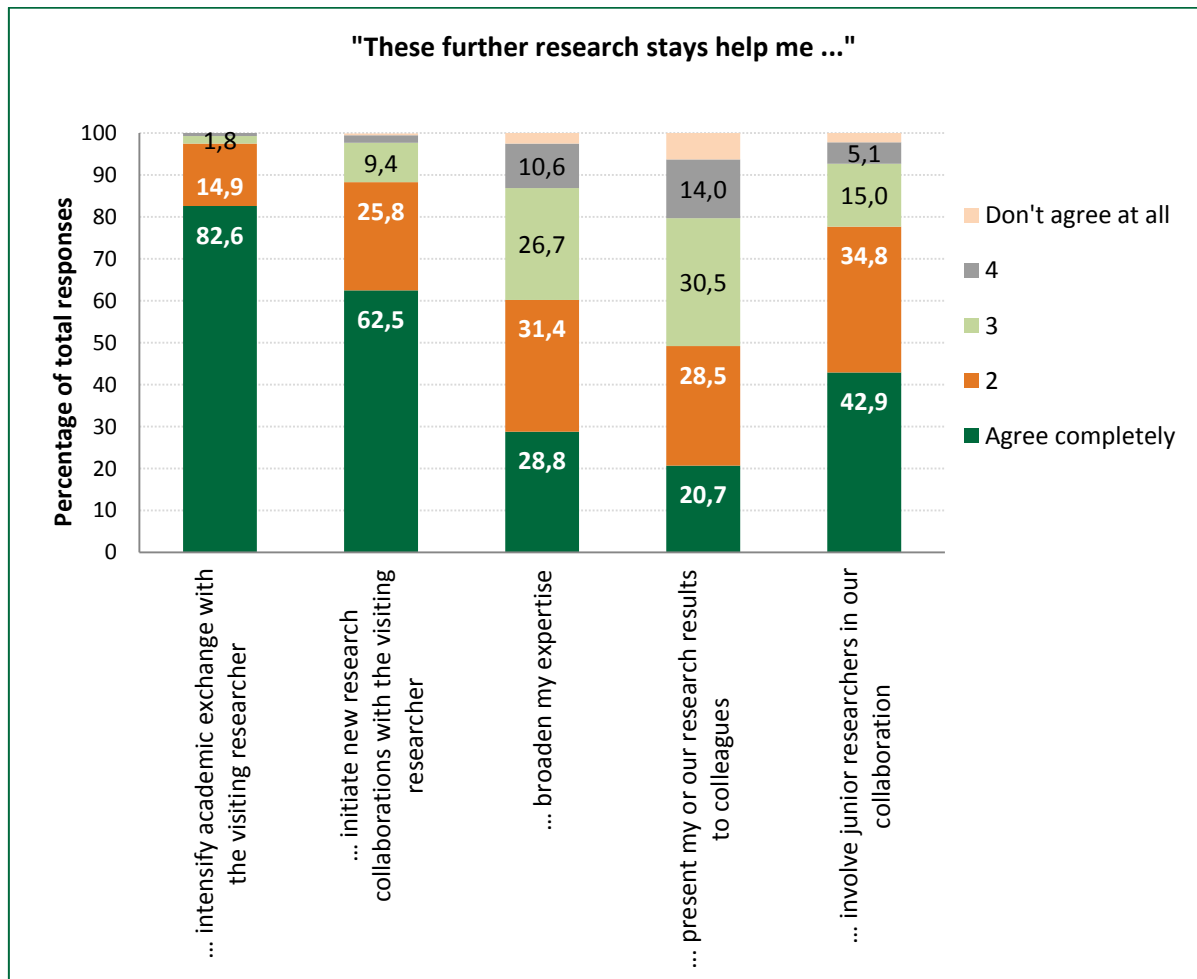
It is striking that Humboldtians tend to turn to different hosts for their further research stays than the ones who hosted them during initial sponsorship: almost a third of the hosts (31.4%, n = 178) who addressed this point stated that they had not hosted the alumni during the initial research stay; a further 30 per cent (n = 170) stated that this was true in some, but not all cases.

From the point of view of hosts, Humboldtians' further research stays in Germany usually serve to continue ongoing research projects (424 mentions, 73.7% of respondents), followed by work on joint publications (360 mentions, 62.6% of respondents). However, at least half of the respondents (296 mentions, 51.5%) also stated that they had initiated new research projects with their host during the stay, a claim that coincides with the information provided by alumni and which can thus be seen as a clear indication for the development of continuing cooperation. This is also substantiated by the fact that nearly all hosts still maintain contact to all or at least some of the Humboldtians⁶⁵ they hosted during their further research stay.

Asked about the usefulness of these further research stays, almost all hosts (97.5% n = 544) concur with the statement that they allow contact with visiting researchers to be intensified. The figures are almost as high (88.3%, n = 479) for the level of agreement with regard to possibilities for initiating joint research collaborations. About three-quarters of hosts (77.7%, n = 415) also confirm that integrating junior researchers in the context of further research stays does play a role. Somewhat less agreement exists in respect of broadening expertise and disseminating research results in the relevant community (see Figure 6).

⁶⁵ Almost two-thirds (65.8%, n = 371) remain in contact with alumni; the remainder (33.2%, n = 187) at least with some. Only six hosts (1.1%) stated that they no longer had any contact with alumni.

Figure 6: Benefits of further research stays for hosts (online survey)



An open question was also used to ask hosts to evaluate the tool of further research stays and to make suggestions for improvement as well.

In total, 235 individuals addressed this issue – and nearly all of them were positive. They emphasised, above all, that the tool facilitated continuous, long-term research collaboration and thus substantially contributed to consolidating academic relations. One host expressed the following, for example:

In an age of academic overemployment, contacts are in danger of petering out or at least thinning out – this is a wonderful opportunity to reinvigorate them and look to new research interests.

(Host, online survey)

Another host noted that

... it often only becomes clear in retrospect which issue one really should have addressed in order to round off the project scientifically. This can be targeted in the context of a further research stay.

(Host, online survey)

It is also considered positive that repeated contact and the development of sustainable collaboration facilitate the inclusion of junior researchers in the cooperation.

Many hosts are of the opinion that the further stays are often more successful than the initial stays because they build on previous activities and are thus more effective. The following quotation illustrates the point:

The visiting researchers know their way around and can use their time in a very focussed fashion. They are usually even more motivated than they were during the first stay.

(Host, online survey)

Another advantage that is often mentioned is the unbureaucratic application process and flexible handling of the tool.

Just as in the case of the alumni, most of the suggestions for improvement are directed towards the duration of the measure: some hosts (n = 26) would like to be able to extend the stay to six months. Furthermore, many would welcome sponsorship for multiple visits as well. In a number of cases the financial provisions are addressed, whereby the most common call is for travel expenses (particularly for researchers from countries with weak currencies).

Conclusion

The results of the study show that financing further research stays in Germany for a period of up to three months contributes decisively to intensifying research collaborations with partners in Germany and strengthening bonds to Germany. In particular, the tool ensures the sustainability of contacts whilst at the same time often being used to establish new contacts and collaborations. By consolidating exchange with visiting researchers from abroad it also successfully promotes the internationalisation of the German research landscape. Insights gained from the survey suggest that there is more scope for integrating junior researchers, especially from the alumni's own countries. Against the backdrop of such a positive evaluation of the tool, it should be considered whether the sponsorship opportunities can be extended and greater temporal flexibility can be introduced.

5.4.2.1.2 Short visits to Germany (up to 30 days)

Short visits of up to 30 days can be used to actively participate (lecture, poster, leading a working group, etc.) in international conferences in Germany, to undertake a lecture tour, to foster academic contacts and to spend short periods working in Germany.

Sponsorship involves the payment of a per diem. If an alumnus/alumna is actively participating in a conference, the conference fees are covered (travel expenses are not paid). Currently, some 300 short stays are approved every year.

Systematisation of tool goals

Overarching goals	- To cultivate and develop the worldwide Humboldt Network
Programme goals	- To sustainably cultivate and develop contacts between Humboldt alumni and German academics -
Programme activities	- Active participation by an alumnus/alumna in international conferences in Germany (lecture, poster etc.) - Lecture tours - Short working visits
Outcome	- Maintenance (fostering) and development of personal networks - Networking alumnus/alumna with German researchers - Sustainable continuation of research collaborations with partners in Germany
Impact (mid term)	- Formation/development of collaborations between alumni and German academics - Maintenance and development of a sustainable and emotional bond with Germany - Mediating a feeling of personal esteem - Promotion of a realistic image of Germany
Impact (long term)	- Strengthening the Humboldt Network - Strengthening and internationalising Germany as a location for research

Methods

In addition to a data base query, the additional Module K (“Financial support for short visits of up to 30 days in Germany”) in the online survey was the main method used to investigate the use and impact of the tool. Having considered some samples, it was decided to dispense with an evaluation of alumni’s reports, just as in the case of further research stays, as they usually concentrate on research-related issues; furthermore, the effort required to procure them from the individual files would have been disproportionate.

Analysis of the data base

The analysis of the data base with regard to the usage of short visits over the last six decades (see Table 21) shows a continual increase until the mid-2000s followed by a drop from 2004 onwards.

Table 22 presents the number of individuals who came to Germany per year in the last decade on the strength of a short visit sponsored by the Foundation. Between 2004 and

2011, the number of applications approved was relatively stable. As of 2012, the value dropped and, in 2013, only saw 172 individuals sponsored. As with the longer-lasting further research stays, this drop is largely due to the Foundation's budgetary restraints at the time (see Section 5.4.2.1.1).

Table 21: Short visits – individuals sponsored per decade 1954-2013 (data base)⁶⁶

Type of sponsorship	1954-1963	1964-1973	1974-1983	1984-1993	1994-2003	2004-2013	Total
Georg Forster Humboldt fellowship					13	74	87
Award winner	41	117	469	1,635	2,120	1,484	5,866
Other fellowships		3	20	29	90	101	243
			4	1	13	50	68
Total	41	120	493	1,665	2,236	1,709	6,264

Table 22: Short visits – individuals sponsored per year 2004-2013 (data base)⁶⁷

Type of sponsorship	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
Georg Forster Humboldt fellowship	6	3	6	4	10	19	11	13	20	8	100
Award winner	310	304	296	280	295	287	247	289	234	148	2,690
Other fellowships	7	15	15	9	5	11	19	20	12	12	125
	1	8	7	7	9	9	11	11	6	4	73
Total	324	330	324	300	319	326	288	333	272	172	2,988

Altogether, 4,716 individuals were granted sponsorship for a further short visit to Germany, which equates to 17 per cent of the entire Humboldt Network. This tool is used most intensively by Humboldt Research and Georg Forster Research Fellows. The proportion of users in the award programmes and other fellowship programmes is lower (see Table 23).

⁶⁶ Individuals sponsored were counted once per decade regardless of how often they received support within this ten-year period. It was decided to break down the support by decade because it provides a summary view of the total duration and development of each tool over time.

⁶⁷ Individuals sponsored were counted once per year. Alumni who applied for sponsorship in several years were counted once each year. Therefore the number of individuals does not match the number of individuals sponsored in the decade 2004-2013, as in this period, individuals were only counted once per decade.

Table 23: Short visits – percentage of individuals sponsored in the Humboldt Network (data base)

Type of sponsorship	Number of individuals sponsored	Individuals in the network	Percentage
Georg Forster Humboldt fellowship	82	684	12.0%
Award winner	4,339	22,516	19.3%
Other fellowships	229	4,182	5.5%
	66	908	7.3%
Total	4,716	28,290	16.7%

Results of the online survey

In the online survey 789 alumni stated that, after their initial stay, they had benefitted from a short visit of up to 30 days in Germany sponsored by the Humboldt Foundation. This alumni sponsorship tool is thus one of the most frequently used by those who participated in the survey.

Altogether, 566 alumni answered the questions as to how often they used this tool.⁶⁸

Table 24: Short visits – frequency of usage amongst alumni abroad (online survey)

“How often have you received financial support from the Alexander von Humboldt Foundation for further short visits to Germany?”	Number of replies	Valid % of replies
Once	244	43.1%
Twice	143	25.3%
Three times or more	179	31.6%
Total	566	100%

It is striking that the offer to finance short visits is often used on several occasions; more than half of the respondents had already taken advantage of support from the Humboldt Foundation to return to Germany for a number of days twice or more than twice.

Humboldtians frequently use these short visits to attend specialist conferences (n = 342, that is, 59.2% of 578 respondents) in which they are actively involved. With regard to the Humboldt Network it is important to note that more than half of the respondents (331 = 57.3%) had combined the stay with a visit to their former host institutes. In almost as many cases, other universities or research institutions were visited (285 = 49.3%). Apart from this, more than a third of those sponsored used the short visit to work on joint publications with German colleagues (215 = 37.2%).

⁶⁸ As a result of filtering the answers to the usage of several alumni instruments, not all alumni abroad who stated that they had already spent time in Germany on a short visit financed by the Humboldt Foundation in the context of alumni sponsorship were asked the questions evaluated in the following.

In answer to the question about the use of the tool from the point of view of those surveyed, fostering existing sustainable contacts to researchers in Germany elicited the most positive responses (n = 438, that is, 78.5% of 558 replies “agree completely”). Almost two-thirds of respondents, however, also identified ways of enhancing their specialist knowledge themselves. The level of absolute agreement with regard to using the stay to develop new contacts, present research results and initiate new research collaborations is somewhat lower (approximately 60% respectively).

Considering the use of this alumni sponsorship tool differentiated according to various groups produces the following results:

Award winners make significantly less use of the option to finance short visits (11% of all award winners who participated in the survey in comparison with 22% of fellows). Moreover, almost half of the award winners stated that they were unaware of the tool. There are no significant differences between the disciplines: life scientists tend to take less advantage of further short visits of under 30 days than humanities scholars and social scientists (see Table 71, appendix, p. 217). With regard to regional distribution it can be seen that, as with the further research stays, Humboldtians from Africa and the Middle East, in particular, take above average advantage of sponsorship (see Table 14, p. 63).

Asked about the advantages of this tool, alumni emphasise above all – just as they did in relation to further research stays – that the short visits promote the continuation and consolidation of academic contacts with Germany as well the establishment of new contacts. This was of enormous importance because “... *real cooperation in science can only be done with face to face discussion, even with short visits*” (award alumnus/-a, Asia, online survey). With the help of short visits it was possible to “*regularly foster contacts with researchers in Germany, conduct exchanges and keep one’s own specialist knowledge at a high level*” (award alumnus/-a, Europe, online survey). One alumnus/-a particularly emphasised the importance of continuous contact: “*It supports internal feeling of Humboldt family member, gives you possibility always to be in touch with German colleagues*” (Humboldt alumnus/-a, Europe, online survey).

Other advantages mentioned included the unbureaucratic application procedure and straightforward handling of the measure as well as the high success rate. The short duration of the visits particularly suits many alumni. “*The shorter stays fit in better with the realities of a pressured academic life where full sabbaticals are not possible [...]*.” (Humboldt alumnus/-a, Sub-saharan Africa, online survey).

Just as in the case of further research stays, many Humboldtians would, however, like to see an increase in sponsorship options for shorts visits: the regulation setting a three-year moratorium between applications for such visits is considered too long: “*Unfortunately, it is possible to get grant only once in 3-4 years. This slows collaboration.*” (Humboldt alumnus/-a, North America, online survey). Furthermore, especially for researchers from

countries with weak currencies, it is recommended to improve the tool by covering flight costs and possibly conference fees. Alumni also suggest increasing the amount of sponsorship granted in order to make further visits particularly attractive for established researchers after the postdoc phase and take account of the high cost of living in German cities.

Conclusion

The “short visits of up to 30 days” are a sponsorship tool that Humboldtians use frequently and gratefully to maintain and intensify their contacts with researchers in Germany. The visits are often combined with attending a conference or specialist meeting. Across the entire cohort of alumni, the tool is used proportionately far less often by alumni in Asia and America as well as by award winners. A short visit possibly seems less attractive for alumni from Asia and America due to the length of the journey. Those alumni who have already benefitted from the tool often return to Germany for short visits on several occasions.

5.4.2.2 Visits by researchers from Germany to Humboldtians’ own institutes in the context of alumni sponsorship

The Humboldt Foundation can provide subsidies to facilitate visits by German researchers to Humboldtians’ own institutes abroad. This tool has been in existence since 1974. The visit is supposed to be used for lectures and academic contacts at the research fellow’s own institute as well as at other institutes in the country, where applicable. Preference is given to trips undertaken by academic hosts and collaborative partners from Germany to countries with weak currencies. The subsidy (previously known as a “sur place subsidy”) is intended to cover, or partially cover, the travel expenses of the researcher from Germany. The Humboldt Foundation expects the institute abroad to be responsible for the local costs of the stay.

Systematisation of tool goals

Overarching goals	- To cultivate and develop the worldwide Humboldt Network
Programme goals	- To sustainably cultivate and develop contacts between Humboldt alumni and German academics - To communicate up-to-date information on research in the respective subject
Programme activities	- Visit by a researcher from Germany to the institute of a research fellow or award winner - Lectures held by the researcher sponsored at the Humboldtian’s own institute and, potentially, at other institutes in the country

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Outcome	<ul style="list-style-type: none"> - Exchange and contacts between researchers from Germany and the host country - Deeper knowledge of the research topic for everyone concerned - Acquisition of a realistic image of the local research situation
Impact (mid term)	<ul style="list-style-type: none"> - Extension of participants' personal networks - Formation/development of collaborations between researchers from Germany and the host country
Impact (long term)	<ul style="list-style-type: none"> - Strengthening of the worldwide Humboldt Network

Methods

In addition to an evaluation of the Foundation's data base, the online survey was the main method used to investigate the use and impact of the tool. For this purpose, hosts who stated that they had already benefitted from sponsorship were asked to complete the additional Module R. Moreover, 30 travel reports submitted by researchers in Germany between 2009 and 2013, which contained a detailed description of activities during the stays, were evaluated as well.

Analysis of the data base

In the data base, the sur-place subsidy is not assigned to the hosts in Germany but to the researchers abroad. Table 25 shows that the number of individuals sponsored in this way has grown continually. This increase is presumably due to the growing number of alumni overall. Taking the last ten years, it emerges that, on average, approximately 60 to 70 Humboldtians invite a researcher from Germany to their own institutes every year (see Table 26).

Table 25: Sur Place – individuals sponsored per decade 1974-2013 (data base)⁶⁹

Type of sponsorship	1974-1983	1984-1993	1994-2003	2004-2013	Total
Georg Forster			9	56	65
Humboldt fellowship	73	162	244	335	814
Award winner			8	53	61
Other fellowships				16	16
Total	73	162	261	460	956

⁶⁹ Individuals sponsored were counted once per decade regardless of how often they received support within this ten-year period. It was decided to break down the support by decade because it provides a summary view of the total duration and development of each tool over time.

Table 26: Sur Place – individuals sponsored per year 2004-2013 (data base)⁷⁰

Type of sponsorship	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
Georg Forster	7	6	2	3	5	16	9	4	6	10	68
Humboldt fellowship	47	46	49	49	34	43	44	39	28	40	419
Award winner	3	8	8	6	7	8	4	7	4	8	63
Other fellowships		1	2	1	3	4	2	3		2	18
Total	57	61	61	59	49	71	59	53	38	60	568

Of all the individuals in the Humboldt Network, 876 have already taken advantage of a sur-place subsidy (see Table 27). This tool is particularly popular amongst Georg Forster Fellows as trips to countries with weak currencies are given preference. Almost one tenth of this group has already invited a German researcher to their own institutes.

Table 27: Sur Place – percentage of individuals sponsored in the Humboldt Network (data base)

Type of sponsorship	Number of individuals sponsored	Individuals in the network	Percentage
Georg Forster	61	684	8.9%
Humboldt fellowship	740	22,516	3.3%
Award winner	59	4,182	1.4%
Other fellowships	16	908	1.8%
Total	876	28,290	3.1%

Results of the online survey

Of the 1,324 hosts who participated in the survey, 1,152 (87%) provided information on using this tool. Of these, just under a tenth (9.4%, n = 108) has so far spent time at a Humboldtian's own institute with Foundation support. Almost half of the group was at least aware (47.4%, n = 546) that this option existed.

In percentage terms, hosts who have already mentored several Humboldt visiting researchers use this tool more frequently.⁷¹

Table 28: Sur Place – Frequency of usage amongst hosts (online survey)

How often have you already received financial support from the Humboldt Foundation to stay at the institute of one of your visiting Humboldt researchers?	Number of replies	Valid % of replies
Once	45	60.8%
Twice	23	31.1%
Three times or more	6	8.1%
Total⁷²	74	100%

⁷⁰ Individuals sponsored were counted once per year. Alumni who applied for sponsorship in several years were counted once each year. Therefore the number of individuals does not match the number of individuals sponsored in the decade 2004-2013, as in this period individuals were only counted once per decade.

⁷¹ In the group of hosts with four or more Humboldtians the proportion was 14.2 per cent, whilst it was 10.6 per cent in the group with 2 to 3 Humboldtians and 6.2 per cent in the group with just one Humboldtian.

⁷² 30 hosts ticked the box "I don't know" in answer to this question; 4 skipped the question altogether.

The majority of hosts who answered this question had only once visited a Humboldtian's institute abroad. The most frequent visits were to Asia (n = 27), the USA or Canada (n = 18) and other parts of Europe (n = 19)⁷³.

They were only seldom accompanied by a specialist colleague (n = 13) or junior researcher (n = 10); in 80 per cent of cases they travelled alone. Six hosts reported that one or more of these junior researchers had subsequently applied for sponsorship from the Humboldt Foundation, four of them successfully.⁷⁴

The purpose of some two-thirds of the visits was, amongst other things, to visit institutes and to actively participate in events (including lectures, poster presentations etc.); in more than half of the cases, however, the stay was also used to work on joint research projects and publications.

In their reports, many hosts state that full-blown lecture tours had been organised for them which frequently gave them the opportunity to present the Humboldt Foundation's sponsorship opportunities in the host country.

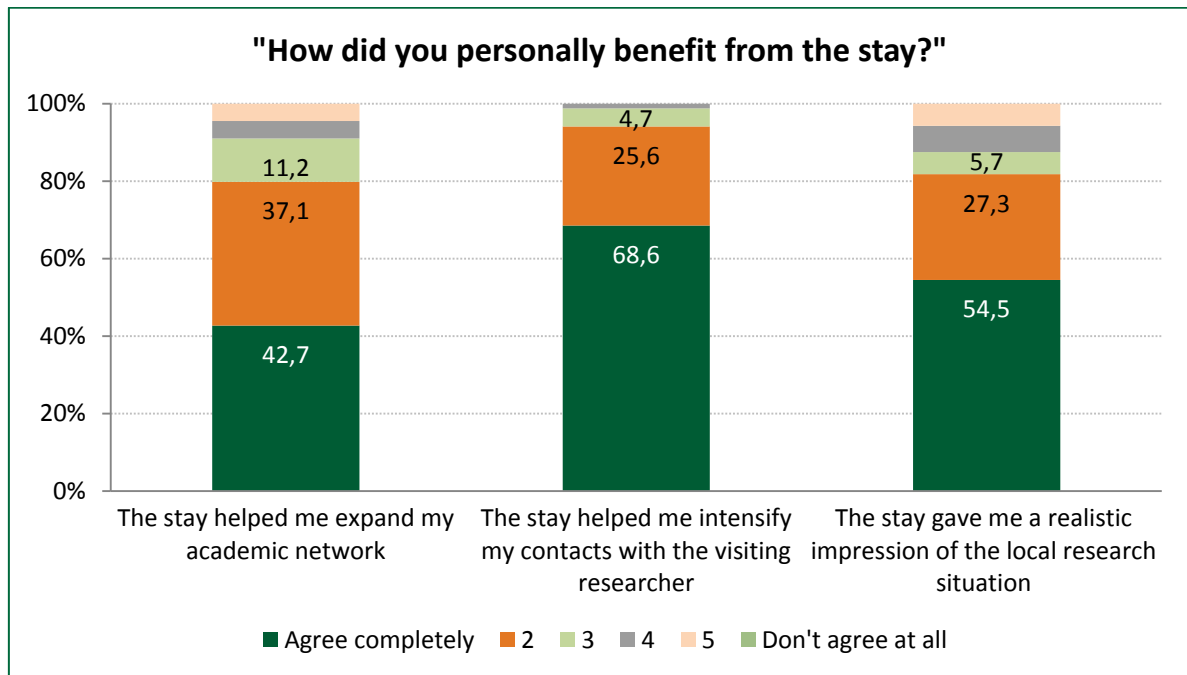
Apparently, the hosts actively use the visits for their networking: in the survey, 87 per cent (n = 78 of 90 respondents) stated that they had made new contacts during their stay that were important for their work. More than two-thirds of respondents had made these contacts at the Humboldtian's institute, approximately 40 per cent of hosts respectively had, however, also made new connections to researchers outside of the institute at the university they were visiting and beyond. In the majority of cases, these new contacts had spawned longer-term academic collaboration; only 15 (21%) out of 72 hosts answered this question negatively. In almost half of cases (23 out of the 51 reported) the newly-generated collaborations were completely or partially financed by the Humboldt Foundation.

In total, almost 90 hosts provided information on the personal benefit they had drawn from the visit to the Humboldtian's institute. The level of agreement was greatest with regard to intensifying contact to the visiting researcher; however, some 80 per cent of respondents also agreed completely or to a very high degree with the other two statements, so that, overall, the yield of the visits is very high (see Figure 7).

⁷³ In total, 86 hosts provided information on their destination.

⁷⁴ Three hosts reported that all applications submitted subsequently were successful; one reported partial success.

Figure 7: Personal benefit for hosts from a stay with a Humboldtian ("Sur Place") (online survey)



One host summarises the benefit of such visits as follows:

When building and consolidating research collaborations and networks it is extremely useful to know exactly what your partner's own research situation is like. It is an important indication of the esteem in which someone is held if a former host is prepared to become a guest, and it also broadens one's own academic and cultural horizons.

(Host, online survey)

In particular, what are in some cases the very difficult conditions in which colleagues have to work apparently make a lasting impression. The following three quotations from travel reports illustrate the point:

The impression of the situation in the humanities and social sciences, which I gained from discussions with the colleagues mentioned, is pretty catastrophic: basically, everyone complains about dreadful working conditions (no offices at the university, no telephones, computers, printers, copiers, books), then there is corruption (e.g. benevolent marking) and a lack of supervision for graduate students [...] as well as political monitoring and control [...].

Professor [...] herself is still very committed and tries to produce outstanding scientific results. But the buildings and equipment at the institute fall well behind the usual level in Germany [...].

Unfortunately, the Colombian university system focusses very exclusively on training students. Research can only be conducted if the investment can be re-financed by income from education (academic fees), which means that research funding [...] is very meagre. This was the fate of all the researchers I

met during my stay. All the more impressive are the labs that are often very efficiently set up with the simplest resources.

(Hosts, travel reports)

Another advantage of the tool explicitly mentioned by some hosts is the opportunity to broaden the scope of relations with junior researchers: “... it helps us to recruit postdocs and other researchers for Germany, especially from the USA ...” (Host, travel report)

One travel report, for example, describes the following:

Everything, including lunch and dinner, had been arranged perfectly by the host, and I had plenty of time at every institution for scientific talks. Altogether I met 25-30 Chinese chemists I had only previously known by name. Moreover, I held interviews with four potential candidates for a Humboldt Research Fellowship who would be interested in becoming postdocs in my research group. I found two of them very convincing indeed, and one of them [...] has already applied for a Humboldt Research Fellowship.

(Host, travel report)

Overall, the tool is evaluated very positively across the board; the following statement is typical:

In summary, I can say that for me as an engineer it is very important to be able to judge the local circumstances – and this trip was an excellent way of doing so. In future I will be able to negotiate further research activities with colleagues in a much more focussed way, and I think I was able to present the positive impact of the alumni programme in India. From my point of view, the trip was a complete success and I have also received re-invitations from the Indian side in order to consolidate the activities we have planned.

(Host, travel report)

Asked to make suggestions for improving the tool, many hosts were agreed that it is not sufficiently well known and one should draw attention to this opportunity more often.

Conclusion

The programme goal of fostering and extending contacts with the Humboldtians visited is achieved with the aid of mutual visits. Furthermore, in most cases, the hosts used the visits to expand their personal networks and to involve junior researchers in existing collaborations. By comparison, the acquisition of new specialist knowledge is rather less prominent. The hosts themselves consider the possibility of getting to know the local situation of their collaborative partners and their research environment as well as being able to build further cooperation on this basis as a more significant aspect. Overall, the tool should be promoted more, particularly amongst hosts, not least because roughly half of those surveyed in this group claimed not to know anything about the option of visiting Humboldtians' institutes abroad.

5.4.2.3 Alumni sponsorship tools for Feodor Lynen Fellows

Those sponsored under the Feodor Lynen Programme as well as the JSPS Fellows (Japan Society for the Promotion of Science Research Fellowship) and NSC Fellows (National Science Council of Taiwan Research Fellowship), who are also mentored by the Humboldt Foundation, are also able to take advantage of alumni sponsorship opportunities:

To facilitate the return from abroad, the Foundation can grant Feodor Lynen Return Fellowships for a maximum period of 12 months to work at a university or non-university research institution in Germany. In this context, alumni are expected to invite their previous Humboldt host abroad to their institution as part of Humboldt network promotion and to publicise the Humboldt Foundation there.⁷⁵

Furthermore, Lynen alumni are eligible to apply for funding for further research stays abroad (up to three months) and to invite a Humboldt visiting researcher to their own research institutes (up to 14 days). Both these tools are presented in the following and analysed with regard to their impact.

5.4.2.3.1 Research visits by alumni of the Feodor Lynen Programme⁷⁶ to Humboldtians abroad (up to three months)

In order to intensify academic cooperation between Feodor Lynen alumni who have returned to Germany and Humboldtians, the Foundation supports further research visits by Lynen alumni abroad for the purpose of conducting joint research work or for attending conferences and acquiring information. The maximum length of these visits is three months. The Humboldtians visited need not necessarily be the individuals who hosted the initial stay; visits to developing countries and transition economies are particularly welcomed. The criteria on which an approval is based comprise an elaborated research plan, the academic activities of the Lynen alumnus/-a (publications) and the significance of the research stay in academic and foreign cultural policy terms.

Financial support takes the form of a per diem. Travel expenses are not covered.

⁷⁵ In the context of this study, the return fellowship was not examined in detail; a quantitative analysis can be found in the Final Report on the Evaluation of the Feodor Lynen Research Fellowship Programme, Bonn, 2012.

⁷⁶ This tool is also open to JSPS research alumni (Japan Society for the Promotion of Science; promotes longer-term research stays for German junior researchers in Japan) and NSC research alumni (National Science Council of Taiwan, promotes longer-term research stays for German junior researchers in Taiwan) who are also mentored by the Humboldt Foundation.

Systematisation of tool goals

Overarching goals	- To cultivate and develop the worldwide Humboldt Network
Programme goals	<ul style="list-style-type: none"> - To intensify contacts between alumni of the Feodor Lynen Programme and Humboldtians abroad, especially in transition and developing countries - To initiate and/or develop joint collaborations - To enhance knowledge of the host country
Programme activities	<ul style="list-style-type: none"> - Conducting joint research work - Participation in conferences in the host country - Information visits to institutes in the host country
Outcome	<ul style="list-style-type: none"> - Maintenance (fostering) and development of personal networks - Mediation of an up-to-date image of Germany - Joint activities involving Lynen alumni and Humboldtians abroad (e.g. publications, lectures, workshops) - Development and promotion of collaborations and other activities (e.g. exchange of junior researchers)
Impact (mid term)	<ul style="list-style-type: none"> - Enhanced visibility of German researchers abroad - Formation/development of collaborations between alumni and German academics - Strengthening of the bond with Germany
Impact (long term)	<ul style="list-style-type: none"> - Intensifying contacts in the Humboldt Network - Strengthening and internationalising Germany as a location for research

Methods

In addition to evaluating information from the Foundation's data base, the online survey was the main method used to investigate the usage and impact of the tool. Lynen alumni who had benefitted from this tool were assigned the relevant Module W. After consulting the Sponsorship and Networking Department it was decided to dispense with an evaluation of travel reports.⁷⁷

Analysis of the data base

Due to the fact that not all the information on the Alexander von Humboldt Foundation's data base has been collected in exactly the same way, the reciprocal visits made by Humboldt alumni to the institutes of Lynen alumni cannot be retrieved from the data base individually. For this reason, the evaluation of data base information for both tools is considered in conjunction (further research stays abroad, inviting a Humboldt visiting

⁷⁷ As the travel reports are not available in electronic form, a time-consuming search through the files would have been necessary. Moreover, the reports are often strongly subject-centred.

researcher). When interpreting the information taken from the data base the following should be noted: a person is considered to have been sponsored if this person has either spent time on research or been on a conference tour abroad, or has invited a visiting researcher to Germany from abroad. A retrospective presentation of alumni sponsorship (see Table 29) shows that during the first three decades after the programme had been introduced, Lynen alumni made ever greater use of the sponsorship tools. In the last decade, the figures have dropped again somewhat. Since 2010 in particular, the trend has tended to be regressive.⁷⁸

Table 29: Lynen alumni sponsorship – individuals sponsored per decade 1980-2013 (data base)⁷⁹

Alumni sponsorship	1980-1983	1984-1993	1994-2003	2004-2013	Total
Lynen	8	61	244	179	492

Table 30: Lynen alumni sponsorship – individuals sponsored per year 2004-2013 (data base)⁸⁰

Alumni sponsorship	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
Lynen	37	44	30	36	18	26	17	10	12	17	247

Since 1980, a total of 449 Lynen Fellows have taken advantage of at least one form of alumni sponsorship (research stay/conference trip abroad or invitation of alumni to Lynen Fellows' institutes). This equates to 13.5 per cent of all Lynen sponsorship recipients. This follow-up sponsorship was used most frequently by humanities scholars and social scientists (see Table 31).

Table 31: Lynen alumni sponsorship – percentage of individuals sponsored in the Humboldt Network by academic field (data base)

Academic field	Lynen Fellows sponsored	Number of Lynen in Network	Percentage
Humanities and Social Sciences	138	606	22.8%
Life Sciences	96	637	15.1%
Natural Sciences	186	1,829	10.2%
Engineering	29	249	11.6%
Total	449	3,321	15.5%

⁷⁸ One reason may be the availability of alternative funding for international cooperation (Excellence Initiative etc.).

⁷⁹ Individuals sponsored were counted once per decade regardless of how often they received support within this ten-year period. It was decided to break down the support by decade because it provides a summary view of the total duration and development of each tool over time.

⁸⁰ Individuals sponsored were counted once per year. Alumni who applied for sponsorship in several years were counted once each year. Therefore the number of individuals does not match the number of individuals sponsored in the decade 2004-2013, as in this period individuals were only counted once per decade.

Results of the online survey

Of the 661 Feodor Lynen Fellows⁸¹ who participated in the survey, 549⁸² were asked for details on their use of alumni sponsorship tools. The remaining Fellows had only completed their initial sponsorship stay within the previous two years and were thus not asked about other sponsorship measures.

Of the group surveyed, 71 Lynen alumni⁸³ (13.6% of 520 respondents) had already taken advantage of a further research stay of up to three months with a Humboldtian abroad whilst the majority was at least aware that a stay of this kind was possible (53.6%, n = 279 of 520 respondents). Almost a third of alumni stated that they were unaware of the tool. Of the 71 users, 44 had only been on one stay abroad, the others had benefitted from Humboldt support for two or more visits of up to three months to a Humboldtian abroad. In most cases, they visited their Lynen host or co-host, although some Lynen alumni also visited other Humboldtians in the host country (n = 15) or in a third country (n = 18). In nearly all these cases, the alumni themselves had made contact with these other Humboldtians; only three alumni stated that they had made use of their former host or the Humboldt Foundation to mediate the contacts.

Time spent with Humboldtians is often used to continue joint research projects (n = 45, 67.2%) and to work on joint publications (n = 33, 49.2%). Furthermore, 41 alumni (61.2%) noted that they had initiated new projects during the stay and laid the foundations for longer-term collaboration.

Amongst other things, Lynen alumni apparently use their visits to Humboldtians abroad to foster and extend their personal networks: nearly every individual who answered this question (n = 58, 89.2%) said that they had used the visits to make new contacts of importance for their academic work. In most cases, these new contacts spawned longer-term collaboration⁸⁴.

Of the 41 alumni who had developed sustainable collaborations, roughly half (n = 22) financed them using funding not provided by the Humboldt Foundation⁸⁵; in 16 cases, the Foundation was only partially involved in the financing. These results indicate once again that many collaborations amongst Humboldtians come into existence without the knowledge or financial support of the Foundation (see Chapter 6.4).

⁸¹ Of these, 109 Lynen alumni who had already hosted other Humboldt Foundation sponsorship recipients were asked to complete a host questionnaire. On this sheet (G), the question referring to the use of alumni tools was divided up into usage by fellows and usage by hosts.

⁸² Of these, 109 were Lynen/host alumni.

⁸³ Of these, 20 were Lynen/host alumni.

⁸⁴ Only 13 alumni answered this question negatively.

⁸⁵ Usually the funding stems from the DFG or DAAD.

Asked about the advantages of the programme or whether there was room for improvement, a total of 41 alumni responded, most of them very positively. It was “the perfect format for completing projects” and facilitated “the long-term development of international cooperation” (Lynen alumnus/-a, online survey). Particular praise was heaped on the unbureaucratic application process and handling of sponsorship. Alumni are apparently prepared to engage in developing the Humboldt Network: one suggestion that was made was that every sponsorship recipient should give a talk on the Humboldt Foundation’s programmes at the host university; another was that alumni should be provided with a list of Humboldtians in the host country before embarking on their stay in order to make it easier to make contact. Some survey participants were of the opinion that the interval between the approval of potential further visits should be reduced because “certain windows of opportunity for research are not open forever” (Lynen alumnus/-a, online survey) and if the interval was too long, contacts could not be maintained.

5.4.2.3.2 Visits (up to 14 days) by Humboldtians to alumni of the Feodor Lynen Programme⁸⁶ in Germany

In order to intensify academic cooperation between Feodor Lynen Fellows who have returned to Germany and Humboldtians abroad, the Humboldt Foundation accepts applications for financial support (payment of a per diem) to facilitate a visit by the Humboldt visiting researcher to the institute in Germany. Sponsorship is available for a maximum of 14 days. The Humboldt Foundation is unable to pay subsidies towards travel expenses.

Systematisation of tool goals

Overarching goals	- To cultivate and develop the worldwide Humboldt Network
Programme goals	<ul style="list-style-type: none"> - To foster and develop contacts between Humboldt alumni abroad and German researchers - To conduct joint research projects - To enhance knowledge of the host country
Programme activities	- Visit by a Humboldtian from abroad to the institute of Lynen alumni in Germany
Outcome	<ul style="list-style-type: none"> - Maintenance (fostering) and development of personal networks - Joint activities involving Lynen alumni and Humboldtians abroad (e.g. publications, lectures, workshops) - Development and promotion of collaborations and other activities (e.g. exchange of junior researchers)

⁸⁶ This tool is also open to JSPS and NCS research fellows who are mentored by the Humboldt Foundation as well.

Impact (mid term)	<ul style="list-style-type: none"> - Extension of participants' personal networks - Formation/development of collaborations between German academics and researchers in the host country - Enhanced visibility of German researchers abroad
Impact (long term)	<ul style="list-style-type: none"> - Intensifying contacts in the Humboldt Network - Strengthening and internationalising Germany as a location for research

Methods

In addition to evaluating information from the Foundation's data base, the online survey was the main method used to investigate the use and impact of the tool. Lynen alumni who stated that they had taken advantage of this tool were assigned the additional Module Y.

Analysis of the data base

An analysis of the data base referring to this tool can be found in chapter 5.4.2.3.1.

Results of the online survey

Of the group of 549⁸⁷ Lynen alumni who were surveyed on alumni sponsorship tools, 25⁸⁸ (4.9% of 509 respondents) had taken advantage of the option to invite a Humboldtian for a short visit to their institutes. In general, this tool is thus only used sparingly. However, more than half of alumni stated that they were aware of the tool (n = 267, 52.5%). One reason for the relative lack of use may be that alumni sponsorship for alumni abroad can also be used to invite Humboldtians to Germany (e.g. further research stays, see Section 5.4.2.1.1).

Of the 25 users, nine had invited a Humboldtian just once, ten twice or more than twice, and the rest were unable to remember how often. In approximately half the cases, the person invited was the former Lynen host, in the other half, a Humboldtian from a different country and thus probably a later contact.

Surveyed on their activities during the visit, most stated the continuation of joint research (n = 13 of 21 respondents) and work on joint publications (n = 12). Ten alumni embarked on new joint projects during the short visit.

Asked about the advantages of the tools, one alumnus summarised them as follows: *"Short visits are ideal for continuing research and intensifying contacts"* (online survey). Other survey participants⁸⁹ responded similarly; in two cases it was suggested that the duration of the visit should be extended.

⁸⁷ Including 109 Lynen/host alumni

⁸⁸ Including nine Lynen/host alumni. This equates to 8.7 per cent of all respondents in this group; the proportion is thus somewhat higher than in the non-host group.

⁸⁹ Altogether, 12 Lynen alumni answered the question about the advantages of and possible improvements to be made to the tool.

Conclusion

The alumni sponsorship tools that are open to Lynen alumni have only been used to a very modest extent so far, although most people are aware of them. Roughly a third of the survey participants respectively stated that they were not aware of the possibilities for sponsoring mutual research visits.⁹⁰

The alumni who had taken advantage of a further visit to a Humboldtian abroad were very positive about this opportunity to develop collaboration whilst, at the same time, making further contacts and initiating new collaborative projects.

By contrast, the results of the survey suggest that attending congresses and conferences or visiting other institutions in the host country do not play such an important role. In order to continue building the networking potential of these tools it might be possible to actively draw attention to the financial support available by publishing positive field reports on the website. Alternatively, those who have used the tools could be asked to report back on further research visits to Humboldtians at networking events.

5.4.2.4 Research Group Linkages

Since 1990, one of the options offered by the Alexander von Humboldt Foundation in the framework of its Alumni Programme is Research Group Linkages. This involves bundling various sponsorship measures into long-term collaborations between German researchers and researchers from countries on the currently valid list, who have already received sponsorship from the Humboldt Foundation.⁹¹ The objective is to create a sustainable basis for international academic cooperation over an extended period. It is intended that junior researchers (doctoral candidates and postdocs), who might be potential applicants for Humboldt Research Fellowships, should be included in the measure. Joint research projects can receive sponsorship of up to EUR 55,000 for a maximum of three years to cover reciprocal research visits lasting up to three months per year, the organisation of conferences and workshops, consumables and printing costs; to a certain extent, scientific auxiliary staff can also be financed as can equipment for the institute abroad. Up to 15 per cent of the amount approved can be appropriated by the German partner institute as a lump sum for administration.

⁹⁰ In the context of implementing the outcomes of evaluating the Lynen Programme and the resulting recommendations, the guidelines with regard to enhancing the transparency of the Alexander von Humboldt Foundation's alumni sponsorship opportunities are being addressed.

⁹¹ On the eligibility of selected countries see Section 5.4.1 and Table 73 in the appendix on page 218.

Systematisation of tool goals

Overarching goals	<ul style="list-style-type: none"> - To cultivate and develop the worldwide Humboldt Network - To strengthen the science systems in countries with weak currencies
Programme goals	<ul style="list-style-type: none"> - To promote international academic cooperation over an extended period - To recruit suitable applicants for Humboldt sponsorship programmes
Programme activities	<ul style="list-style-type: none"> - Bundling various sponsorship measures into long-term collaborations between researchers from countries on the currently valid list who have already received sponsorship from the Humboldt Foundation and German researchers - Involvement of junior researchers (doctoral candidates and postdocs)
Outcome	<ul style="list-style-type: none"> - Joint publications - Possibly joint conferences, workshops - Training and promotion of junior researchers - Development of collaborations between alumni and researchers abroad
Impact (mid term)	<ul style="list-style-type: none"> - Higher application figures and greater interest in information about sponsorship opportunities for (junior) researchers in the partner's country - Expansion of participants' personal networks - Long-term cooperation by launching/developing collaborations between researchers in Germany and researchers abroad - Promotion of stable, sustainable relations between alumni and researchers in Germany
Impact (long term)	<ul style="list-style-type: none"> - Strengthening of the Humboldt Network - Increase in the number of sponsorship recipients from the target region/country

Methods

In addition to evaluating information from the data base, in the context of the online surveys responses were collected from individuals who had already completed a Research Group Linkage. Alumni abroad were asked to fill in Module O, whilst collaborative partners in Germany (hosts, Lynen alumni) were assigned Module S. Furthermore, reports (final reports and some interim reports) from 20 Research Group Linkages (2008-2012) were evaluated.

Analysis of the data base

According to the data base, 158 linkages took place between 1990 and 2013 involving 190 Humboldt alumni and a further 189 individuals who were not directly sponsored by the Humboldt Foundation (hosts etc.)

An analysis of the (major) project partners by decade shows that the number of individuals sponsored through Research Group Linkages rose significantly in the last decade. Table 33 presents the linkages of the last ten years, which were completed prior to 2013, according to the year they were launched. On average, there are 13 to 23 new collaborations per year; in 2011 there were just nine.⁹²

Table 32: Research Group Linkages – individuals sponsored including project partners in the previous two decades (data base)⁹³

Type of sponsorship	1992-2001	2002-2011	Total
Georg Forster		14	14
Humboldt fellowship	23	120	145
Lynen (project partners only)	1	13	14
Award winner	8	8	16
Other fellowships		2	2
Total	32	157	191

Table 33: Research Group Linkages – individuals sponsored including project partners per year 2002-2011 (data base)⁹⁴

Type of sponsorship	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total
Georg Forster		1	1	3	2	1		3	1	2	14
Humboldt fellowship	10	19	9	14	12	12	19	11	11	7	149
Lynen (pp only)	1	2	5		3	1		1	1		15
Award winner	2	1	1	1	1	2		1			17
Other fellowships						1	1				2
Total	13	23	16	18	18	17	20	16	13	9	197

In order to present the volume of usage within the entire Humboldt Network, only those who were sponsored from the countries on the current eligibility list⁹⁵ were evaluated

⁹² It should be taken into consideration that the programme was not announced publicly until 2001 and therefore the application and sponsorship figures are concomitantly lower.

⁹³ Individuals sponsored are counted once per decade, regardless of how often they received support within this ten-year period. Breaking down the support by decade provides a summary view of the total duration and development of each tool over time.

⁹⁴ Individuals sponsored were counted once per year. Alumni who applied for sponsorship in several years were counted once each year. Therefore the number of individuals does not match the number of individuals sponsored in the decade 2004-2013, as in this period individuals were only counted once per decade.

(see Table 34). Research Group Linkages is a rather small programme that has so far only been used by 1.1 per cent those eligible to apply. A review of regions shows that up to now, Europeans and Africans as well as Central and South Americans take the most advantage of Research Group Linkages (see Table 35).

Table 34: Research Group Linkages – number of individuals sponsored in the Humboldt Network in countries that are currently eligible to apply (data base)

Type of sponsorship	Number of individuals sponsored (excluding project partners)	Number in the Network	Percentage
Georg Forster	12	684	1.8
Humboldt fellowship	117	11,581	1.0
Award winner	7	391	1.8
Other fellowships	2	449	0.4
Total	138	13,105	1.1

Table 35 : Research Group Linkages – number of individuals sponsored in the Humboldt Network in countries that are currently eligible to apply, by region (data base)

Region	Number of individuals sponsored (excluding project partners)	Number in the Network	Percentage
Sub-Saharan Africa	6	748	0.8
Asia	20	4,431	0.5
Europe	97	5,896	1.6
Central and South America	11	1,347	0.8
Middle East; North Africa	4	683	0.6
Total	138	13,105	1.1

Results of the online survey

Although this is a tool that facilitates long-term planning for the purpose of developing sustainable cooperation, at only just 37 per cent, the degree of awareness amongst those participating in the online survey was fairly low. Of approximately 1,100 alumni who were informed about this sponsorship opportunity, only 95 stated that they had already made use of it. This may also be due to the restricted circle of eligible countries.

The yield of the tool in scientific terms, however, is rated extremely positively by the alumni involved: 43 researchers, that is, nearly half of the people who have taken advantage of sponsorship to develop a partnership (48.3% of 89 respondents) awarded it the highest mark on a success scale from one to ten. Only eleven survey participants ascribed the linkage a mark of four or below; two described cooperation as “not at all successful”.

⁹⁵ On the eligibility of selected countries see Section 5.4.1 and Table 73 in the appendix on page 215.

The results of collaboration mainly manifest themselves in joint publications, which are cited by nearly all alumni (n = 77, 86% of 89 respondents). Another important activity is the joint organisation of conferences, congresses and similar events (n = 56, 62.9%) as well as the training and promotion of junior researchers (n = 50, 56.2%). Some partners also report on being able to acquire new equipment for their own institutes as a result of the funding granted.

Especially as the tool is designed to perpetuate collaboration it is particularly positive to note that approximately 80 per cent of the alumni involved (n = 68 of 86 respondents) state that collaboration with the partner institute in Germany continued after the sponsorship provided by the Foundation had come to an end⁹⁶. In nearly every case, joint publications appeared subsequently; upwards of half the alumni who continued collaborating also reported on further joint research projects or organising events. The exchange of staff between institutes is also important to some researchers (n = 28, 41%). 16 alumni report on jointly supervising dissertations and 11 on jointly applying for third-party funding after the original linkage had finished.

Collaboration was often continued with the support, or partial support, of the Humboldt Foundation (53 out of 68 cases = 80%); just over half also took advantage of other additional funding sources⁹⁷.

The fact that, apart from two alumni, all others are still in contact with the researchers involved in the original Research Group Linkage – more than 79 per cent even report on “close scientific contact” – is a clear indication that this funding tool is sustainable.

Collaboration often spills over into the next generation of researchers: 39 survey participants (54%) note that junior researchers who had been involved in the linkage subsequently applied for sponsorship from the Humboldt Foundation – in most cases successfully.

An evaluation of the open question on the advantages of the tool or whether there was room for improvement revealed that alumni particularly appreciate the opportunities for exchanging and promoting junior researchers as well as for acquiring equipment and facilities.

Clearly, this sponsorship tool offers valuable support for researchers in countries with weak currencies:

It provided an opportunity for the junior researchers working with me to have access to equipment and facilities that are not available in Nigeria.

⁹⁶ The reasons given for linkages coming to an end include the death of one of the researchers involved and disagreements between the partners.

⁹⁷ The DAAD and DFG are often cited as is university funding (both from alumni's own institutes and the partner institutions) as well as funding from national governments and the EU.

(Georg Forster alumnus/-a, Sub-Saharan Africa, online survey)

Another quotation exemplifies the point:

The programme provides the much needed funding for research projects in developing countries. It enables junior scientists to participate in AvH funded projects, visit Germany, thereby establishing contacts as well as participating in international conferences.

(Humboldt alumnus/-a, Sub-Saharan Africa, online survey)

The extended duration of the programme and the flexibility in the use of the funding granted are also rated positively as they allow the researchers involved the necessary scope to design and plan their projects.

Suggestions for improving the tool essentially concentrate on increasing the sponsorship amount and extending the duration of sponsorship without having to observe the qualifying period⁹⁸. Some alumni say they would like to be able to extend linkages to embrace several institutes in order to increase the breadth of specialist cooperation and look beyond the framework of Humboldt alumni sponsorship.

In order to discover what the partners in Germany who are involved in this form of cooperation think about it, the **hosts** were also asked to provide information on their participation in Research Group Linkages in the online survey.

A total of 53 hosts stated that they had already been involved in a linkage, which equates to just 4.9 per cent of all respondents (n = 1.074). Two-thirds of hosts (n = 727) were not aware of this alumni sponsorship opportunity.

The most frequently cited partner countries apart from India and Poland (five mentions respectively) are Egypt and Bulgaria with four linkages.

Asked about the benefits directly ensuing from this collaboration, hosts particularly emphasise joint editing or publishing of scientific work (n = 40, 83.3%)⁹⁹ as well as the supervision of junior researchers in the form of Bachelor's, Master's or doctoral dissertations (n = 39, 81.3%). Just over half (n = 27, 56.3%) also reported on the joint organisation of events.¹⁰⁰

⁹⁸ A self-financing extension of linkages can be approved without any great difficulties; in order to submit a new application for sponsoring a Research Group Linkage (even with the same partners) however, the standard qualifying period of three years for alumni tools must be observed.

⁹⁹ Asked about the publications that had ensued from the linkage directly, an average of eight articles in specialist journals were cited (60% responded with three to six articles; the maximum figure was 65) as well as two contributions to scientific books; approx. one scientific book was edited and one monograph published.

¹⁰⁰ Thus, in comparison with the alumni's statements, the weighting of these activities is somewhat different.

With just one exception, all hosts who provided information reported that the linkage had continued after Humboldt Foundation sponsorship had come to an end (n = 40): in particular, research projects were continued as was work on publications, whilst the exchange of staff also continued to play an important role (cited by 90% and roughly 80% of respondents respectively). In 12 cases joint applications for third-party funding were also submitted.

The hosts' responses to the question of how collaboration was subsequently financed largely coincide with those of the fellows: three quarters of the respondents stated that they had taken advantage of Humboldt Foundation sponsorship – at least partly – whilst an equal number made use of other sources of finance (n = 28 of 37 respondents).

In general, however, the scientific success of Research Group Linkages is not quite so highly rated by the hosts as by the sponsorship recipients: on a scale from one to ten, just under a third (n = 15 of 49 respondents) awarded them the highest mark, whilst just as many chose the second highest and roughly 20 per cent (n = 10) the third highest as a final evaluation.

The hosts see the particular advantages of a linkage in the possibility of including junior researchers and of consolidating networks by reciprocal visits as well as in the flexible use of funding. In the words of one host, the “very existence [of the tool] helps to keep reinvigorating the collaboration.” This side too, however, voices the criticism that financial support for continuing cooperation is not yet possible without a break.

The results of evaluating the reports

The reports (final reports or interim reports) of 20 Research Group Linkages between 2008 and 2012 (initiated as of 2007) were evaluated, of which 13 involved the natural and engineering sciences and seven the humanities and social sciences. Reports on Research Group Linkages are submitted in many different formats. In the natural and engineering sciences, in particular, the research results are presented in detail but there is less information on networking aspects. As a whole, however, the reports evaluated allow inferences to be drawn on the implementation of programme activities and the relevant outcomes (see the Logic Chart on the tool at the beginning of Section 5.4.2.4 Research Group Linkages) of the respective collaborations. In some cases, the reports also provide insights into the achievement of goals on the impact level. These include, in particular, expanding the participants' personal networks and launching or developing collaborations between researchers in Germany and the partner country, thus achieving the programme goal of promoting international scientific cooperation over an extended period and fostering the Humboldt Network. Certain conclusions can also be drawn about achieving the overarching goal of strengthening science systems in countries with weak currencies.

Implementation and results of Research Group Linkages:

- Reciprocal visits by project partners:

In all the Research Group Linkages examined in the framework of analysing the documentation, the possibility to undertake reciprocal visits to the partner institutes was used frequently and regularly, as illustrated by the report on a collaboration in the natural sciences:

There were 22 visits of people from [institute abroad] in [institute in Germany] with durations from 2 to 26 days. 9 different people participated in the exchange visits. In the other direction there were 17 visits of people from (institute in Germany) to (institute abroad) with durations from 2 to 7 days, in which also 9 different people participated.

The visits were mainly used for research activities or for working on joint publications; also frequently for participating in jointly organised and other conferences. In some cases, visits to Germany by additional researchers as well as by junior researchers, particularly from partner institutes abroad, were financed using third-party funding.

- Publications:

Depending on the subject, a differing number and type of publications, which had been generated by research results achieved by the collaboration, already appeared during the course of the Research Group Linkage. According to the collaborative partners, this enhances the visibility of the research results produced in the context of the linkage.

- Conferences:

Conferences of various sizes were held within the framework of 11 of the 20 Research Group Linkages (six linkages in the natural and engineering sciences and five in the humanities and social sciences). In some cases additional third-party funding was also used.

As a rule, several conferences take place during the course of a Research Group Linkage both in Germany and in the partner country. It is usual for additional experienced and junior researchers from both countries to be involved.

- Integrating and training junior researchers:

Junior researchers (students, doctoral candidates and postdocs) were closely involved in the Research Group Linkages examined in many ways, for example by actively participating in conferences and/or poster presentations. In one case, it was possible to use sponsorship from a Research Group Linkage to fly 11 doctoral candidates from the German partner institute to a country in the Middle East. A further important aspect was the transfer of methodological knowledge to junior

researchers from the partner institute which took place during visits to the German host institute.

In the framework of seven collaborations, doctoral projects for junior researchers were initiated, especially from the partner countries, which were jointly supervised and supported, amongst other things, by visits to the German partner institute. In some cases it was possible to acquire DAAD funding for this purpose.

- Infrastructure support at research institutions in countries with weak currencies:

The option of supporting project partners with equipment subsidies as part of a Research Group Linkage was used by 13 of 20 collaborations evaluated. Apart from computer hardware to forward the work of individuals, large-scale equipment was financed which opened up new perspectives for the activities of other researchers and students at the partner institute. A research microscope for an African university, the only one of its kind in the country, which was purchased with Humboldt Foundation funding, facilitates cooperation with other countries in the region.

In the context of another Research Group Linkage with a politically unstable African country it was only possible to install a solar panel that had been financed by the linkage because the leadership of the African university managed against the odds to provide the necessary infrastructure. Examples like this demonstrate that the equipment subsidy tool should not be understood solely in terms of “rich to poor” transfer but that responsible cooperation on an even playing field is the precondition for success.

- Difficulties in implementing Research Group Linkages

According to the reports, difficulties were never the result of a lack of engagement on the part of project partners. In one case, the linkage was delayed because one of the junior researchers involved in the project did not return to his own institute from a stay abroad but accepted a position there. In two cases, delays were experienced in issuing visas and permits; in another case, difficulties were encountered in importing scientific equipment into the partner country which, however, were solved with the assistance of the Federal Foreign Office and the respective German Embassy.

- Continuing academic cooperation after Foundation sponsorship has come to an end:

In the final reports of four of the Research Group Linkages examined, concrete plans for continuing scientific cooperation are described – which also include integrating further institutes in Germany and/or abroad. In other cases, further joint publications in the post-sponsorship period are announced. Finally, sustained cooperation often manifests itself after sponsorship in the continued joint

supervision of dissertations launched in the context of the Research Group Linkage.

- Contribution of Research Group Linkages to fostering the Humboldt Network

The reports reveal that these scientific collaborations also lead to broadly-based cultural exchange involving junior researchers. The report of a project partner in the natural sciences records, for example:

“The hospitality and generosity we experienced were overwhelming. For my group it was an unforgettable experience.”

Conclusion

The goal of promoting longer-term international academic cooperation, which was formulated when the “Research Group Linkage” tool was restructured in 2001, is undoubtedly being achieved because in nearly all cases, cooperation between the partners involved continued once the sponsorship had come to an end. Although many users request continuous sponsorship from the Foundation, a considerable number of those involved apparently managed to acquire financial support from other sources in order to perpetuate their collaboration. According to those involved, the goal of training and promoting junior researchers is frequently achieved as well.

On the basis of the results, researchers from countries with weak currencies benefit particularly from the opportunity to experience the technical facilities in German institutes and laboratories, and use modern equipment. Apparently it is also possible to recruit suitable applicants for the Foundation’s sponsorship programmes in the framework of Research Group Linkages.

For the purpose of promoting academic networking, Research Group Linkages are undoubtedly a highly appropriate tool but, so far, their effectiveness has been limited – not least due to the restricted circle of eligible partners.

5.4.2.5 Humboldt Alumni Award for innovative networking initiatives

Every year since 2009, the Alexander von Humboldt Foundation has granted up to three Humboldt Alumni Awards to promote innovative networking initiatives. The award recognises proposals submitted by former Alexander von Humboldt Foundation fellows and award winners ensuing from their stays in Germany which are designed to create or extend sustainable academic and cultural links between Germany and the Humboldt alumni’s current countries of residence and/or to strengthen alumni networks in the respective countries and regions. The award seeks to promote initiatives that could not previously be financed in the framework of the Alexander von Humboldt Foundation’s sponsorship programmes.

Alumni of the Humboldt Foundation’s fellowship and award programmes abroad are eligible to apply. Applications may also be submitted on behalf of a Humboldt alumni

association or several Humboldtians. If the proposal is approved the applicant becomes the recipient of the sponsorship amount and accepts responsibility for the planning, content and design as well as the organisational and financial implementation of the networking initiative proposed. The networking initiative should be implemented within three years. The award is valued at up to EUR 25,000.

Systematisation of tool goals

Overarching goals	- To cultivate and develop the worldwide Humboldt Network
Programme goals	<ul style="list-style-type: none"> - To establish and strengthen sustainable academic and cultural links between Germany and the countries in which Humboldt alumni are resident - To strengthen alumni networks in the respective countries and regions
Programme activities	- Supporting the planning and content design as well as the organisational and financial implementation of award winners' networking activities by providing up to EUR 25,000 over a period of three years
Outcome	<ul style="list-style-type: none"> - Creation of (scientific, scientific policy etc.) (sub-) networks to drive collaborative opportunities in the award winners' countries as well as with Germany and/or other regional Humboldt networks - Involvement of further groups of individuals and thus expansion of the contact opportunities and effective scope of regional Humboldt networks
Impact (mid term)	- Sustainable increase in the contact opportunities by continuing and developing the networks created on an independent basis
Impact (long term)	<ul style="list-style-type: none"> - Sustainable strengthening of regional and supra-regional Humboldt Networks - Creation of long-term academic contacts between Germany and Humboldt alumni's countries of residence

Methods

To investigate the use and impact of the tool, all the reports submitted by Humboldt Alumni Award winners who have received sponsorship since 2009 were evaluated. Due to the quality of the reports and the manageable number of award winners it was decided not to include an additional module in the online survey.

Results

Eighteen Humboldt Alumni Awards were granted in the period up to the end of 2013¹⁰¹, of which seven went to women researchers. With a total of eight initiatives, most of the proposals sponsored were submitted by African researchers, followed by colleagues from Asia (three). So far, two initiatives have been sponsored from Europe, South America and the USA respectively, and one from Australia (see Table 36).

Table 36: Humboldt Alumni Awards granted between 2009 and 2013 by country and academic field

Region	Humanities	Life Sciences	Natural Sciences	Engineering	Interdisciplinary
Sub-Saharan Africa		3	1		3
Middle East, North Africa	1				
Asia	1				2
Europe					2
Central and South America	1	1			
North America	1			1	
Australia, New Zealand, Oceania					1

The majority of projects selected for the Humboldt Alumni Award aimed to strengthen Humboldt alumni networks in specific regions, in some cases with a strong subject-related emphasis. Of the ten subject-weighted initiatives, four belonged to the humanities and social sciences, and four to the life sciences.

Some projects specifically sought to extend the network by including countries in which there were no, or only very few, Humboldtians (above all in Africa). Several proposals focussed, moreover, on advising and supporting junior researchers who wanted to apply to the Humboldt Foundation for sponsorship (see List of projects sponsored, Table 72 in the appendix, p. 218).

Due to the fact that the projects sponsored so far have not been running for very long, it is impossible to assess their long-term success. However, it is possible to use some of the responses from holders of the Humboldt Alumni Award to draw conclusions on the progress and difficulties in implementing the projects.

From Africa, in particular, the reports on the success of information events for junior researchers are positive:

¹⁰¹ In 2013, three initiatives from Egypt, Australia and Brazil as well as three further initiatives from Sub-Saharan Africa were selected in the context of the Neville Alexander Memorial Initiative; they received up to €25,000 each. The funding for the initiatives in Egypt, Australia and Brazil was provided by the Federal Foreign Office; the initiatives in Sub-Saharan Africa were covered in the framework of the German-South African Year of Science, 2012/2013, by funding from the Federal Ministry of Research ("Humboldt Alumni Award to promote the African-German Network of Excellence in Science").

The discussions that followed the respective lectures clearly demonstrated that the first “Humboldt Days” generated innovative ideas and awakened great hopes in the young researchers. For many it was their very first contact with the Humboldt Network, and they were most interested. The question of suitable collaborative partners in Germany was discussed intensively. The lecture on “Mentoring Young Academics” reverberated with the young researchers and sparked lively discussions on promoting junior researchers and financing research projects. It was suggested that this lecture should be held at other African universities as well.

(HFST alumnus/-a, Sub-Saharan Africa, report, Humboldt Alumni Award winner)

One female researcher from Nigeria also reported on a growth in interest amongst junior researchers:

Increased awareness about and interest in Humboldt fellowship programmes; although this may not have immediate reflection, but hopefully the number of female applicants from Nigeria will be enhanced.

(HFST alumnus/-a, Sub-Saharan Africa, report, Humboldt Alumni Award winner)

The projects implemented in Africa include, for example, the development of an AvHNiA website (Alexander von Humboldt-Network in Africa: www.humboldt-africa.org) featuring discussion of suggestions to improve networking amongst African Humboldt alumni and extending support for junior researchers.

In some cases, the researchers granted the Humboldt Alumni Award are identical with those who already work as Ambassador Scientists or chair alumni associations and have thus already distinguished themselves through their engagement for the network. The projects submitted by these key players can be expected to generate considerable synergies.

In the context of many projects intensive contacts with Germany are apparently fostered and developed:

After the 2011 Humboldt Days in Lomé, I made contact with other networks that pursue similar goals, i.e. the Institute for African Studies (IAS) at Bayreuth University and BIGSAS (Bayreuth International Graduate School for African Studies). This led to close cooperation and in December 2011, I received an invitation from the International Office at Bayreuth University to take part in a “Workshop for Research Advisors”, sponsored by the Humboldt Foundation, where I was part of a panel discussion on “Perspectives of Scientific Collaboration between Partners from Africa and Europe through Alumni Networks”. The aim of contacts to Bayreuth University is to link the African AvHNiA Network to the Bayreuth International Alumni Centre (BIAC) for joint workshops in Africa.

(HFST alumnus/-a, Sub-Saharan Africa, report, Humboldt Alumni Award winner)

Humboldt Alumni Award winners in high-tech countries reported that they pursued their objectives by participating in workshops and conferences, holding lectures or providing information (often by developing and maintaining their own websites).

Conclusion

The impression made by reading the reports submitted by the researchers granted the award is very positive. With the help of the award amount, many of the projects sponsored have already led to a number of events which have contributed to networking within the award winners' own regions as well as extending links with Germany. For many researchers, particularly in African countries, this is often the way of creating the basic preconditions for networking in the first place and enabling many young researchers to access the international specialist community.

5.4.3 Humboldt Foundation events as networking tools

In the following section the various kinds of events run by the Humboldt Foundation will be briefly presented. Firstly, the meetings taking place in Germany will be examined which sponsorship recipients usually attend during their initial stay or alumni stay. This will be followed by a description of Kollegs and colloquia which are event formats run abroad. The two latter tools are an explicit component of the Foundation's alumni sponsorship and will therefore be analysed in greater detail in this study.

In Germany

During their initial research stay as Humboldtians, the Humboldt Foundation invites its sponsorship recipients to various events. The aim of these events is to help people get to know one another, convey an image of Germany that goes beyond the academic perspective, create a good basis for long-term bonds with Germany and make sponsorship recipients feel that being a Humboldtian means they are part of a worldwide network linked with Germany and founded on mutual trust. During these events, they also receive intensive personal mentoring by Foundation staff.

During their research stay, research fellows are currently invited to one of the two Networking Meetings which are held each year¹⁰² at different German universities. Research fellows are also offered an exclusive two-week study tour of various German cities. Current research fellows and award winners (in particular during initial sponsorship) and their families are invited to the Annual Meeting which includes a reception held by the Federal President.

¹⁰² This tool was introduced in 1957 and originally called an "Introductory Meeting".

Once a year, exclusively for research award winners, the Humboldt Foundation organises a Symposium for Research Award Winners in Bamberg (Humboldt and Bessel Research Awards, Fraunhofer-Bessel Research Award, Reimar Lüst Award, Konrad Adenauer Research Award, Siebold Award, Georg Forster Research Award) that is designed to promote networking amongst the eminent holders of research awards. Since 2012, this has been supported by preparing a so-called Networking Guide which contains the profiles of all the award winners present.

Moreover, award ceremonies provide networking opportunities in individual programmes such as the Alexander von Humboldt Professorship, the Sofja Kovalevskaja Award and the Anneliese Maier Research Award.

In response to a recommendation ensuing from the 2009 evaluation of the award programmes, the Foundation established the Bonn Humboldt Award Winners Forum in 2011. It provides a platform for specialist knowledge-sharing amongst alumni of the award programmes together with junior researchers from the fellowship programmes.

Abroad

The idea to organise regional meetings to promote follow-up contacts between former research fellows abroad was born in 1968. In addition to visits abroad by members of the Foundation's staff, the Foundation's Annual Report for 1972 features the first mention of regional meetings involving former fellows in the United Kingdom, Japan and Greece. In the previous year, meetings of fellows involving Foundation staff took place at the invitation of the Foundation in South America (Brazil, Uruguay, Argentina and Chile). Nowadays, the Foundation's events abroad can be divided up into the colloquia initiated by the Foundation and the Kollegs, which are organised by the alumni independently.

5.4.3.1 Humboldt Kollegs

In order to promote regional and specialist networking as well as to introduce junior researchers to the Humboldt Network and the sponsorship programmes offered by the Alexander von Humboldt Foundation, funding was made available from 2002 to help alumni to take the initiative and organise regional and specialist conferences. The organisers are responsible for the contents of the Humboldt Kollegs, which seek to promote self-driven activities within the Humboldt Network. According to the Foundation's funding regulations, the general theme of a Humboldt Kolleg should try to "cover the entire breadth of a scientific field or have a transdisciplinary focus that gives Humboldtians in various different research fields and/or disciplines the opportunity to report on their most recent research outcomes related to the relevant theme". The list of topics at the events sponsored between 2002 and 2013 reveals that both specialist topics (e.g. „Literature transfer and interculturality in exile: the work of Kelemen Mikes in the

context of the European Enlightenment“, Budapest, 2011) and very general themes („Philosophy in transition“, Istanbul, 2005) were chosen. It emerged that some three-quarters of the events considered were Humboldt Kollegs with a broad thematic spectrum.

At least a third of those participating in a Kolleg should be Humboldt alumni, and it is expected that junior researchers, in particular, as well as researchers based in Germany will also be invited. The Humboldt Foundation provides financial support of up to €40,000. In addition, the travel expenses of researchers attending from Germany can be refunded.

Systematisation of tool goals

Overarching goals	<ul style="list-style-type: none"> - To cultivate and develop the worldwide Humboldt Network
Programme goals	<ul style="list-style-type: none"> - To foster and develop contacts between Humboldt alumni in a particular country and/or region and German researchers - To recruit suitable candidates for the Humboldt Foundation's sponsorship programmes - To impart or extend knowledge of a particular research theme to the alumni participating
Programme activities	<ul style="list-style-type: none"> - Scientific lectures by alumni and German researchers - Information events for alumni as well as (junior) researchers who have not yet been sponsored by the Humboldt Foundation
Outcome	<ul style="list-style-type: none"> - Sharing ideas and making contacts amongst alumni as well as between alumni and German researchers - Sharing ideas and making contacts amongst alumni, potential applicants and, if relevant, members of Humboldt Foundation staff - Increased knowledge of the respective research landscape amongst participants - Expression of esteem (for individuals, the country/region)
Impact (mid term)	<ul style="list-style-type: none"> - Higher application figures and or enhanced interest in information about sponsorship opportunities amongst (junior) researchers in the country/region where the event takes place - Extension of participants' personal networks - Development of collaborations between participants - Closer personal bonds to the Humboldt Foundation and Germany - Motivation for further initiatives

Impact (long term)	<ul style="list-style-type: none"> - Strengthening of the Humboldt Network - Strengthening of the regional Humboldt Network - Increase in the number of sponsorship-recipients from the target region/target country
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Methods

In addition to evaluating information from the data base, in the context of the online surveys the usage and impact of the tool were examined. For this purpose, alumni abroad were given the additional Module P, hosts in Germany the additional Module I. Furthermore, final reports (20 reports covering the period 2009 to 2013) were evaluated.

Analysis of the data base

Table 37 presents an overview of the Kollegs held between 2002 and 2013¹⁰³. Following the launch of Kollegs in 2002, the annual number of events held increased significantly, reaching a high in 2010. After a fall in 2011 and 2012, the number of Kollegs increased again in 2013. These variations in numbers are due exclusively to budgetary restraints at the Foundation which led to a reduction in funding for alumni sponsorship. Interest in applying to hold Kollegs has remained high and has already meant that, in certain regions, restrictions have had to be introduced with regard to the number of approvals.¹⁰⁴ Kollegs are particularly frequently held in European countries, but also in Asia, Central and South American and Sub-Saharan Africa (see Table 38).

Table 37: Number of Humboldt Kollegs from 2002 to 2013 (data base)

Kollegs	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Number	6	14	26	27	24	34	40	54	62	42	30	48

Table 38: Humboldt Kollegs by region (data base)

Region	Number of Kollegs	Percentage
Sub-Saharan Africa	44	10.8%
Asia	69	17.0%
Australia, New Zealand and Oceania	5	1.2%
Europe	191	46.9%
Central and South America	46	11.3%
Middle East; North Africa	27	6.6%
North America	25	6.1%
Total	407	100.0%

¹⁰³ The data base only includes details on those organising Humboldt Kollegs from 2007 onwards. It was therefore not possible to evaluate the participants.

¹⁰⁴ "Only about half of all the eligible applications can be considered for support. The Foundation aims to enable Humboldtians in as many countries as possible to organise a Humboldt Kolleg at intervals of several years. Thus the selection decision takes account of the time that has elapsed since the last Humboldt Kolleg with a similar group of participants was sponsored in the respective country." (Source: Humboldt Foundation website)

Results of the online survey

After Further Research Stays in Germany, the events the Humboldt Foundation sponsors abroad are the most frequently used alumni sponsorship tools. A fifth (n = 740, 21%) of the respondents from abroad (n = 3.488) had already taken part in a Humboldt Kolleg. At 25 per cent, a slightly higher proportion of humanities scholars had participated than researchers from other disciplines (see Table 71 in the Appendix, p. 217). The percentage of alumni from Sub-Saharan Africa who have taken part in a Kolleg is particularly high (55%), the percentage of North Americans, on the other hand, particularly low (7%). (See Table 14, p. 63).

Of the 616 alumni who answered additional questions on this tool, two-thirds (67%) had already attended two or more Kollegs. In many cases, the alumni themselves had been involved in the organisation (n = 158, 26%) or had been (partially) responsible for the application (n = 141, 23%).

Kollegs seem to fulfil their role as a regional networking opportunity very well indeed: three-quarters of alumni had been able to make new contacts to other Humboldtians during the Kolleg and the percentage of those who were able to foster or develop existing contacts was nearly as high (72%). There was slightly less agreement with regard to researchers from Germany but here the figures are usually only relatively low: 259 (42%) alumni report on making new contacts to participants from Germany, 237 on renewing or extending existing contacts to Germany.

One of the declared objectives of Humboldt Kollegs is to integrate junior researchers in the event and spark their interest in the Humboldt Foundation's programmes. Approximately half of the researchers who provided information stated that they had made contacts with young researchers at the Kolleg. The proportion of alumni who had brought junior researchers to the event from their institutes was about equally high (n = 320 von 614, 52%). Apparently, a large percentage of these young researchers subsequently applied for Humboldt Foundation sponsorship: 196 alumni report on subsequent applications; according to the respondents, about 60 per cent of these applications were wholly or partly successful.

With respect to the yield in scientific terms, the Kollegs are also rated very positively despite, or perhaps precisely because of, their often interdisciplinary approach: approximately two-thirds of respondents respectively agreed completely or to a very high degree with the statement that they had been introduced to new themes or methods in their own and/or other specialist fields during the event. About half the alumni respectively used the encounters to plan new joint research projects with colleagues at home as well as with researchers based abroad. However, 60 per cent of alumni abroad

also used the Kollegs to acquire information about the Foundation's (alumni) sponsorship opportunities (agree and strongly agree).

The degree of networking seems to have a long-term impact: roughly half of those surveyed (n = 295; 49%) stated that the contacts made at the Kolleg had developed into close scientific cooperation, in many cases even involving several partners.

This expressed itself in joint research projects (n = 174, 59%) and joint publications (n = 153, 52%) as well as in organising events as a partnership (n = 143, 49%). Slightly less of a role was played by the exchange of staff (23%) and joint mentoring of final dissertations (17%).

In order to finance these collaborations alternative sources of finance are usually found: some nine per cent of joint projects were exclusively financed by the Humboldt Foundation, 33 per cent partially. Apart from this, several respondents report that during the Kolleg(s) they attended new regional and/or supra-regional networks also emerged. Moreover, 154 alumni joined the alumni associations in their own countries after attending the event (260 were already members).

Asked about the advantages of the Kolleg, alumni (n = 450) endorse the goals linked with the tool: the Kollegs enable the Foundation's alumni to renew and extend existing contacts amongst themselves as well as between alumni and researchers from Germany. Those surveyed appreciated the opportunity to share ideas on new research themes and outcomes with leading exponents in the field. This often creates a basis for later collaborations which lead to joint publications, research projects and further events. As Kollegs are usually transdisciplinary, they are also valued for the insights they offer into new academic fields and new cultures. Furthermore, during Kollegs it is possible to draw the attention of political institutions to the research situation in the country as they facilitate a culture of open debate. At the same time, the alumni surveyed were positive about the opportunity to gain information about the Foundation's sponsorship programmes and to motivate junior researchers to submit applications to the Foundation. Apart from the academic side, the social aspect of getting to know one another was also appreciated, especially with regard to junior researchers who were able to make contact with leading researchers in their field. Finally, the Kolleg also intensifies the feeling of belonging to the Humboldt Family.

The alumni surveyed did point out, however, that the interdisciplinary approach can counteract specialist knowledge-sharing. A more specifically subject-related Kolleg would facilitate creating the basis for joint research projects and networking. As it is at the moment, it tends to be a networking meeting for Humboldtians. In some cases, the rules determining who is eligible to participate are also felt to be inflexible, particularly in some disciplines where the required number of Humboldtians is hard to find. Furthermore, the alumni surveyed were in favour of increasing the amount of support. Especially for participants coming from a great distance, who needed to stay overnight, the per diem

was usually insufficient. Some of those surveyed wanted to be able to invite more researchers from Germany. Moreover, it was pointed out that the alumni surveyed would have liked to have an opportunity to apply to participate in a Kolleg.

The following two quotations illustrate other similar statements on these points:

Humboldt Kollegs are very valuable events for maintaining contact amongst Humboldtians but less valuable when it comes to the disciplinary yield.

(HFST alumnus/-a, North America, online survey)

From the scientific point of view the major benefit is the interdisciplinary character of the alumni events. Humboldt Kollegs provide a unique opportunity to listen to talks by the leading researchers from very different fields of science. Another benefit is the possibility to meet representatives of Germany-related organizations working in my country (staff of the German Consulate, DAAD lecturers etc.). It would be great if representatives of the Humboldt Stiftung would be able to attend Humboldt Kollegs more often.

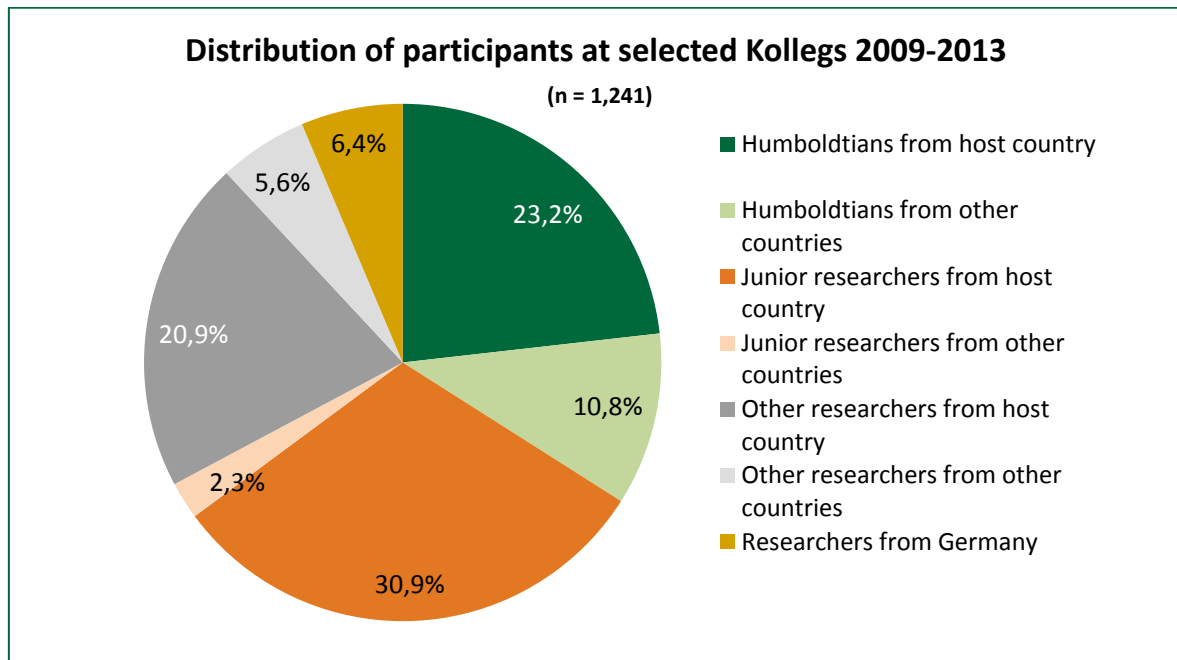
(HFST alumnus/-a, Europe, online survey)

Evaluation of the final reports submitted by Kolleg participants

In addition to the online survey and the data base evaluation, the final reports on 20 Kollegs that were held between 2009 and 2013 were evaluated. The organisers particularly appreciated the opportunity to share ideas with Humboldtians from the region and neighbouring states and to introduce junior researchers from their own countries to leading researchers, not least from Germany. Furthermore, the final reports note that presenting the Foundation's sponsorship opportunities quite frequently generates increased interest amongst junior researchers to apply for one of the Humboldt Foundation's fellowships. In some cases, it is noted that further events and/or Kollegs are in the pipeline and that collaborations are being considered.

It was possible to gain detailed information on the composition of the participants from 17 or the 20 final reports: approximately a third of participants were Humboldt alumni from the host country or neighbouring countries, a further third was composed of junior researchers, mostly from the host country. The final third comprised additional researchers from the host country or neighbouring countries. Some six per cent of the participants were researchers from Germany (see Figure 8)

Figure 8: Distribution of participants at selected Kollegs 2009-2013



Results of the online survey of hosts

Of the hosts surveyed, 61 individuals had already taken part in a Kolleg abroad (n = 691). Fifty-five of them were then asked about the tool. Of the 55, 13 had already attended more than one Kolleg. During the Kolleg, 58 per cent (32) of the respondents had been able to make contacts that had led to close scientific cooperation, especially with researchers in the country hosting the event. Collaboration focussed on joint research projects (60%) and the exchange of junior researchers. Just under half of the hosts who stated that attending a Kolleg had generated close scientific cooperation (n = 15) subsequently published together with others who had taken part in the Kolleg. In a third of cases, regional and supra-regional networks were launched. Two collaborations were completely financed by the Humboldt Foundation, 17 partially.

Asked about the personal benefits gained from participating in a Kolleg, 92 per cent of hosts answered that they had acquired new impressions and information about the host country (agree and strongly agree). Approximately two-thirds used the Kolleg to make new contacts to Humboldt alumni and/or junior researchers. Many hosts also saw it as an opportunity to foster and develop existing contacts with Humboldt alumni (82%).

Conclusion

In summary, it can be claimed that the programme goals associated with Humboldt Kollegs are being achieved. In particular, the events allow alumni to develop and consolidate their contacts with other alumni in the region as well as with researchers in Germany (Programme Goal 1). Humboldt Kollegs draw the attention of junior researchers to the Foundation's sponsorship programmes and help to recruit suitable new applicants

from the region (Programme Goal 2). As the Kollegs are interdisciplinary the participants gain broadly-based insights into the research themes currently being pursued by alumni in the region (Programme Goal 3). In terms of promoting regional networking and recruiting junior researchers, the tool fulfils expectations to a very high degree. In the midterm, contacts often lead to scientific collaborations such as joint research projects and events. The answers to the open questions clearly reveal that Kollegs also strengthen the sense of community. Nonetheless, at the events they attended, some participants did not find the specialist focus they were seeking and would therefore welcome more subject-specific Kollegs which would generate additional opportunities for networking and cooperation. As it is already possible to sponsor subject-specific events, it may be that alumni interpret the formulation of the regulations in different ways. With the help of thorough consultation, it may therefore be appropriate to tighten up the presentation of the content-related goals associated with this kind of event.

5.4.3.2 Humboldt Colloquia

The Humboldt Foundation regularly organises colloquia abroad to which research fellows and research awards winners from the respective country and region are invited, together with selected junior researchers who are not yet part of the Humboldt Network. The researchers the Humboldt Foundation invites from Germany, often the specialist members of selection committees, present an overview of the current state of research in their particular fields in Germany and discuss opportunities for intensifying cooperation. Moreover, colloquia enable contacts amongst Humboldtians in a certain region to be made or renewed and provide a platform for personal conversations with members of Humboldt Foundation staff. The members of the Humboldt Foundation's delegation visit Humboldtians' institutes and thus gain insights into the research situation in the respective country. Informative lectures also introduce (junior) researchers to the sponsorship opportunities provided by the Humboldt Foundation.

Systematisation of tool goals

Overarching goals	- To cultivate and develop the worldwide Humboldt Network
Programme goals	<ul style="list-style-type: none"> - To foster and develop contacts amongst Humboldt alumni in a particular country or region as well as with German researchers and staff at the Humboldt Foundation - To recruit suitable applicants for the Humboldt Foundation's sponsorship programmes - To communicate or extend knowledge about the respective research landscape to the alumni and German researchers participating

Programme activities	<ul style="list-style-type: none"> - Scientific lectures held by alumni and German researchers - Information events for alumni and (junior) researchers who have not yet been sponsored by the Humboldt Foundation
Outcome	<ul style="list-style-type: none"> - Extension of participants' personal networks - Increased knowledge of the respective research landscapes amongst alumni and German researchers - Communication of a realistic image of the research situation in the country (especially in transition and developing countries) to visiting German researchers (subject specialists)
Impact (mid term)	<ul style="list-style-type: none"> - Higher application figures and/or enhanced interest in information about sponsorship opportunities amongst (junior) researchers in the country/region where the event takes place
Impact (long term)	<ul style="list-style-type: none"> - Formation/development of collaborations between alumni and German researchers - Strengthening of the regional Humboldt Network - Increase in the number of sponsorship recipients from the target region/target country

Methods

In addition to evaluating information from the data base, responses to this tool were collated in the context of the online survey. To this end, alumni received the additional Module Q, hosts in Germany the additional Module T. In addition, two case studies on Humboldt Colloquia were undertaken based on a document content analysis. For this purpose, a colloquium in a transition region (Brazil/Chile 2007) and a colloquium in a high-tech country (Japan 2011) were selected.

Analysis of the data base

Since 1985, meetings of fellows have been registered on the data base using the term colloquia¹⁰⁵. As the data base reveals, between 1985 and 1993, an average of three colloquia was held each year, from 1994 to 2003, often as many as four. Between 2004 and 2012, there were two events every year, in 2013 just one.¹⁰⁶ Consequently, the number of participants between 2004 and 2013 was lower than in the previous decade (see Table 39; for individual years see Table 68 in the Appendix, p. 215). The participation figures are also dependent on the number of Humboldtians resident locally. In countries with a relatively small Humboldt Network the number of participants per se may be fewer

¹⁰⁵ Events held by the Foundation abroad, which are specifically described as colloquia, can be found in the data base from 1985 onwards. Before that date, various formats were used for fellows' meetings and subsumed under the heading of "regional meeting".

¹⁰⁶ Here, too, the Foundation's budgetary restrictions, already mentioned, were responsible for a reduction in the funding available for alumni sponsorship.

than in countries with a lot of Humboldt alumni. Most colloquia took place in European and Asian countries (see Table 40).

Table 39: Number of participants in Humboldt Colloquia 1985-2013 (data base)¹⁰⁷

Type of sponsorship	1985-1993	1994-2003	2004-2013	Total
Georg Forster		30	69	99
Humboldt research fellowship	3,337	3,579	1,495	8,411
Lynen	29	92	55	176
Award winner	59	272	116	447
Other fellowships	13	50	49	112
Other participants (hosts, reviewers, committee members etc.)	92	128	141	361
Total	3,530	4,151	1,925	9,606

Table 40: Number of participants in Humboldt Colloquia by region 1985-2013 and percentage of the network (data base)

Regions	Number of participants since		Individuals in the network	
	1985	Percentage		Percentage
Sub-Saharan Africa	197	2.7%	768	25.7%
Asia	1,928	26.5%	7,606	25.3%
Australia, New Zealand and Oceania	325	4.5%	875	37.1%
Europe	3,365	46.3%	11,959	28.1%
Central and South America	596	8.2%	1,394	42.8%
Middle East; North Africa	404	5.6%	984	41.1%
North America	449	6.2%	8,026	5.6%
Total	7,264	100%	31,612	23.0%

Evaluation of the online survey of alumni abroad

In the survey, a total of 582 alumni stated that they had taken part in one of the Humboldt Foundation's colloquia (17% of n = 3,437). A further 41 per cent were at least aware of the tool. When evaluating these figures, however, it should be taken into consideration that Humboldt Colloquia, unlike other alumni sponsorship tools, are only open to a clearly-defined circle of participants.

Eighteen per cent of HFST alumni who answered this question had participated in a colloquium whilst amongst the group of GF alumni it was almost every fourth individual. Six per cent of award winners have also taken part in a colloquium. The format is best known to humanities alumni (43%) of whom 23 per cent have already participated. Natural scientists have taken part least frequently: only 13 per cent of alumni have actually participated in a colloquium; every second person was unaware of the option.

¹⁰⁷ Individuals sponsored were counted once per decade regardless of how often they received support within this ten-year period. If they applied for sponsorship in two decades, they were counted once per decade.

Amongst engineering scientists and life scientists participation is almost 17 per cent. Just below 40 per cent of South Africans who responded had already taken part in a colloquium, but only every fourth Australian, Central American and South American. Approximately 17 per cent of Europeans, Asians and alumni from the Middle East had participated. The lowest figures refer to North Americans who only registered seven per cent; 60 per cent of alumni from North America were not familiar with the colloquium format.¹⁰⁸

Table 41 presents the top ten countries in which the relevant alumni attended one colloquium or more.

Table 41: Top ten countries participating in Colloquia (online survey)

Top ten countries	Number	Percentage of valid replies
India	53	11.8%
Russian Federation	37	8.3%
China, PR	22	4.9%
Australia	20	4.5%
Canada	19	4.2%
France	18	4.0%
Japan	18	4.0%
Hungary	18	4.0%
Turkey	14	3.1%
Czech Republic	13	2.9%

In over two-thirds of cases, Humboldtians had also been actively involved in implementing one or more than one colloquium, either by holding a lecture, acting as (co-) moderator or organising a visit to an institute.

Some three-quarters of alumni reported that they had made new contacts to other Humboldtians during the event (70%) or had been able to renew or foster existing contacts (73%). Approximately one third of respondents respectively stated that they had made new contacts to researchers from Germany or to junior researchers; similarly, 28 per cent had been able to re-establish and intensify their existing acquaintance with researchers from Germany.

Altogether, 159 alumni reported that, to their knowledge, one or more junior researchers had applied for Humboldt Foundation sponsorship after having attended a colloquium; 100 alumni knew that applications had been successful in all or at least some cases.

Another important function of these supra-regional events is to pave the way for academic collaborations. Approximately half of the researchers who provided information

¹⁰⁸ Since 1985, only one colloquium has been held in the USA (1999 in Houston).

had used the contacts made at a colloquium to build closer scientific cooperation (n = 228), 33 per cent of which (n = 75) were with specialist colleagues from Germany; the rest with other Humboldtians from their own country or neighbouring countries. In just short of a third of cases (31%) the Humboldt Foundation was also involved in financing these collaborative projects either completely or partially.

The most frequent form of collaboration is the joint production of publications, but conducting concrete research projects and organising events (some 40% of respondents) are also cited frequently. A fifth of the respective alumni (n= 46) report on developing regional and/or supra-regional networks thanks to contacts made or extended at a colloquium.

When analysing the open answers on the advantages of the tool (n = 312), the respondents particularly emphasised that colloquia promoted a sense of belonging to the Humboldt Family/Humboldt Network. The opportunity to acquire information about the Foundation's sponsorship portfolio was also particularly appreciated as were maintaining contact with Foundation staff and alumni from the respective country and/or exchanging ideas with colleagues from Germany. During a colloquium, it was possible to get to know new Humboldtians and also to rekindle relations to existing alumni contacts, thus enabling cross-generational ideas sharing. Junior researchers also had an opportunity to inform themselves about sponsorship specifications and to experience the advantages and value of belonging to the Humboldt Network on their home ground. Further advantages cited included the information on the German research landscape, the "excellent milieu of conversation" and the interdisciplinary discussions.

As with the Kollegs, the colloquium participants point out that the thematic breadth of the event can prove an obstacle to subject-specific collaboration. Suggestions included inviting alumni of a particular discipline from different countries and creating smaller groups. Moreover, the wish for more frequent colloquia was expressed as was the request that they should be announced earlier. The following quotations should illustrate these points:

These alumni events have been fruitful and beneficial. Among others, they have enabled us to address the problems of our countries and pursue our research. We have also had the opportunity to meet people who have different interests and backgrounds, and agreed to develop collaborative research projects on different issues. Overall, my participation in the events organized by the AvH was a successful academic experience that met my scholarly and professional expectations. [...].

(Georg Forster alumnus/-a, Sub-Saharan Africa, online survey)

The main benefits are mostly social. It is inspiring to see research (and researchers) from different topics but it is almost impossible to create new collaborations since the fields presented are too far apart. [...] It was interesting but could not lead to creating deep ties. It was also nice to feel being a part of the large network of researchers and to feel that the Humboldt Foundation cares for us.

(HFST alumnus/-a, North America, online survey)

In India we have so many alumni! Many a times these events help us to meet these alumni and discuss about science, culture of mutual interest and remembrances of our great stay in Germany. In my opinion, these are one of the best alumni events from AvH which brings about more interactions amongst AvH alumni and to Germany.

(HFST alumnus/-a, Asia, online survey)

Results of the online survey of hosts

Amongst the group of hosts, 81 individuals (7.2%) had already taken part in a colloquium, a further 40 per cent were at least aware of the tool. Of the hosts who received additional questions on this tool (n = 76), 90 per cent had played an active role in the colloquium.

Altogether, 45 hosts report that the contacts with colloquium participants had led to scientific cooperation. In most cases, joint research projects (53%) were conducted or joint publications (44%) prepared but staff exchanges also took place (40%), and workshops and conferences were jointly organised (36%).

Almost 80 per cent of hosts used the colloquium to inform themselves about the research situation in the host country; just under two-thirds of hosts were able to make contact with junior researchers during the event or to foster and develop existing contacts to Humboldt alumni; furthermore, 60 per cent were able to make new contacts to Humboldt alumni. Thirty hosts reported that participants had subsequently applied for a Humboldt Fellowship citing the former as hosts. In approximately half of these cases the applications were completely or partially successful.

In the hosts' opinion (n = 3=), the colloquium offers a number of opportunities: By taking part in a colloquium, one acquires information on the research situation in the host country and has a chance to make contacts to a lot of researchers from the region. Moreover, colloquia facilitate intensive exchange at a high level during which one's own networks can be extended. They provide a platform for contacting junior researchers and gaining broader insights into the participants' research institutions. The hosts also suggest creating subject-specific groups at events involving a large number of participants in order to encourage yet greater ideas-sharing.

Case studies: Brazil/Chile (2007) and Japan (2011)

Based on the information in the files, a document analysis of two case studies was conducted. The files on the Humboldt Colloquium in Brazil/Chile (2007) were examined as an example of a transition region whilst those on the Colloquium in Japan (2011) served to analyse a high-tech country.

When reviewing the files it emerged that the reports submitted by the members of the Alexander von Humboldt Foundation's staff who attended the event as well as those of

the German subject specialists – where available – were particularly informative. Subject specialists are not always asked to submit a report: they were available for Brazil/Chile, but not for Japan. In the following, the two colloquia will be briefly presented, followed by a document analysis of the results with reference to the goals pursued:

Presentation of the colloquia in Brazil/Chile (2007) and Japan (2011)

From 5 to 19 May 2007, a delegation led by the then President of the Alexander von Humboldt Foundation, Professor Dr Wolfgang Frühwald, travelled to Brazil, Uruguay, Chile and Peru. The Humboldt Delegation comprised eight professors from Germany who either belonged to one of the Foundation's selection committees or its Academic Council. In some cases, members of the delegation were accompanied by their marital partners. Furthermore, one journalist, two representatives of German foundations and eight members of Humboldt Foundation staff also took part. A special feature of the journey was that in addition to the general goals for colloquia described above, this particular trip was also designed to recruit Latin American applicants for the then new Thyssen-Humboldt Short-term Fellowships for social scientists from Latin America.

During the two-week trip, the individual participants visited a total of more than 40 academic institutes.

After this colloquium, the subject specialists who had taken part were asked to write reports. All complied with this request. The reports differ in length and amount of detail; some essentially concentrate on describing the various meetings, others are more overarching.

From 16 to 18 September 2011, a colloquium was held in Kyoto entitled "Sustainable relations between Japan and Germany in a globalising world - Medical Science since Philipp Franz von Siebold and Koan Ogata". The Humboldt Delegation was smaller than the one to Brazil/Chile and comprised four professors from Germany, all members of one of the Foundation's selection committees. A journalist also accompanied the delegation. Marital partners were not able to join the trip. In addition to the President, eight further members of the Foundation's staff were also present. On the day before the official opening of the colloquium, two visits to institutes took place.

Following this colloquium, a report was written by the Humboldt staff who had taken part. The German subject specialists were not asked to submit a report on this journey.

Results of the Brazil/Chile Colloquia

All the reports address the research situation of scientists and scholars at the institutes visited in Brazil and Chile.

During the colloquium, six specialist groups (humanities, chemistry, biosciences, medicine, physics and mathematics/engineering sciences) were created. The goal of these broadly-based specialist groups was to share information on a broader disciplinary scale.

According to the report, the first successful negotiations on joint cooperation agreements were held during the trip. One member of the delegation reports, for example, that a meeting at an institute between a Brazilian Humboldtian and himself had led to a joint research proposal in the context of the EU's 7th Research Framework Programme. Furthermore, he had signed a cooperation agreement between his own university and the Universidade Federal de Santa Catarina (UFSC) on the spot. Another subject specialist invited a group of researchers from Chile, whom he met during the journey, to his institute in Germany. This visit did indeed take place a year later, financed using funding from the German researcher's Leibniz Prize.

According to the reports, during the visits to the institutes as well as at the two colloquia, the subject specialists repeatedly drew attention to the Alexander von Humboldt Foundation's programmes, both at lectures and in conversations. It was pointed out that not only the subject specialists but also Foundation staff constantly encountered "several potential Humboldt candidates" (quotation from report) during the trip. One subject specialist reported that the staff at one institute had been very motivated and interested, and concluded that "here there are certainly candidates for future Humboldt Fellowships whom I gave a short briefing before holding my lecture" (quotation from report). Another subject specialist spoke of an "interesting conversation with an anthropologist" and suspected that "this could lead to an application for a fellowship" (quotation from report). If one considers the development of application and approval figures following the colloquia, however, no increase in numbers seems to have resulted from the many discussions between members of the delegation and potential junior researchers as might have been expected.

The German researchers on the trip were able, furthermore, to inform themselves about the research situation of alumni at their own institutes:

"The facilities in the Faculty of Chemistry I visited [...] are first-class in accordance with international standards. I have to say that this university is better equipped with modern scientific equipment than some universities in Germany." (quotation from report) After visiting an institute one humanities scholar concluded:

"The general impression is excellent, even if the facilities are not up to par; the level of training, motivation and quality of academic debate were at international level." By visiting different universities and research institutions the subject specialists were able to acquire a differentiated, comparative picture of the research conditions in the country. One subject specialist summarised this picture as follows.

"The visit that left the greatest impression on me was Montevideo. Excellent research opportunities, at the Pasteur Institute for example, are just a stone's throw away from the university institutes where the working conditions are appalling."

The Humboldt Colloquium in Chile was the very first to take place in this country. In the Foundation's report it is noted that an application for a Kolleg was planned as a result of

discussions held during the delegation's visit. If one considers the current figures it emerges that between then and the end of 2013, five Humboldt Kollegs were held in Chile. It is therefore reasonable to assume that the discussions and lectures held during the colloquium and on the journey sparked the motivation to submit applications. This increase in the number of Kollegs in the region indicates that more intensive regional and specialist networking must have taken place after the colloquium as the Kollegs were organised on the initiative of the alumni themselves.

An additional outcome of the colloquia in Chile and Brazil was a bilingual discussion paper, published by the Foundation, on further strengthening German-Chilean research relations. The discussion paper was published in 2009 entitled "Deutsch-Chilenische Forschungszusammenarbeit: Tradition und Zukunft – Cooperación científica chileno-alemana: Tradición y Futuro" (German-Chilean research cooperation: tradition and future) and can be downloaded from the Humboldt Foundation's website: <http://www.humboldt-foundation.de/web/diskussionspapiere.html>.

Results of the Japan Colloquium

According to the Foundation's report on the trip, the colloquium in Japan was especially effective in acquainting the members of the German Delegation with the research situation in the country and its particular challenges. The visits to institutes produced interesting insights, the report continues.

From the Foundation's standpoint the colloquium was considered to have been a success, amongst other things, because it alerted the participants to the problems of the shift in the Japanese age pyramid and the concomitant fall in the number of applications. After the trip, a long and detailed article on the research situation in Japan and the Foundation's colloquium was published in the Frankfurter Allgemeine Zeitung (FAZ) on 28 September 2011. Application figures did actually drop slightly after the colloquium, the number of approvals, however, remained constant.

Conclusion

Colloquia are programme events that tend to focus less on academic goals and more on networking and addressing junior researchers. The results of the online survey and the evaluation of reports clearly demonstrate that the colloquia contribute to fostering and developing contacts between German and Japan-based researchers. They also facilitate intensive exchanges between Humboldtians and members of Foundation staff (see Goal 1). Another aim of Humboldt Colloquia is to communicate or enhance knowledge about the respective research landscape (see Goal 3). According to the reports on the two case studies and the statements made by alumni and hosts, this goal is also being achieved.

Merely with regard to reaching the third programme goal, “To recruit suitable applicants for the Humboldt Foundation’s sponsorship programmes” (see Goal 2), the two case studies do not provide any evidence because the two colloquia considered in the case studies had no direct impact on the number of sponsorship recipients in the region. Nonetheless, the responses to the online survey do show that junior researchers are included in the events and that this has produced suitable candidates for Humboldt Fellowships. At this point, it should however be noted that junior researchers have only systematically been invited to attend colloquia since 2012.

Furthermore, the results of the survey reveal that, as in the case of Kollegs, colloquia often generate a strong sense of belonging and help to enhance the emotional strength of the regional Humboldt Network.

5.4.4 Individual alumni sponsorship measures (non-cash benefits)

5.4.4.1 Book donations and equipment subsidies

Research fellows abroad – especially in countries with weak currencies¹⁰⁹ – are able to apply to the Humboldt Foundation for donations of scientific books which have either been written by German authors or appeared in German publishing houses. Subscriptions for journals can also be covered by the Humboldt Foundation. The books donated are given to the Humboldtian’s institute and are intended, first and foremost, for his or her research work. This tool has been in existence since 1959. Support covers the purchase and dispatch of the books to the institute abroad. The individual application should not usually exceed a value of 1,000 euro.

The acquisition of scientific equipment is supposed to help Humboldtians from countries with weak currencies to continue a research project they had started in Germany at their own institutes abroad once their stay in Germany has come to an end. This tool has been in existence since 1962. It is designed to perpetuate cooperation with academic hosts and other specialist colleagues in Germany on a sustainable basis beyond the scope of the initial research stay. The equipment passes into the inventory of the Humboldtian’s own institute and should essentially serve the fellow’s research needs. When applying for large-scale equipment a joint application should either be made by several research fellows or an agreement to provide partial funding should be obtained from another funder.

¹⁰⁹ A current list of countries can be found in the Appendix (see Table 74, p. 216).

Systematisation of tool goals

Overarching goals	<ul style="list-style-type: none"> - To strengthen the science systems in countries with weak currencies - To strengthen regional Humboldt Networks
Programme goals	<ul style="list-style-type: none"> - To support alumni in continuing their research work and help improve integration at their own institutes - To improve research-based teaching
Programme activities	<ul style="list-style-type: none"> - Procurement of literature for alumni's own institutes - Procurement of equipment for alumni's own institutes
Outcome	<ul style="list-style-type: none"> - Research results derived from project work at the alumni's own institutes (publications, patents, conferences, workshops) - Equipping research laboratories and/or updating/complementing laboratory instruments - Publications with German researchers, if applicable
Impact (mid term)	<ul style="list-style-type: none"> - Countering the brain drain - Improvement of research conditions for alumni at their own institutes - Further training for junior researchers - Network building by initiating new collaborative projects thanks to improved local research conditions - Launching/developing collaborations between alumni and researchers in Germany - Mediating a feeling of personal esteem
Impact (long term)	<ul style="list-style-type: none"> - Helping alumni and their institutes to remain on a par with the academic community

Methods

In addition to a data base query, the usage and impact of the two instruments were examined in the context of the online survey. For this purpose, alumni abroad received the additional Modules M (book donations) and N (equipment subsidies).¹¹⁰

5.4.4.1.1 Book donations

Analysis of the data base

In order to gain an overview of sponsorship relating to book donations the data base was analysed according to the frequency with which alumni had taken advantage of this alumni tool per decade and year (over the last ten years). As Table 42 demonstrates, book

¹¹⁰ The allocation of one of the two modules may have been determined by random generator (see Chapter 4).

donations were a popular tool from the mid-1970s to the mid-1990s. During the last ten years (see Table 43), it emerges that the number of individuals receiving book donations dropped continually from 2006 onwards; in 2013, it reached an all-time low of 28 book donations.¹¹¹

Table 42: Book donations – individuals sponsored per decade 1959-2013 (data base)¹¹²

Type of sponsorship	1959-1963	1964-1973	1974-1983	1984-1993	1994-2003	2004-2013	Total
Georg Forster Humboldt fellowship					31	109	140
Award winner	152	1,072	1,501	1,618	1,040	403	5,786
Other fellowships				1	12	2	15
			4	10	1	15	30
Total	152	1,072	1,505	1,629	1,084	529	5,971

Table 43: Book donations – individuals sponsored per year 2004-2013 (data base)¹¹³

Type of sponsorship	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
Georg Forster Humboldt fellowship	10	12	11	12	20	20	17	12	10	6	130
Award winner	99	107	87	86	51	43	33	32	23	22	583
Other fellowships		1		1							2
		2	3		1	3	5	1	2		17
Total	109	122	101	99	72	66	55	45	35	28	732

Altogether, 4,865 individuals (see Table 44) received sponsorship in the form of a book donation. Seen in relation to the proportion of alumni sponsorship groups within the Network, this equates to approximately every fifth Humboldt and Georg Forster alumnus/a; amongst award winners book donations are a rarity.

¹¹¹ One cause of this development – apart from low-key promotion of the tool due to a lack of funding – is probably the drop in the importance of books as a medium for conveying knowledge.

¹¹² Individuals sponsored were counted once per decade regardless of how often they received support within this ten-year period. If they applied for sponsorship in two decades, they were counted once per decade.

¹¹³ Individuals sponsored were counted once per year. Alumni who applied for sponsorship in multiple years were counted once each year. The number of individuals therefore does not match the number of individuals sponsored in the decade 2004-2013, as individuals in this segment were only counted once per decade.

Table 44: Book donations – percentage of individuals sponsored in the Humboldt Network (data base)

Type of sponsorship	Number of individuals sponsored	Individuals in the network	Percentage
Georg Forster Humboldt fellowship	136	684	19.9%
Award winner	4,688	22,516	20.8%
Other fellowships	13	4,182	0.3%
	28	908	3.1%
Total	4,865	28,290	17.2%

If one only considers the number of individuals sponsored according to their eligibility to apply for a book donation on the basis of the current list of countries¹¹⁴ and sets this against the number of individuals in the respective countries of origin, it emerges that the degree of usage of this tool is 26 per cent. The proportion amongst Humboldt Research Fellows is slightly higher at 30 per cent (see Table 45Table 45).

Table 45: Book donations – percentage of individuals sponsored in the Humboldt Network in countries that are currently eligible to apply (data base)¹¹⁵

Type of sponsorship	Number of individuals sponsored	Individuals in the network	Percentage
Georg Forster Humboldt fellowship	135	684	19.7%
Award winner	1,395	4,748	29.4%
Other fellowships	7	252	2.8%
	18	268	6.7%
Total	1,555	5,952	26.1%

Examining the countries that are eligible to apply according to region, it emerges that Africans make slightly more than average use of book donations. But alumni from Central and South America as well as the Middle East and North Africa also use this tool more often than alumni in Asia (see Table 46).

Table 46: Book donations – percentage of individuals sponsored in the Humboldt Network in countries that are currently eligible to apply, by region (data base)

Region	Number of individuals sponsored	Individuals in the network	Percentage
Sub-Saharan Africa	217	748	29.0%
Asia	148	665	22.3%
Europe	629	2,509	25.1%
Central and South America	374	1,347	27.8%
Middle East; North Africa	187	683	27.4%
Total	1,555	5,952	26.1%

¹¹⁴ A current list of countries can be found in the Appendix (see Table 74, p. 219).

¹¹⁵ The difference in the total number of individuals sponsored (4,865 as against 1,555) is due to the fact that some countries with very high numbers of book donations are no longer eligible to apply (e.g. Poland, Hungary, Bulgaria, Romania, China, Japan and India; USA and Italy etc.).

Results of the online survey

Approximately 20 per cent (= 642) of alumni abroad who answered the question about awareness and usage of alumni tools (n = 3.060) had already been successful in applying for the donation of scientific books. A further 1,173 (38%) were aware that sponsorship of this kind existed; some 40 per cent of researchers were not familiar with the tool at all. As not all alumni are eligible to apply for a book donation it is not surprising that these groups are unaware of the tool. In comparison with usage activity in the network, the proportion of alumni from Sub-Saharan Africa (54%), Central and South America (36%) as well as the Middle East and North Africa (36%) was also concomitantly high. This coincides with more frequent usage of the instrument by Georg Forster alumni (43%) than by Humboldt Fellowship alumni (21%) and award winners (4%). Of the alumni surveyed, more humanities scholars had applied for book donations (29%) than alumni in other academic fields (16%-19%).

Of the 642 alumni who had already successfully applied for at least one book donation, 533 individuals¹¹⁶ were selected to answer further questions on this tool. The majority of this group had used the tool on just one occasion (85%); only 65 researchers (12%) had already received two or more donations.

The literature acquired with the help of the Foundation first and foremost facilitates access to new scientific knowledge in the respective research area (77%) but also to new research themes and methods (51%). It plays a less significant role in relation to technical applications (26%). Approximately two-thirds of those surveyed used the book donations themselves (70%) or for junior researchers (67%) and other academics at the institute (63%). In some cases (21%) researchers outside of the institute benefitted from a book donation.

Asked about the advantages of this tool and suggestions for improvement, 354 alumni responded with the following points and suggestions: book donations are greatly appreciated by many alumni in countries with weak currencies because they would otherwise be unable to procure new, expensive literature. It is not only the alumni who benefit from the donations but also other researchers at the institutes as well as junior researchers and students, because book donations also generate improvements in teaching. Book donations allow researchers to continue the research work they started in Germany at their own institutes. As such, they promote reintegration and also the maintenance of specialist contacts to Germany. The suggestions made by the alumni surveyed on how the tool could be improved do, however, reveal a growing wish for access to electronic media, such as ebooks, electronic data bases, and online subscriptions

¹¹⁶ As the allocation of question modules was based on a list of priorities in order not to overburden the survey participants, not all the respective individuals were asked more detailed questions on the tool (see chapter 4 “Methods used”, 4.1.2, p. 40).

to periodicals and journals. Given the pace of digital developments, book donations in the form of printed editions are becoming every less significant. The data base analysis also reveals that, in the last ten years, ever fewer book donations have been used. Furthermore, alumni appear to be unsure as to whether they could apply for book donations more than once; it is noted that book donations at regular intervals would be welcomed. It should also be possible to apply for donations of books by foreign publishers, at least up to a certain percentage of the donation amount. Some alumni would like to see an increase in the donation amount and/or an even more straightforward application procedure (a host's statement is considered superfluous).

5.4.4.1.2 Equipment subsidies

Analysis of the data base

The data base analysis with regard to equipment subsidies clearly shows that this tool was also used more intensively from the mid-1980s to the beginning of the 2000s (see Table 47). Here, too, as Table 48 reveals, the number of sponsorship recipients dropped continually with just 34 equipment subsidies being granted in 2013.¹¹⁷

Table 47: Equipment subsidies – individuals sponsored per decade 1963-2013 (data base)¹¹⁸

Type of sponsorship	1963	1964-1973	1974-1983	1984-1993	1994-2003	2004-2013	Total
Georg Forster Humboldt fellowship					45	136	181
Award winner	37	371	807	1,198	1,306	447	4,166
Other fellowships				1	15	4	20
			6	3		3	12
Total	37	371	813	1,202	1,366	590	4,379

¹¹⁷ This drop may be due to the fact that, following an audit by the Bundesrechnungshof (Federal Audit Court) in 2006, the equipment donations made by the Foundation had to be transformed into equipment subsidies in the form of financial resources which require greater initiative on the part of the sponsorship recipients in the application and procurement process. Moreover, a financial ceiling for large-scale equipment was introduced and promotion of the tool was low key during periods of budgetary restraint.

¹¹⁸ Individuals sponsored were counted once per decade regardless how often they received support within this ten-year period. Breaking down the support by decade provides a summary view of the total duration and development of each tool over time.

Table 48: Equipment subsidies – individuals sponsored per year 2004-2013 (data base)¹¹⁹

Type of sponsorship	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
Georg Forster	19	12	17	14	17	13	20	18	14	16	160
Humboldt fellowship	121	77	64	45	49	50	38	31	36	18	529
Award winner	1	1	2	1							5
Other fellowships				2		1					3
Total	141	90	83	62	66	64	58	49	50	34	697

3,646 individuals successfully submitted applications for equipment subsidies. Seen in relation to the entire network, this means that just short of three per cent have already used this alumni sponsorship tool (see Table 49).

Table 49: Equipment subsidies – percentage of individuals sponsored in the Humboldt Network (data base)

Type of sponsorship	Number of individuals sponsored	Individuals in the network	Percentage
Georg Forster	162	684	23.7%
Humboldt fellowship	3,453	22,516	15.3%
Award winner	20	4,182	0.5%
Other fellowships	11	908	1.2%
Total	3,646	28,290	12.9%

If, however, one considers the individuals in the network who are currently eligible and sets them against the individuals sponsored from these countries, it emerges that 26 per cent of Humboldtians have already used this tool. Almost every fourth Georg Forster alumnus/a and every third Humboldt alumnus/a has already received an equipment subsidy (see Table 50).

Table 50: Equipment subsidies – percentage of individuals sponsored in the Humboldt Network in countries that are currently eligible to apply (data base)

Type of sponsorship	Number of individuals sponsored ¹²⁰	Individuals in the Network	Percentage
Georg Forster	162	684	23.7%
Humboldt fellowship	1,381	4,748	29.1%
Award winner	11	252	4.4%
Other fellowships	5	268	1.9%
Total	1,559	5,952	26.2%

¹¹⁹ Individuals sponsored were counted once per year. Alumni who applied for sponsorship in multiple years were counted once each year. The number of individuals therefore does not match the number of individuals sponsored in the decade of 2004-2013, as individuals in this segment were only counted once per decade.

¹²⁰ The difference in the total number of individuals sponsored (3,646 as against 1,559) is due to the fact that some countries with very high numbers of equipment subsidies are no longer eligible to apply (e.g. Poland, Hungary, Bulgaria, Romania, China, Japan and India; USA and Italy etc.)

Considering the countries eligible to apply according to region, it also emerges that alumni in the Middle East and North Africa more frequently receive sponsorship in the form of equipment subsidies (see Table 51).

Table 51: Equipment subsidies – percentage of individuals sponsored in the Humboldt Network in countries that are currently eligible to apply, by region (data base)

Region	Number of individuals sponsored	Individuals in the network	Percentage
Sub-Saharan Africa	203	748	27.1%
Asia	177	665	26.6%
Europe	629	2,509	25.1%
Central and South America	345	1,347	25.6%
Middle East; North Africa	205	683	30.0%
Total	1,559	5,952	26.2%

As Table 52 demonstrates, an evaluation of the network with respect to the countries eligible to apply according to academic field shows that usage is greatest amongst alumni in the life sciences in comparison with other academic fields.

Table 52: Equipment subsidies – percentage of individuals sponsored in the Humboldt Network in countries that are currently eligible to apply, by academic field (data base)

Academic field	Number of individuals sponsored	Individuals in the Network	Percentage
Humanities and Social Sciences	212	1,460	14.5%
Life Sciences	572	1,593	35.9%
Natural Sciences	595	2,216	26.9%
Engineering	180	683	26.4%
Total	1,559	5,952	26.2%

Results of the online survey

In the online survey, the proportion of survey participants who had already successfully applied for an equipment subsidy was similar to the figures for book donations: 22 per cent (n = 666) of respondents (n = 3,069). Familiarity with this alumni tool was also roughly equivalent to book donations; just below 40 per cent were unaware of the opportunity to apply for financial support for procuring equipment. Here it should also be noted that this alumni tool is not open to all alumni. Alumni in the life sciences (31.8%) apply for equipment subsidies most frequently whilst humanities scholars (13.4%) only rarely make use of the offer. As this tool is mainly restricted to countries with weak currencies, according to the responses, this sponsorship is largely used by alumni from Sub-Saharan Africa (43.6%), Central and South America (37.2%) as well as the Middle East and North Africa (34.2%).

Of the 666 successful applicants, 560 individuals¹²¹ were selected to answer further questions on this tool. In by far the majority of cases, equipment subsidies are only used once (82%); 93 of those surveyed (17%) stated that they had applied for two or more equipment subsidies.

Just short of 60 per cent of alumni used equipment subsidies to procure laboratory equipment and approximately half for acquiring essential computer hardware (46%). In some 13 per cent of cases (n = 74) co-financing from a third party was involved amounting to just under 40 per cent of the purchase price.

The equipment is predominantly used to continue research work started in Germany (complete or major agreement amongst 85 per cent of respondents) or to open up new research fields (71%) but is also often used to promote junior researchers (74%).

Furthermore, the respondents stated that equipment subsidies could also play an important role in alumni's successful reintegration at their own institutes; 69 per cent agreed with this statement completely or to a very high degree. The impact of new equipment on continuing collaboration with a host or other colleagues in Germany is not rated as highly. Here the level of agreement ranged from 50 to 55 per cent.

The responses of almost 90 per cent of the respective alumni underpin the immediate benefit of a subsidy of this kind as publications had been generated as a direct result of acquiring the equipment. In roughly half the cases the new equipment helped to build up research collaborations; equipment is also often used in the context of writing academic dissertations (51%).

This is confirmed by the respondents' answers (n = 415) to the open question on the advantages of equipment subsidies. Especially for researchers returning to their own institutes at the beginning of their careers, and particularly in countries with weak currencies, the equipment subsidy expedites researchers' reintegration into their own academic environment as well as the continuation of research work which was started at a high academic level. The subsidy is instrumental in enabling alumni to become involved in collaborations at the institute as well as in international projects, in enhancing the quality of research results and in improving the quality of teaching. The equipment is often used by several researchers and not infrequently helps to promote the scientific careers of junior researchers. The alumni surveyed pointed out that equipment subsidies allowed them a certain degree of independence in their research and made them less dependent on their institute's funds. There was a great deal of praise for the fast, unbureaucratic application procedure. Only a few suggestions for improvement were forthcoming: the amount of the subsidy could be increased, and in the case of this tool, too, it was not always clear whether the subsidy could be granted more than once. Particularly with

¹²¹ As the allocation of question modules was based on a list of priorities in order not to overburden the survey participants, not all the respective individuals were asked more detailed questions on the tool (see chapter 4 "Methods used", 4.1.2, p. 40).

reference to personal laptops, the fact that the equipment passes into the inventory of the researchers' institutes is considered disadvantageous. The alumni's answers emphasise again and again that the equipment subsidies strengthen the bond with the Humboldt Foundation. The fact that the equipment remains at the institute and can also be used by other researchers means that the *"the traces of the Humboldt Foundation"* are visible at the institutes:

It is probably unbelievable for you (even for me it is), but my scanning tunneling microscope in ultrahigh vacuum even today (after 24 years) is the only one working machine of this type in Hungary. I mention this fact (with the role of Humboldt Foundation) very frequently at different domestic meetings, if I have opportunity. Actually today this machine is a little bit out of date, so it would be fantastic to renew or replace it or to purchase a new version with extended capability.

(HFST alumnus/-a, Europe, online survey)

Conclusion

The answers to the online survey show that book donations and equipment subsidies help alumni abroad to continue their research work and facilitate their reintegration at the own institutes. The two alumni tools thus fulfil the programme goal. Furthermore, it can be seen that the Foundation's sponsorship can improve the research conditions at the alumni's own institutes and benefit junior researchers as well. There are also indications to suggest that subsidies and donations help to pave the way for new collaborations locally as well as with researchers in Germany. Particularly in the case of equipment subsidies, the Foundation's support is appreciated across the institutes, a fact which in its turn increases the value of belonging to the Humboldt Network. Nevertheless, the alumni's answers clearly indicate that there is considerable doubt about the benefit of book donations in the traditional form. Many alumni would like more support for digital media. It should also be considered whether the application conditions could be made more transparent.

5.4.4.2 Printing subsidies

In order to publish research results directly ensuing from sponsorship granted by the Alexander von Humboldt Foundation, the Foundation is able, on application, to make a contribution to the costs of publication. Printing subsidies are available for publishing books on the condition that the publisher is German or the publication is in German, the print run does not exceed 1,000 copies and/or the number of complimentary copies does not exceed 25 per cent of the print run.

Systematisation of tool goals

Overarching goals	<ul style="list-style-type: none"> - To strengthen the science systems in countries with weak currencies - To strengthen regional Humboldt Networks
Programme goals	<ul style="list-style-type: none"> - To support the publication of research results directly ensuing from sponsorship granted by the Alexander von Humboldt Foundation
Programme activities	<ul style="list-style-type: none"> - Printing subsidy for publications
Outcome	<ul style="list-style-type: none"> - Publication of research results
Impact (mid term)	<ul style="list-style-type: none"> - Enhancement of alumni's status in their own university systems - Publication and dissemination of research results and thus increase in the beneficial impact of research stays sponsored by the Humboldt Foundation - Improvement of research conditions at alumni's institutes (in countries with weak currencies) - Mediating a feeling of personal esteem
Impact (long term)	<ul style="list-style-type: none"> - Helping alumni to maintain their visibility and stay on a par with the academic community

Methods

In addition to a data base query, the usage and impact of this instrument were essentially examined in the context of the online survey. For this purpose alumni abroad received Module X, Feodor Lynen alumni in Germany Module XL.

Analysis of the data base

Unlike book donations and equipment subsidies printing subsidies are not restricted to alumni abroad but can also be requested in Germany. The data base evaluation shows that here, once again, the highest level of sponsorship was reached between 1984 and 2003 (see Table 53). In the last decade, sponsorship dropped again. An analysis of the last ten years clearly reveals that printing subsidies did not fall continually but randomly peaked with more than 40 subsidies in certain years such as 2012, for example (see Table 54).

Table 53: Printing subsidies – individuals sponsored per decade 1957-2013 (data base)¹²²

Type of sponsorship	1957-1963	1964-1973	1974-1983	1984-1993	1994-2003	2004-2013	Total
Georg Forster					3	28	31
Humboldt fellowship	50	233	328	429	395	200	1,635
Lynen			3	17	20	45	85
Award winner			4	5	26	28	63
Other fellowships					4	11	15
Total	50	233	335	451	448	311	1,829

Table 54: Printing subsidies – individuals sponsored per year 2004-2013 (data base)¹²³

Type of sponsorship	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
Georg Forster	2	1	2	5	2	5	1	4	7	2	31
Humboldt fellowship	14	28	28	18	23	24	19	23	28	15	220
Lynen	2	7	6		4	9	5	4	5	7	49
Award winner	4	4	3	3	4	3	2	1	3	4	31
Other fellowships		2	2	2	2	1	1	1		1	12
Total	22	42	41	28	35	42	28	33	43	29	343

In total, 1,671 individuals received sponsorship in the form of printing subsidies, which equates to approximately five per cent of the entire network. Researchers in the humanities and alumni from Sub-Saharan Africa (10%), in particular, apply for printing subsidies. The proportion of alumni from other regions ranges from four to seven per cent; amongst North American alumni the proportion is only 2.5 percent.

As the number of applications approved for this tool has fluctuated over the course of time and has not dropped in the last few years in the way it has for other non-cash benefits, this development can obviously not be exclusively explained by changes in the Foundation's budgetary situation (see Section 5.4.2.1.1 ff.)¹²⁴.

¹²² Individuals sponsored were counted once per decade regardless of how often they received support within this ten-year period. Breaking down the support by decade provides a summary view of the total duration and development of each tool over time.

¹²³ Individuals sponsored were counted once per year. Alumni who applied for sponsorship in multiple years were counted once each year. The number of individuals therefore does not match the number of individuals sponsored in the decade of 2004-2013, as individuals in this segment were only counted once per decade.

¹²⁴ There are no data on the number of applications that were rejected in the data base so that it is not possible to ascertain whether the fluctuations may have been due to random changes in requirements.

Table 55: Printing subsidies – percentage of individuals sponsored in the Humboldt Network (data base)

Type of sponsorship	Number of individuals sponsored	Individuals in the network	Percentage
Georg Forster	31	684	4.5%
Humboldt fellowship	1,484	22,516	6.6%
Lynen	83	3,322	2.5%
Award winner	58	4,182	1.4%
Other fellowships	15	908	1.7%
Total	1,671	31,612	5.3%

Table 56: Printing subsidies – percentage of individuals sponsored in the Humboldt Network by academic field (data base)

Academic field	Number of individuals sponsored	Individuals in the network ¹²⁵	Percentage
Humanities	943	8,107	11.6%
Life Sciences	279	7,002	4.0%
Natural Sciences	312	12,806	2.4%
Engineering	137	3,694	3.7%
Total	1,671	31,609	5.3%

Results of the online survey of alumni abroad

Less than half of the alumni abroad (44%) who answered this question (n = 3,254) knew that there was a possibility to apply for a printing subsidy for publications directly ensuing from their research stay in Germany. Of these 1,500 or so researchers, just short of 200 (5.9%) had used the tool. In the random sample taken in the context of the online survey, humanities scholars had also submitted successful applications more frequently (16%) whilst the figures for alumni from other academic fields ranged from one to two per cent. According to region it can be observed that researchers from Sub-Saharan Africa have received more subsidies (17%) than individuals from other regions (2%-8%).

Subsequently, 176 alumni abroad were asked to answer additional questions assessing the tool¹²⁶. Most of those addressed (76%) had used printing subsidies just once, 32 had used them several times. Some two-thirds of the publications sponsored were monographs. Essays (approx. 17%) in anthologies or open-access publications (2%) only played a lesser or minor role.

Sixty-four per cent of alumni published their works alone whilst between 20 per cent and 25 per cent respectively had one co-author or more (n = 71). The latter were both their

¹²⁵ For three Humboldtians, the database contains no information on their academic field, which is why they could not be taken into account here.

¹²⁶ As the allocation of question modules was based on a list of priorities in order not to overburden the survey participants, not all the respective individuals were asked more detailed questions on the tool (see chapter 4 “Methods used”, 4.1.2, p. 40).

hosts during the research stay (45%) or other researchers based in Germany (61%). Just over a third of visiting researchers published together with colleagues from their own countries.

The major advantages identified by alumni abroad (n= 144) were that they would otherwise not have been able to get their scientific publications printed (so quickly) particularly if they were particularly expensive or too specialised. These alumni also valued the opportunity to have their research results published by a distinguished German publishing house. The Foundation's reputation facilitates access to these prestigious German publishers, according to the respondents. Publishing and disseminating research work promotes sponsorship-recipients' careers and, at the same, time ensures that the Humboldt Foundation is visible as a funding organisation. Moreover, printing subsidies increase researchers' independence from institutions in their own countries. For example, they may make it possible to offer readers, such as local students, the option of reading the work at a reduced price. They also promote German as a language of science as, in some cases, research is translated into German for publication. Alumni also praise the fast, efficient procedures.

Alumni's suggestions for improvement include increasing the subsidy towards printing costs and relaxing the regulations on only using German publishers or only publishing in German. This is particularly problematic in the case of anthologies involving international contributors. Alternatively, the Foundation could take on the costs of translation and/or professional editing of the texts. In isolated cases the procedure for applying for printing subsidies was considered too long and bureaucratic. Thus apparently the opinions of survey participants on application matters tend to differ.

Results of the online survey of Lynen alumni

All Lynen alumni and Lynen alumni hosts were surveyed on the tool printing subsidies (n = 661). Seventeen individuals had already received a printing subsidy (2.6%). In response to the question as to whether they were, nonetheless, aware of the tool, a third claimed to be familiar with the tool but not to have used it so far. Sixty-two per cent of the Lynen alumni surveyed were unaware of this alumni sponsorship tool.

Of the 17 users, 14 had taken advantage of the tool once; the other three did not give details. Nearly all alumni used the subsidy to publish a monograph (n = 14); in one case it had been used to publish an essay in a journal or an anthology. Most Lynen alumni published alone (n = 10), three with their host, two with researchers in Germany and/or researchers from the host country and one with their Lynen co-host.

In response to the open questions Lynen alumni especially praise the fast, unbureaucratic procedures for printing subsidies.

Conclusion

First and foremost, printing subsidies make it possible to quickly publish and disseminate research results directly ensuing from Humboldt Foundation sponsorship. The tool thus fulfils its core programme goal. The responses submitted by the researchers in the survey also reveal that support from the Humboldt Foundation facilitates access to prestigious German publishing houses and thus enhances the benefit of the research stay. Some comments include references suggesting that the fact of publishing the results had promoted career-development. There are also isolated comments implying that the research conditions at home had benefitted, for example when it was possible to allow junior researchers access to these research results at reduced prices.

Due to the fact that only German publishing houses may be used or that the publication must be in German, the tool is almost exclusively used by humanities scholars. Alumni abroad point out that, although this regulation promotes German as a language of science, this restriction is often considered a handicap, especially in the context of international collaborations. With an eye to the systematisation of goals, it could be considered which goals this tool is intended to achieve. If as many alumni as possible from different countries and disciplines are supposed to make use of these subsidies it would be advantageous to relax the regulations.

5.5 Additional suggestions for improving existing networking activities

In the context of the online survey all survey groups were asked which existing networking activities they thought should be developed further in order to continue driving cooperation amongst Humboldtians at national and international level; they were also asked whether they had any requests for additional options. The survey participants were able to include their answers in a free text field. Just over 1,000 alumni took advantage of this opportunity. Some 15 per cent (n = 148) used the question to explicitly praise the Foundation's alumni tool portfolio and to state that they did not see any need for improvements.

In addition to this, three suggestions for extending the portfolio, which were made particularly frequently in various different forms, should be mentioned here:

These refer, for example, to the tool Kollegs, which according to many alumni are an extremely effective networking tool and should therefore be extended (n = 66 mentions). An almost equally large group of respondents (n = 70) explicitly states that alumni meetings should have a stronger subject-specific focus in order to optimise the scientific benefit of such events.

Suggestions to support more subject-related exchange and/or collaboration of this kind between Humboldtians using alumni sponsorship funding pointed in much the same direction. Many survey participants are of the opinion that, generally, there is a lack of tools for promoting collaborations amongst Humboldtians from different countries.

Another set of topics deals with access to information on potential collaborative partners in the Humboldt Network. Many alumni would like to see a user-friendly, electronic data base which also includes information on publications. A further, even more frequent suggestion is to create a web-based platform for exchange amongst Humboldtians (n = 45) whereby some alumni already refer to “Humboldt Life” and expressly welcome this medium.

5.6 Summary

Viewed against the backdrop of the goals set for alumni sponsorship, all in all it can be claimed that in many respects the tools used to implement alumni sponsorship do achieve the desired outcomes as well as the mid- and long-term impact goals.

With respect to the overarching goal of continuing and consolidating long-term academic cooperation, a whole body of evidence could be found to demonstrate that the use of alumni tools does strengthen the worldwide Humboldt Network both in terms of region and subject. Initiating and developing contacts between Humboldt alumni and researchers from Germany as well as perpetuating these links by further research stays for alumni in Germany and reciprocal visits by German researchers abroad makes a significant contribution to continually and sustainably internationalising Germany as a location for research. Moreover, in many cases, the various sponsorship opportunities are instrumental in recruiting promising junior researchers from abroad for Foundation sponsorship and thus for the Humboldt Network. Both further research stays in Germany and the Foundation’s networking events create and strengthen a sustainable emotional bond with Germany and the Humboldt Network.

The quantitative analysis of how the individual alumni tools are used reveals that the Foundation’s alumni sponsorship opportunities apparently appeal more to certain regional groups within the network than others. This is partly due to the fact that some of the offers are specifically tailored to the needs of alumni in certain regions, particularly in developing countries and transition economies, in order to explicitly help researchers from these regions to conduct research projects and maintain collaborative relations with German researchers. The degree to which these tools are known about and used by this particular group of alumni is therefore especially high. With relation to the alumni tools that are available to all countries, however, it emerges that researchers from North America in particular make considerably less use of the opportunities and are often

completely unaware of their existence. It should, therefore, be considered whether the portfolio of tools in its existing form really does reach the network of excellence in its entirety or whether researchers from highly developed countries perhaps have other requirements regarding alumni sponsorship.

Similarly, with reference to the alumni of the Feodor Lynen Programme, it can be seen that the existing opportunities for sponsoring activities in the Humboldt Network are only used to a modest extent and are by no means known to all alumni. It should, however, be noted that many alumni pursue their professional careers outside of academia and thus no longer belong to the classic target group for the Foundation's alumni sponsorship measures.

Altogether, the evaluation of the sources available invites the conclusion that there is unused potential, which is based on the positive evaluation of existing tools on the one hand and the fact that they are hardly known about and only modestly used on the other (reciprocal visits by German hosts and Research Group Linkages, for example). Strategic considerations on extending and developing the portfolio of tools yet further could – provided that the Foundation's budgetary situation provides sufficient financial scope – mean that, in future, new, targeted focus areas should be set.

6 Mapping the Humboldt Network

As described in Chapter 3, in addition to evaluating alumni sponsorship tools the explorative study sought to spotlight other networking activities centered on the Humboldt Foundation. The objective of “mapping networking activities” was not an evaluation but an audit of the core fields of interest and the lessons to be learned from them for the future design of network promotion. The various areas on which information was supposed to be gathered were divided into guided questions that also formed the point of departure for formulating the individual questions used in the online questionnaires and guided interviews (see Appendix II).

6.1 Networking habits of members of the Humboldt Network

The aim of this sub-chapter is to collate information on the networking habits of the members of the Humboldt Network. First of all, the Humboldt Network itself will be considered by examining both the connections and contacts of sponsorship-recipients to Germany or their host country (in the case of Lynen alumni) as well as networking amongst Humboldtians. On top of this, the central players in the Humboldt Network will be identified and described in more detail with regard to their demographic characteristics. At the end of this chapter, the factors that inhibit and promote involvement in the network will be derived from the data acquired.

6.1.1 Connections and contacts between alumni abroad and Germany

The Humboldt Foundation fulfils its statutory purpose of promoting both science and research as well as intercultural understanding in particular by opening up opportunities for excellent academics of other nationalities to conduct research in Germany. It is intended that the links that result should be maintained and promoted in order to build a global network of leading researchers who have bonds with Germany. One of the preconditions for building a network of this kind is to ensure that alumni maintain contact with individuals in Germany after their initial Humboldt-sponsored research stay in Germany has come to an end. In the following, we shall therefore initially examine what kind of connections alumni abroad foster with Germany.

Contacts to researchers in Germany

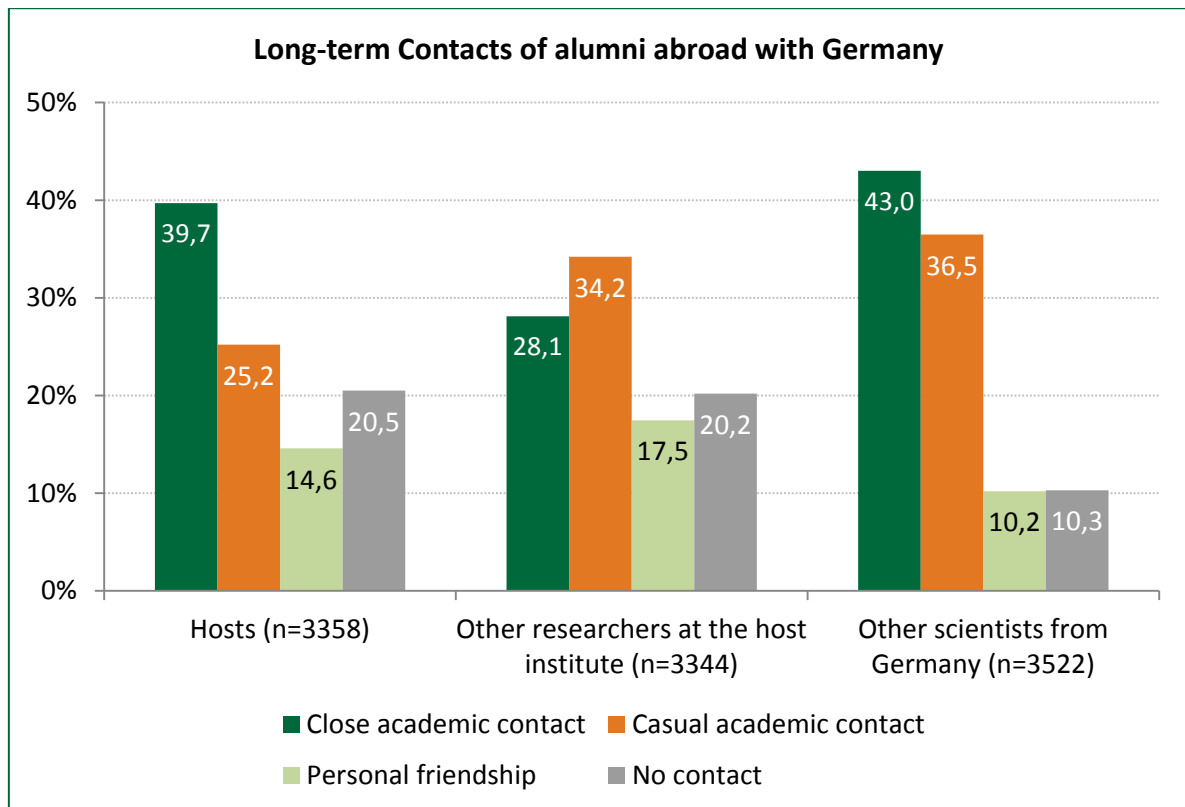
Alumni abroad were asked with whom they were in contact in science in Germany, both immediately after their research stay and to this day. Just below 90 per cent (n = 3,971 of 4,509 respondents) of survey participants in this group stated that immediately following their initial Humboldt-sponsored research stay (within the first two years) they had stayed

in contact with their host for scientific purposes; more than two-thirds (68.6%) described this contact as close.

If one considers this group's connections to researchers in Germany at the time of the survey – that is, at least two years after the initial Humboldt-sponsored research stay in Germany had come to an end – it emerges that the majority still foster scientific or, at least, personal contacts with Germany. Only about 20 per cent of alumni stated that they no longer had any contact to the individuals who hosted their initial research stay, nor to other researchers working at the institute at the time. Approximately 10 per cent have no contact to researchers in Germany in general.

Figure 9 illustrates how the contacts that still exist to individuals in Germany are distributed: alumni maintain the most academic contacts, either close (43%) or casual (36.5%), to researchers in Germany who were not at their original host institute. But nearly 40 per cent also still foster close (39.7%) or casual (25.2%) academic ties with their original host.

Figure 9: Long-term contacts of alumni abroad with Germany (online survey)



An evaluation based on the amount of time that had elapsed since initial sponsorship shows that the proportion of alumni who still maintain close academic contacts with their Humboldt hosts drops significantly over time: whilst the groups of alumni who only completed their initial research stay three to five years previously stated 53.2 per cent (n = 308) in answer to the relevant question and the group who completed their stay six to eight years previously stated 48.3 per cent (n = 231), these figures fall continually to 23.9

percent (n = 96) amongst the group of alumni whose initial research stay took place more than 25 years previously. A similar development can be observed in relation to contacts to other researchers at the host institute: here the proportion of alumni who still foster close contacts today drops from 32.6 per cent (n = 177) in the three- to five-year group to 21.4 per cent (n = 84) in the 26 plus years group.

It is interesting to note that this development is reversed in the case of contacts to other researchers in Germany who were not located at the host institute during initial sponsorship. Here the proportion of alumni who claim to still have close academic contacts in the group who completed their initial research stay three- to five-years previously continually increases as time elapses from 37.7 per cent (n = 207) to 42.8 per cent (n = 187) in the 26 plus years group.

These results can be interpreted as clear evidence that many alumni abroad manage to maintain contact with other researchers in Germany and, indeed, make new contacts after the initial research stay sponsored by the Humboldt Foundation has come to an end.

Today's academic connections with Germany express themselves in particular in joint publications. More than three-quarters of the alumni who participated in the survey (76.2%, n = 3,038) stated that they had tended to publish more with German colleagues than they had done prior to their Humboldt-sponsored research stay in Germany whilst a large percentage (79.7%, n = 3,321) subsequently cited the works of colleagues in Germany more frequently. Furthermore, some 87 per cent (n = 3,729) claimed that they had followed developments in their research field in Germany with greater attention than they had done before their research stay in Germany. Almost the same number (70%, n = 3,613) now turn more frequently to colleagues in Germany when seeking a collaborative partner than they did before.

If one considers the response behaviour to this question in terms of subjects it becomes clear that, by comparison, natural scientists are rather more reticent about changes in the attention they pay to the German research landscape. The degree of attention paid as well as the tendency to cite and reference the work of colleagues in Germany is greatest amongst humanities scholars. The only area in which this is not the case is the increase in the number of joint publications with researchers in Germany. Here the life sciences head the field.¹²⁷

A particularly high level of agreement exists amongst fellows of the Georg Forster Programme in the four statements on the increase in awareness of the German research landscape (see Table 57).

It should, however, be noted at this point that these statements are based on a subjective perception of changes and not an actual, quantitative measurement of the increase.

¹²⁷ One reason for the reduced increase in the number of publications with co-authors in Germany could be that humanities scholars in general do not publish so often with co-authors.

Table 57: Change in awareness of German research landscape amongst alumni abroad after the fellowship (online survey)

	Fully agree					Don't agree at all	
	1	2	3	4	5	6	n
I publish more with colleagues from Germany than before							
Humboldt fellowship	42.7%	16.9%	15%	8.1%	7.2%	10.1%	3,436
Georg Forster	54.2%	15.7%	14%	5.9%	4.2%	5.9%	286
Award winner	48.5%	21.0%	20.2%	6.5%	1.9%	1.9%	262
Total	43.9%	17.1%	15.2%	7.8%	6.7%	9.3%	3,984
I cite works by colleagues from Germany more often than before							
Humboldt fellowship	31.8%	24.9%	22.4%	9.1%	5.7%	6.1%	3,620
Georg Forster	36.5%	28.4%	19.6%	8.1%	4.2%	3.2%	285
Award winner	30%	22.7%	30.4%	6.2%	4.6%	6.2%	260
Total	32.0%	25.0%	22.7%	8.8%	5.5%	5.9%	4,165
I follow German developments in my research area more than before							
Humboldt fellowship	38.9%	30.4%	17.1%	6.2%	3.9%	3.4%	3,724
Georg Forster	58.4%	22.3%	8.9%	5.9%	3.3%	1.3%	305
Award winner	35.3%	31.2%	21.2%	5.6%	3.7%	3.0%	269
Total	40.1%	29.9%	16.8%	6.2%	3.8%	3.3%	4,298
I'm more likely to approach colleagues from Germany in my search for collaborative partners							
Humboldt fellowship	42.3%	27.4%	16.8%	6%	3.8%	3.7%	3,593
Georg Forster	58.9%	22.2%	10.4%	3.4%	3.7%	1.3%	26
Award winner	38.5%	35.9%	15.6%	6.1%	2.7%	1.1%	262
Total	43.3%	27.5%	16.2%	5.9%	3.8%	3.4%	4,152

Further extended visits to Germany

Further visits and personal encounters with colleagues and friends consolidate networks and thus the relationship to a country. It is therefore all the more positive that more than half of Humboldtians (58%) return to Germany for an extended period (>1 month) after their initial research stay. Of these, almost two-thirds noted that they had returned twice or even more than twice on a visit of this kind. It thus appears that in particular the bonds with Germany in general and those with individuals in Germany that were formed during the initial stay continue beyond the duration of the initial sponsorship period.

Taking account of multiple answers it emerges that a large percentage of alumni abroad use the visits, amongst other things, to continue collaborations with their hosts (56.4%) and/or to cooperate with other researchers in Germany (59.2%).

The willingness to return to Germany for an extended stay is apparently different in the various regions: whilst some three-quarters of alumni from the areas “Sub-Saharan Africa” (74.2%) and “Middle East” (73.9%) stated that they had returned to Germany after their initial Humboldt-sponsored research stay for an extended period once or more than once, the proportion amongst alumni from “Australia, New Zealand and Oceania” (65.9%), “Europe” (61.3%) and “Central and South America” (60.6%) is roughly 60 per cent respectively. So far, by contrast, only approximately half of the alumni from North America (46.4%) and Asia (49.7%) have returned to Germany for a longer period following their initial research stay sponsored by the Humboldt Foundation.

The study conducted by the American Friends of the Alexander von Humboldt Foundation comes to similar conclusions on alumni’s links to Germany: US Humboldtians often have long-lasting relationships with individuals in Germany both on a professional and personal level. According to the American Friends’ survey, in the period 2007 to 2011, 42 per cent of American alumni had been on three visits to Germany, 40 per cent had even been on more than three. Half of the alumni who travelled to Germany did so for both personal and professional reasons (41%: only professional; 9%: only personal). The majority (68%) is still in contact with their former German host and 80 per cent noted that they foster their connections with friends and colleagues in Germany (American Friends 2012, p. 8f.).

Reciprocal visits by other researchers from Germany

Links with German researchers can be fostered in various ways. One particular indication of bonding are invitations to and visits by researchers from Germany to alumni’s own institutes abroad. Approximately 60 per cent of alumni (n = 2,493) stated that they had received visits from researchers from Germany¹²⁸ once or more than once since their initial Humboldt-sponsored research stay. There are no significant differences between the various areas of science.

Taking account of multiple answers it transpires that the visits not only involve the host (54.5%) or other researchers from the host institute (49.8%) but, most frequently, other researchers from Germany (67.5%). On a regional comparison it emerges that roughly half of alumni in Europe had already received visits from researchers from Germany; amongst alumni in Asia, on the other hand, this proportion was only around a quarter (25.5%). Only very seldom had researchers from Germany been the guests of alumni in Sub-Saharan Africa (3.2%).

The most important collaborative partner

In order to gain a better understanding of the regional extent of their networks, alumni were asked to name the countries in which their most important collaborative partners

¹²⁸ They were specifically asked only to name individuals who had not taken part in the Lynen/JSPS/STA/MOST programmes.

were located. Approximately 42 per cent ($n = 1,932$) of alumni abroad put Germany in first place and thus named it most frequently. Considerably behind came the USA (15.7%, $n = 732$). These two countries head the list. Far behind comes China in third place (4.4%, $n = 203$).

The figure of 42 per cent initially appears very high; but if one considers the distribution by country and subject it does seem plausible: of the individuals who put Germany in first place, half come from Europe (49.6%) and a quarter from Asia (24.1%). In third place with roughly 10 per cent are individuals from North America.

A comparison of subjects shows that humanities scholars and social scientists most frequently find their collaborative partners in Germany. Of all the alumni who put Germany in first place, 37.7 per cent ($n = 690$) conduct research in these disciplines, closely followed by natural scientists (36.5%, $n = 668$). The proportion of life scientists and engineering scientists, however, lags well behind (life sciences: 14.1%, $n = 258$; engineering sciences: 11.7%, $n = 215$).

Taking a comparison of regions of origin it emerges that, above all, alumni from Sub-Saharan Africa identify their most important collaborative partners in Germany (approximately half of the 162 answers in this group). The proportion amongst alumni in the Middle East/North Africa is just as high (49%, $n = 74$); the proportions amongst alumni in Europe (46.4%, $n = 911$), Central and South America (42.7%, $n = 99$) and Asia (42.1%, $n = 442$) are only slightly lower. The percentages amongst the groups relating to North America (27.5%, $n = 191$) as well as Australia, New Zealand and Oceania (26.8%, $n = 38$) on the other hand are significantly lower.

Significance of contacts to Germany for professional careers

The Humboldt alumni abroad were asked to assess in retrospect how important their contacts in Germany had been for their professional careers overall¹²⁹. Some two-thirds (65.6%) stated that they had been “very important overall”, thus selecting the highest category. Twenty-two per cent claimed the contacts were “very important in part or during a particular phase”. The last two categories “not very important” (10.7%) and “irrelevant” (1.1%) were only seldom selected (see Figure 10).

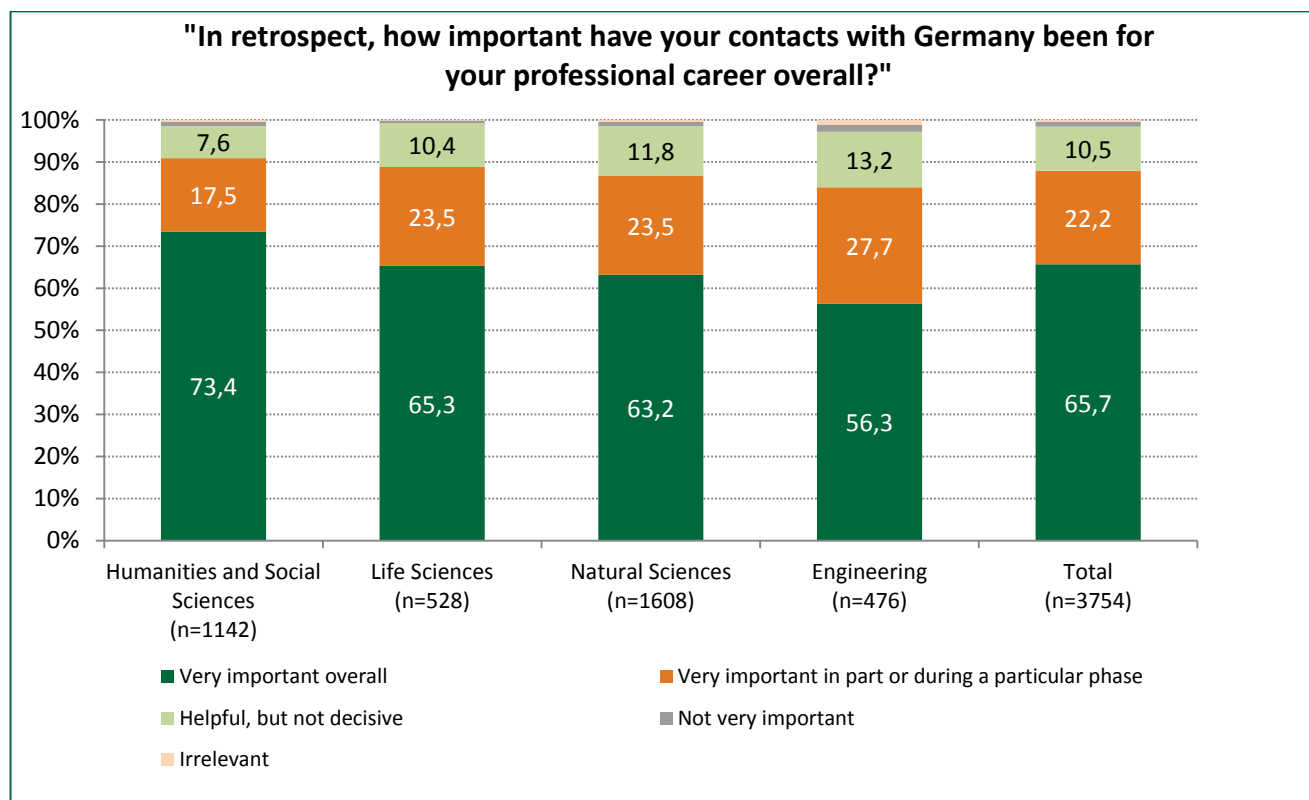
Response behaviour with reference to this question shows no significant differences in the respondents’ age and gender. The picture changes when it comes to the characteristics “sponsorship status”, “subject” and “geographical region”; here significant variations can be observed:

By far the majority (81.5%) of Georg Forster alumni rates their connections with Germany as important for their professional careers; in the groups of Humboldt alumni (65.1%) and award winners (61%), these proportions are significantly lower. Given these figures, it comes as no surprise that the majority of alumni from Africa and Sub-Saharan Africa rate

¹²⁹ This question was put to all Humboldt alumni abroad who had received sponsorship more than two years previously.

the value of contacts for their academic careers as very important. If one considers the assessment of this question by academic field, in retrospect, it is humanities scholars and social scientists (73.4%) who rate contact with Germany as most significant for their careers (see Figure 10).

Figure 10: Significance of German contacts for the professional career of alumni abroad, by academic field (online survey)



6.1.2 Lynen alumni's connections and contacts with their host country¹³⁰

Through the Feodor Lynen Research Fellowship Programme, the Alexander von Humboldt Foundation enables scientists and scholars from Germany with above-average qualifications to spend time researching at a Humboldtian's institute abroad. This programme helps to forge further bonds between excellent researchers in Germany and Humboldt alumni across the world. It is therefore a core goal of the Lynen Programme to involve fellows in the Humboldt Network.

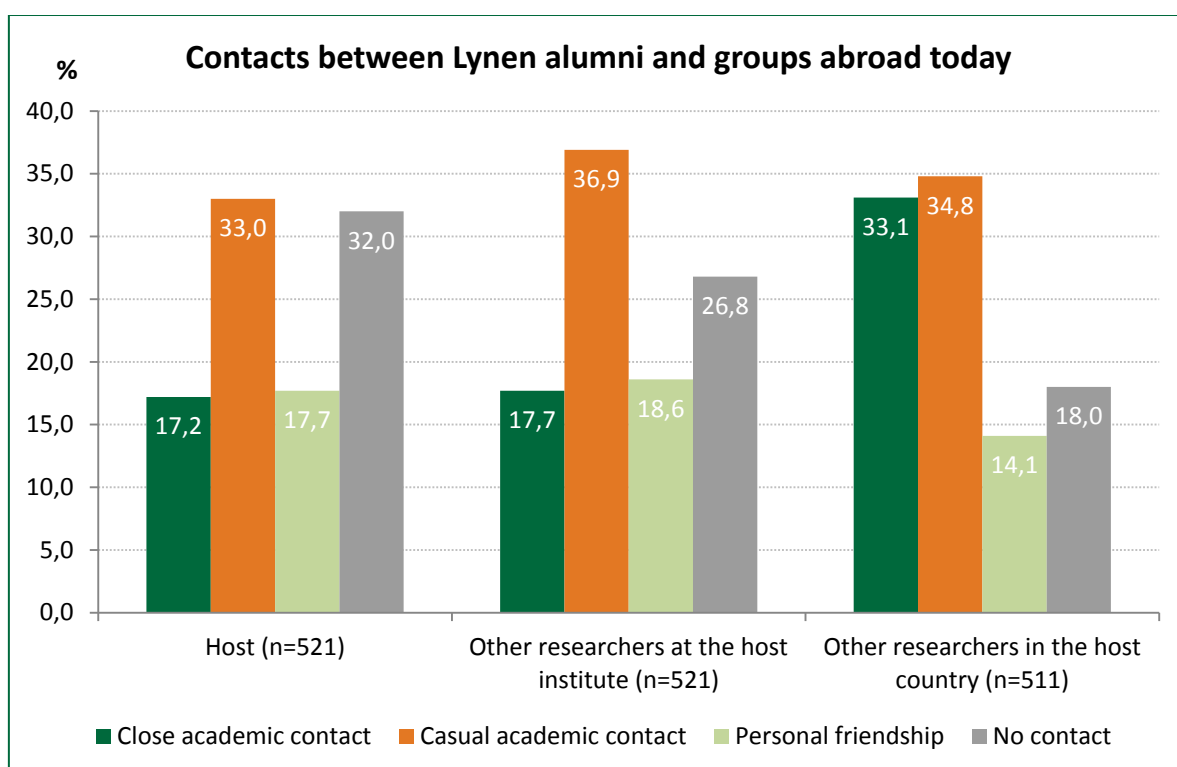
Nearly all Lynen alumni who participated in the survey had remained in contact with their hosts (92.8%, n = 607) immediately after their stay abroad. In by far the majority of cases the contact was scientific; more than half (58%, n = 320) describe it as "close". Lynen alumni also foster contacts with other researchers at the host institute and in the host

¹³⁰ The following sub-chapter deals with the entire group of Lynen alumni, that is, it includes the Lynen alumni who are also active as hosts in Germany.

country immediately following their stay. In most cases this contact is also scientific although often not “close”.

A rather different picture emerges if one asks about Lynen alumni’s contacts today, that is, at least two years after their first stay in the host country. About half of those participating in the survey (50.2%, n = 261) still maintained contact with their Humboldt host abroad. A third of alumni (32%, n = 167), on the other hand, was not in contact with their hosts. Rather, the figures for Lynen Fellows who formed connections with other researchers in their host country are higher: approximately a third of Lynen-Alumni (33.1%, n = 169) stated that they had close academic contacts with researchers outside of the host institute (see Figure 11)

Figure 11: Groups of individuals in the host country to whom Lynen alumni still maintain sustainable contacts today (at least 2 years after the completion of initial sponsorship) (online survey)



Some 40 per cent of Lynen alumni (n = 211) returned to their host country once or more than once for an extended visit (> 1 month) after the initial Humboldt-sponsored research stay. These visits were used, first and foremost, to continue cooperation with the host or other researchers in the host country as well as to participate in specialist conferences or hold lectures.

In summary, the results show that by far the majority of Lynen alumni remain in contact with their Humboldt hosts and other researchers in the host country long after the original Humboldt-financed research stay has come to an end. The programme thus serves not only to internationalise German academic careers and, by extension, Germany as a research location, but also to strengthen the Humboldt Network.

6.1.3 Networking amongst Humboldtians

The Humboldt Network is characterised by networking between researchers from abroad and colleagues in Germany, as described above. But one could only describe it as a partial network if it did not include connections amongst Humboldtians in different countries. In the framework of the study, it was therefore interesting to ascertain to what extent alumni foster contacts amongst themselves and whether these tend to be of a personal or academic nature.

In the questionnaire, approximately 78 per cent of alumni at home and abroad (n = 2,773)¹³¹ noted that amongst the researchers with whom they collaborate closely today there was at least one individual who had also received one of the Foundation's fellowships or research awards. Of these 2,773 individuals almost two-thirds (63.3%) actually cooperate with several Humboldtians. Collaboration usually takes the form of joint publications and joint research projects.

Humboldtians are therefore apparently well-connected amongst themselves. These results allow important inferences to be drawn on the character of the Humboldt Network. They clearly reveal that the network is not only composed of close contacts between alumni and researchers in Germany, as described above, but is also a network in the true sense of the word in which Humboldtians maintain diverse contacts amongst themselves. Most of these contacts are not made in Germany, which indicates that it is a "working" network which continues developing outside of Germany.

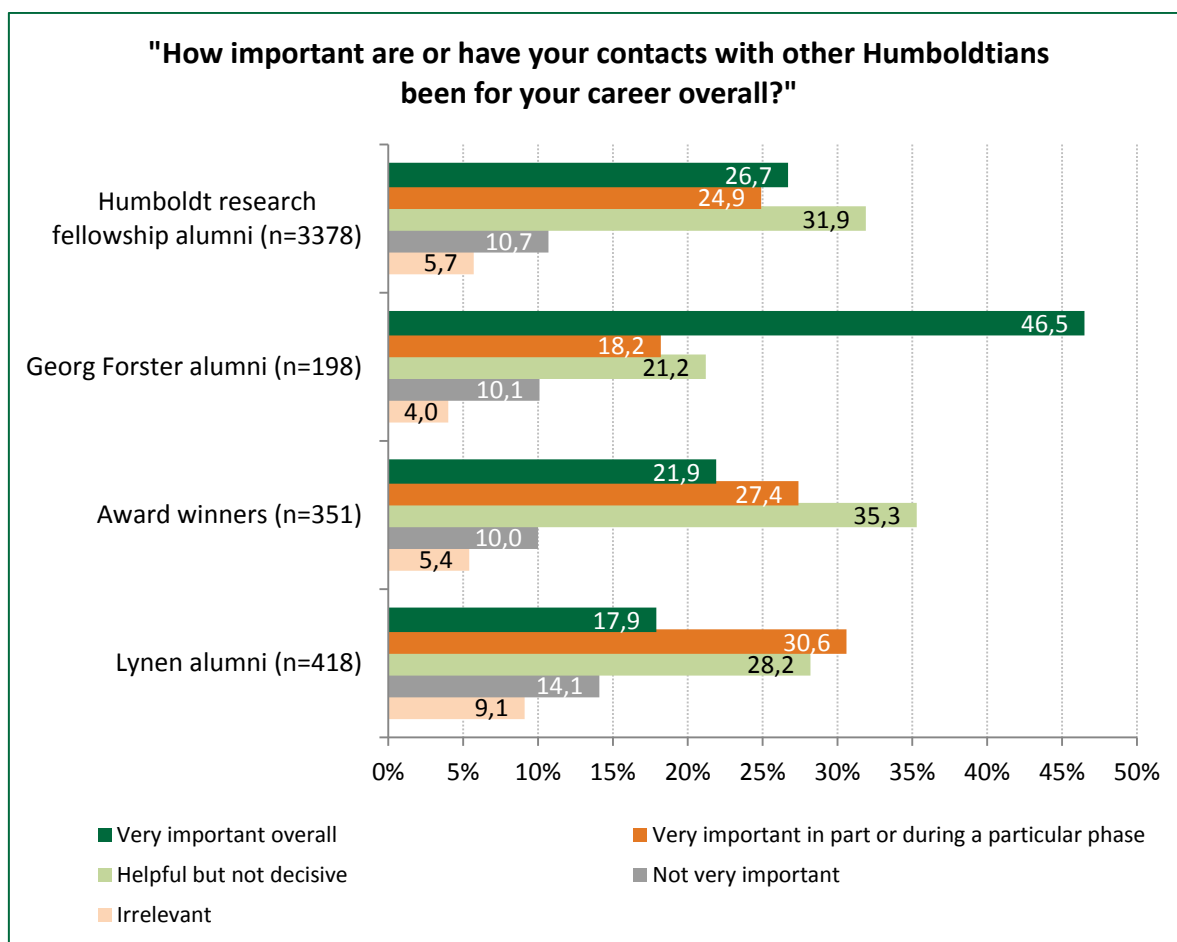
Whilst it can be ascertained that there are many contacts amongst Humboldtians it is not possible to determine the status of these contacts. Alumni were therefore asked to look back on their academic careers to date and to assess how important contacts to Humboldtians had been for the development of their careers. Half of those sponsored under all programmes (51.8%) responded that their contacts with Humboldtians had either been "very important overall" (26.4%) or "very important in part or during a particular phase" (25.4%). In this context, alumni abroad more frequently rated their contacts as "very important overall" (27.3%) than Lynen alumni (17.9%). Only some 16 per cent of alumni abroad and approximately 23 per cent of Lynen alumni rated their contacts with other Humboldtians as "not very important" (alumni abroad: 10.6%; Lynen alumni: 5.6%) or "irrelevant" (alumni abroad: 5.6%; Lynen alumni: 9.1%) for their careers.

Depending on the sponsorship programme, there were significant differences in the answers to this question: almost half of the Georg Forster alumni surveyed (46.5%) stated that for them contacts to other Humboldtians were "very important overall" whilst

¹³¹ In the following paragraph, all the Foundation's alumni are considered (total alumni = alumni from abroad + Lynen).

Humboldt alumni (26.7%), award recipients (21.9%) and Lynen alumni (17.9%) were much more reticent (see Figure 12).

Figure 12: Significance of contacts with other Humboldtians, by sponsorship status (online survey)



The Foundation's networking events

The events organised by the Humboldt Foundation are an important tool for sparking and supporting exchange amongst sponsorship-recipients from the most diverse disciplines and countries. Some of these events, such as networking meetings and the Foundation's Annual Meeting, are usually attended by Humboldtians during their initial research stay. The aim of their participation is help them get to know each other, acquire an image of Germany going beyond the academic sphere and create a good basis for a long-term bond with Germany. Furthermore, these events are supposed to convey the experience of being a Humboldtian, that is, being part of a worldwide network of individuals, based on mutual trust, who are all connected to Germany (see Chapter 5.4.3, p. 106).

Of the 5,075 alumni abroad who participated in the survey, approximately 58 per cent (n = 2,929) stated that they had taken part in one of the Humboldt Foundation's Annual Meetings. Of the 661 participants in the survey who had received a Lynen Fellowship¹³²,

¹³² This figure refers to the entire Lynen group [Lynen with or without hosting function]

273 individuals had already attended this event once or more than once. This equates to 41 per cent of this group.

As participation in one of the Foundation's networking meetings as well as the study tour is only scheduled for fellows, the following focusses solely on this group (n = 4,693): some 83 per cent (n = 3,903) of alumni (abroad) took part in at least one event of this kind. Roughly every fourth individual (24.5%, n = 956) took part in both a networking meeting and a study tour.

Of all the Lynen alumni surveyed (n = 661), approximately 41 per cent had attended one of the Foundation's networking meetings (n = 274) and/or an Annual Meeting (n = 273) respectively.

If one considers the group of award winners who provided information on attending events

(n = 275), it emerges that just below half (476 %) had already taken part in the annual Award Winners' Symposium in Bamberg. Some 22 per cent of award winners had already attended the Bonn Humboldt Award Winners' Forum.

It is of particular interest to ascertain the added value for sponsorship-recipients ascribed to the Foundation's networking events: roughly every three out of four alumni of all programmes agreed with the statement that attending one or more of the events mentioned was personally enriching because they had been able to make contact with other Humboldtians and share ideas in an interdisciplinary environment.

The networking aspects are particularly highly rated by the group of alumni abroad who had concluded their initial Humboldt-sponsored research stay within the previous five years, both with regard to contacts to other sponsorship-recipients and to members of Humboldt Foundation staff. This group also emphasised that the events provided an opportunity to acquire further information about the Humboldt Foundation's sponsorship portfolio.

More than 80 per cent of alumni abroad also agreed with the statement that they felt "part of the Humboldt Family" when attending the events or that their bonds with the Foundation had been strengthened (for additional details see Section 6.2.3). This level of agreement is also slightly higher amongst the groups whose initial sponsorship was relatively recent; the level of agreement drops amongst the older cohorts whose initial sponsorship was granted 16 or more years previously. These results clearly indicate that the greatest success in generating a feeling of belonging to a community of Humboldtians and making important contacts which facilitate access to the network is achieved during and immediately after sponsorship-recipients' initial stay.

Of the group of 1,189 hosts who participated in the survey but who are not themselves Humboldt alumni, approximately 13 per cent (n = 157) had taken part in one Annual Meeting or more; a rather smaller proportion (12%, n = 147) had already attended a

networking meeting. Overall, these two event formats are mentioned most frequently. Hosts consider the Humboldt Foundation's events in terms of personal enrichment as they offer manifold opportunities for sharing ideas across disciplines and strengthen bonds with the Foundation.

6.1.4 Actors with a functional role in the Humboldt Network

Social networks like the Humboldt Network are characterised by a vast number of nodes, and by stronger or weaker links amongst the individuals involved. The scope and density as well as the quality of connections are crucial for the character of the network. In this context, certain individuals who are very well connected can take on the function of nodes and generate ever new ideas and actions.

In the Humboldt Network there are also actors who are more active than most and who are particularly involved in the Humboldt Family and thus in the network. Consequently, these individuals play a functional role in the network. On the basis of certain indicators an effort was made to identify such "actors with a functional role" in the three major sub-groups of Humboldt and Lynen alumni, and hosts.

Actors with a functional role in the group of Humboldt alumni abroad

Amongst Humboldt alumni abroad, the Foundation's Ambassador Scientists have a functional role which makes them central actors in the network as a whole because they work on an honorary basis in their own countries providing advice on Germany as a research location and promoting the Humboldt Foundation's programmes. Moreover, they inform the Humboldt Foundation about new developments in science and research in their own countries and are thus in close contact with the Foundation in this respect, too. Furthermore, alumni who have already hosted a Lynen Fellow and have thus been involved in developing the network can be classified as actors with a functional role as can Humboldtians who independently organise Humboldt Kollegs abroad. By running a Kolleg they help to strengthen regional and specialist networking and to spark the interest of junior researchers in both the Alexander von Humboldt Foundation's sponsorship programmes and in Germany as a location for research. They thus promote existing functions and at the same time help to recruit outstanding new researchers for the network. A further group comprises the members of alumni associations because this is where Humboldtians in a given country come together and foster contacts amongst themselves.¹³³

In the following, the group composed of all these "Humboldt alumni actors with a functional role" will be described in more detail: amongst those who participated in the online survey, it was possible to identify 1,740 individuals who fulfilled the above-

¹³³ It should be noted at this juncture that the points made here merely refer to functional roles which were examined in the framework of the online survey. Activities going beyond this were not considered in the context of the following analysis.

mentioned criteria for “Humboldt alumni actors with a functional role”. This equates to 34.3 per cent of all alumni abroad who responded to the questionnaire. By far the majority of these individuals is male (85.6%), which means that men are somewhat more strongly represented (by 2%) in comparison with the basic population. Almost half of the major actors can be found in the natural sciences (43.7%) and some 30 per cent in the humanities; well behind come the life sciences (13.9%) and engineering sciences (12.9%). These figures reflect the distribution of returns and the basic population fairly accurately. Furthermore, the greater proportion of major actors (91.7%) works in academia.

In comparison with age distribution in the basic population, the major actors are largely to be found in the groups between 46 and 55 years of age (35.7%) and between 56 and 65 years of age (33.6%). At 17.7 per cent, the proportion of under 46-year-olds is rather modest¹³⁴. In purely nominal terms, with 1,485 individuals, the largest proportion of actors considered belongs to the group of Humboldt Fellowship alumni. They are followed at a considerable distance by 131 Georg Forster alumni and 124 alumni of the award programmes. This high proportion of Humboldt Fellowship alumni amongst the “Humboldt alumni actors with a functional role” comes as no surprise as they also constitute the largest group in the basic population and the return rate. If one compares the distribution of the other two alumni groups from abroad with distribution in the basic population it emerges that the group of Georg Forster alumni is rather more strongly represented (see Table 58).

Table 58: Distribution of basic population, return rate vs key actors (by type of sponsorship)

	Basic population N	Percentage of basic population %	Return rate survey n	Percentage of survey %	Key actors	Percentage of key actors %
Georg Forster	564	4.6%	323	6.4%	131	7.5%
Humboldt fellowship	10,686	87.1%	4,370	86.1%	1,485	85.3%
Award winner	1,013	8.3%	382	7.5%	124	7.1%
Total	12,263	100.0%	5,075	100.0 %	1,740	100.0%

With reference to regions of origin it can be seen that, at 43.4 per cent, the largest group of major actors is resident in Europe. This proportion also roughly equates to that of the returns. The second largest group comprises alumni from Asia (26.7%) who are thus slightly in excess of the proportions in the basic population and return rates. Alumni from North America are proportionately less well represented amongst the major actors¹³⁵, whilst the proportion of the groups of alumni from Africa and Sub-Saharan Africa is higher

¹³⁴ In the population and return rate Humboldt alumni are almost equally distributed amongst the three middle age groups. The proportions range from 23 per cent to 31 per cent.

¹³⁵ Given that a large section of Lynen hosts is resident in North America this low proportion is astounding. It should however be noted that status as a host was only one of the criteria for classification as a “central actor”.

in comparison with the returns and the basic population. These individuals are disproportionately frequently active at central points in the Humboldt Network (see Table 59).

Table 59: Distribution of basic population, return rate vs key actors (by region)

	Sub-Saharan Africa	Asia	Australia, New Zealand, Oceania	Europe	Central and South America	Middle East; North Africa	North America	N/n
Basic population	3.2%	25.9%	3.1%	39.5%	4.2%	3.0%	21.0%	12,263
Return rate	3.6%	24.1%	3.2%	44.6%	5.2%	3.5%	15.8%	4,544
Key actors	5.7%	26.7%	4.6%	43.4%	5.8%	3.4%	10.3%	1,615

Lynen alumni with a functional role

The group of “Lynen alumni with a functional role” comprises all current or former Ambassador Scientists as well as researchers who have already hosted Humboldtians several times. The subject specialists who sit or have sat on Humboldt Foundation selection committees were also assigned to this group.

Of the 557 Lynen alumni who participated in the survey, 59 individuals were assigned to the group of actors with a functional role in the network based on these criteria. That equates to a proportion of 10.6 per cent.

In this case, variations in relation to the basic population emerge. It is therefore worth mentioning that most of the central Lynen alumni are male (92%, n = 59) and more than half (58%) are between 46 and 55 years of age (followed by 56-65 year-olds at 25%). Lynen alumni have the option of engaging with the network by joining the “Deutsche Gesellschaft der Humboldtianer” (DGH – German Association of Humboldtians). Altogether, 80 survey participants are thus engaged (19.3% of 414 respondents) (see Section 6.1.6 for DGH).

Hosts with a functional role

The category “central host-actors with a functional role” comprises those who have hosted several times as well as those who are or were also subject specialists on Humboldt Foundation committees. On the basis of these criteria, of the 1,324 hosts who participated in the survey, 306 belong to the group of host-actors, that is, 23.1 per cent. Here, too, the vast majority is male (91.6%) and comes from the natural sciences (50.7%) or humanities and social sciences (25.2%). However, these figures do roughly reflect distribution in the basic population. The only variations occur in respect of age: 42.3 per cent of the central host-actors fall into the 56 to 65 or older age categories (percentage of this group in the basic population: 28.8%). Both in the basic population and in the group of survey participants on the other hand, the 36 to 45 and 46 to 55 age categories are most strongly represented at 37 per cent respectively. Thus there is a disproportionately high number of actors with a functional role amongst the older hosts. This is explained by the

fact that one of the criteria for being assigned to this group was to have hosted visiting researchers several times.

In summary, it can be seen that in the three groups of actors with a functional role under consideration the percentage of natural scientists was greatest. In the group of alumni (alumni abroad and Lynen alumni) the majority of actors are between 46 and 56 years of age; in the group of hosts, the average age is somewhat higher. Georg Forster alumni and alumni from Sub-Saharan Africa feature particularly prominently as actors with a functional – and therefore active – role in the network. Amongst the Lynen alumni and hosts this role is almost exclusively played by men.

6.1.5 Involvement in the network

Humboldtians have many different opportunities to engage with the Humboldt Network. These might involve maintaining contacts within the network, for example, or helping to extend the network by drawing the attention of excellent, new researchers to the Foundation's sponsorship programmes.

The interesting question in the context of this study relates to the form and intensity with which survey participants engage with the network. The aim, furthermore, is to determine the factors that make engaging with the network attractive and the reasons that prevent sponsorship-recipients from becoming involved.

In the broadest sense, networking can mean promoting the Humboldt Foundation and its programmes. In order to ensure that the network remains young and dynamic it is essential that new researchers constantly apply to the Humboldt Foundation for sponsorship. Consequently, it is crucial that alumni help to build the network: after their return from Germany, or in the case of Lynen alumni their return from abroad, they need to draw the attention of other individuals to the Humboldt Foundation's sponsorship portfolio.

The survey participants were therefore asked whether they had informed other people about the sponsorship opportunities and, if so, how many. They were able to select from a number of relevant options. Three-quarters of the 4,732 alumni abroad who answered this question stated that they had already advised or helped one person or more than one person with an application. Such help can be seen as particularly valuable for the network because it constitutes individual support by individuals who know from their own experience exactly which items are crucial to the application and which questions might occur. It is extremely positive that such a large percentage of those surveyed had already been active in this supporting role.

Approximately 38 per cent had already distributed information (e.g. brochures) to draw attention to the Humboldt Foundation's sponsorship programmes. A similar number (32.2%) had presented the Foundation and its programmes during a lecture. Only 6.9 per

cent of alumni abroad explicitly stated that they had not, so far, told anyone about the Foundation's programmes. The response option "other" was chosen by 176 individuals who used the opportunity to write their own answers. Here the majority noted that they repeatedly mentioned the Humboldt Foundation and its sponsorship opportunities in the context of private conversations. One engineer wrote, for example:

I always tell younger colleagues at the Romanian university where I am currently working about my good experiences in Germany and as a Humboldt Fellow, and I offer my support.

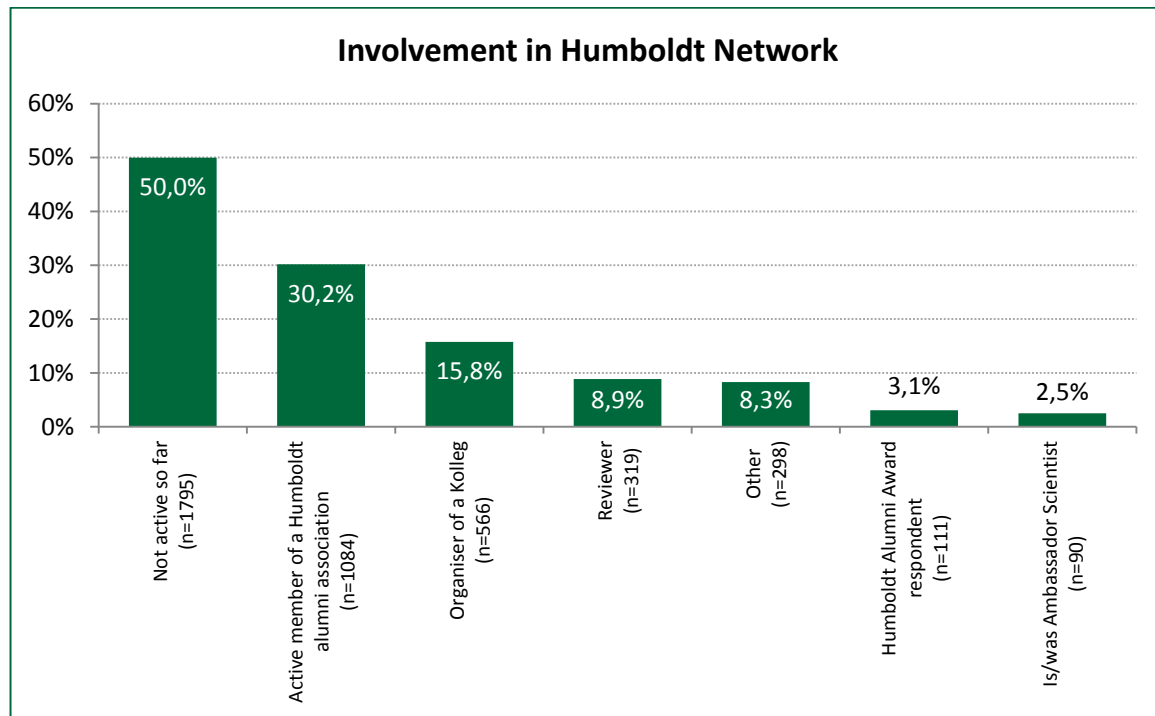
Others noted that they had only recently returned to their own countries and had therefore not yet had an opportunity to become involved in this way.

Of the 415 Lynen alumni (non-hosts), some two-thirds answered the question as to whether they had drawn attention to the sponsorship programmes and/or helped prepare an application in the affirmative. This means that a large proportion of the Lynen alumni have also already provided valuable support in extending the network in this individual way. Just over one in four Lynen alumni (28%) had already drawn attention to the Humboldt Foundation's sponsorship programmes in the context of lectures. Thirty-eight Lynen alumni (9.2%) took the opportunity to add points in the category, "other". In most cases they refer to having drawn attention to the Humboldt Foundation and its sponsorship in private conversations. Fifty-five individuals, that is, 13.3 per cent, chose the response "I have not so far drawn the attention of anyone to the Humboldt Foundation's sponsorship programmes".

In addition to acting as reviewers, hosts can also play a role in supporting the Foundation's purpose by drawing the attention of suitable individuals to the Humboldt Foundation's programmes. Of the 1,255 hosts who responded to the question as to the form in which they had already drawn attention to the Humboldt Foundation's sponsorship programmes (several answers possible), 90 per cent stated that they had already drawn the attention of researchers abroad to the Foundation's programmes: 44.1% had recommended the Feodor Lynen Programme to researchers from Germany and a similar number (41%) stated that they had drawn the attention of potential hosts to the Foundation's sponsorship programmes.

Over and above this important involvement in the broadest sense, Humboltians can also become involved in a narrower sense. This encompasses, on the one hand, fostering contacts to their hosts and other researchers in Germany as well as to other sponsorship recipients, and organising a Kolleg or actively participating in a Humboldt association on the other. Figure 13 presents an overview of the various forms of engagement.

Figure 13: Activity of alumni abroad in the Humboldt Network proper (online survey)



Half of the alumni who answered this question stated that they had not so far participated in any of the activities named (active member of an alumni association, organiser of a Kolleg, reviewer, Humboldt Alumni Award respondent, Ambassador Scientist).

The most common form of involvement is membership of an alumni association. This is followed by organising a Kolleg, which in excess of 500 Humboldtians who participated in the survey had already done. A number of survey participants (n = 298, 8.3%) stated that they had become involved in the Humboldt Network in other ways. The respective answers contain references to participating in Foundation events (particularly Kollegs). Other groups of alumni report on networking in the form of advising colleagues on the Foundation's sponsorship opportunities or encouraging young researchers to apply for one of the Humboldt Foundation's fellowships. One alumnus/-a from the "Natural Sciences" notes, for example:

I always share information about Germany and AvH-Foundation with my young colleagues at my home institute in Russia; I always do my best in order to take part in any alumni meetings, if I get an invitation.

(Humboldt alumnus/-a, Europe, online survey)

Another group of respondents stated that they had previously been active members of a Humboldt alumni club or were still a member of a Humboldt club, but not "active".

What are the advantages of becoming involved in the network from the perspective of alumni abroad? Of the 1,030 individuals who provided information on the benefits of belonging to a Humboldt alumni association, 82.3 per cent agreed that this enabled them

to remain in contact with other alumni. Another large section (78.8%) used their membership to remain in contact with the Foundation.

On the basis of the responses, it emerges that reviewers' motivation for reviewing applications for sponsorship under the Foundation's various programmes mainly lies in their desire to promote junior researchers and to give something back to the Foundation. These two items received the complete agreement of large sections of respondents (promoting junior researchers: 74.6%, n = 211; giving something back to the Foundation: 72.3%, n = 198).

The motivation of alumni who work or have worked for the Foundation as Ambassador Scientists is similar. 85.2 per cent of respondents (n = 69) completely agreed with the statement "(...) *because I would like to give something back to the Foundation*". A similarly large proportion of respondents (82.6%) also confirmed the statement "*because promoting junior researchers is important to me*" without reservation.

Whilst alumni associations are cited most frequently with regard to fostering the network, more active forms of involvement are based, above all, on feelings of indebtedness and gratitude towards the Foundation and/or the desire to do something for junior researchers.

The alumni abroad who stated that they had not so far actively engaged with the Humboldt Network were also asked why. Of the 1,786 survey participants who answered this question – and taking account of multiple answers – half (49.9%) stated that they had not been aware of how they could become involved. 37.3 per cent noted that they had no time for such activity. Only 5.8 per cent, on the other hand, chose the answer "I don't see any added value for me in the Humboldt Network". A further 6 per cent selected the option "other" and took the opportunity to state their own reasons. The latter differ, but three particular reasons were mentioned repeatedly: firstly, all events to date had taken place too far from home or at an inconvenient time; secondly, survey participants stated that they were no longer working in academia and thirdly, that they had not yet been asked whether they would like to become involved and/or that so far no such opportunity had presented itself.

One assumption expressed in conversation with representatives of the Foundation was that participating in one of the networking events – and in particular the Networking Meeting – had a crucial influence on the strength of bonding with the Humboldt Network. Consequently, the following hypothesis was made: when sponsorship-recipients take part in a Humboldt event of this kind they subsequently become much more actively involved in the Humboldt Network than individuals who do not attend one of these events.

Table 60: Correlation between participation in networking events and activity in the Humboldt Network (online survey)

Forms of activity in the Humboldt	Attended Networking	Didn't attend Net-	Attended Annual	Didn't attend	Attended both NeM	Attended neither
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6 – Mapping the Humboldt Network

Network	Meeting (n = 1,379)	working Meeting (n = 2,214)	Meeting (n = 2,136)	Annual Meeting (n = 1,457)	and AM (n = 1,479)	NeM nor AM (n = 1,600)
Member of alumni association	39.7%	24.2%	34.7%	23.5%	42.8%	20.0%
Reviewer	10.4%	7.9%	10.4%	6.7%	11.0%	5.8%
Ambassador Scientist	4.4%	1.3%	3.4%	1.2%	5.2%	0.7%
Helped organise a Kolleg	22.5%	11.6%	19.6%	10.2%	24.7%	7.4%
Responded to call for Humboldt alumni award	3.9%	2.6%	3.5%	2.5%	4.5%	2.6%
Other	8.8%	7.9%	8.3%	8.2%	8.8%	8.0%
No activity to date	38.0%	57.4%	44.4%	58.1%	35.4%	63.5%

Table 60 reveals a clear correlation¹³⁶ between participation in networking events and subsequent activity in the Humboldt Network. Those who have taken part in the Foundation's networking meetings or annual meetings are much more active in alumni associations, as reviewers and Ambassador Scientists, or as (co-)organisers of Kollegs. By contrast, nearly two-thirds of alumni who had not attended either of these two events stated that they had not been actively involved in the Humboldt Network so far.

In order to check whether participating in a networking event can also produce a stronger bond with Germany as a research location, a relevant connection was sought on the basis of an index¹³⁷ of bonds with Germany (see Evaluation Strategy in Appendix II).

This is apparently not the case when it comes to the Networking Meeting: in the group of participants, approximately 35 per cent of alumni (n = 705 out of 2,025) were classified as "individuals with a strong bond with Germany"; in the group of non-participants, on the other hand, the figure was 32 per cent (n = 967 out of 3,050). Amongst all alumni abroad the proportion was 33 per cent (n = 1,672 out of 5,075). Thus no significant difference exists between the groups.

The results are different with regard to the Annual Meeting: whilst some 38 per cent of participants can be ascribed to the group of "individuals with a strong bond with Germany" (n = 1,111 out of 2,929), the proportion of non-participants was only 26 per cent (n = 561 out of 2,146). This difference between the groups is statistically significant (chi-square test).

It appears therefore that participating in one of the Foundation's networking events has a positive effect on the willingness to remain in contact with the Foundation and play an active role in the Humboldt Network. With reference to the bond with Germany, however, no definite connection could be derived, although participating in an Annual Meeting – possibly also in the context of an alumni visit – seems to potentially lead to a more long-lasting memory of Germany which can help to build sustainable contacts.

¹³⁶ With just a few exceptions (e.g. Humboldt Alumni Award), this correlation is statistically significant (chi-square test).

¹³⁷ The indicators used to create this index included, for example, further research stays in Germany, hosting Lynen Fellows, reciprocal visits by researchers from Germany.

Lynen alumni who had not yet become hosts were also asked about their involvement in the network. The majority of those surveyed (56%, n = 232) responded that they had not so far been active in the narrower sense. Still, 27.8 percent (n = 115) had worked as reviewers for the Humboldt Foundation, a considerably higher proportion than in the group of alumni abroad.¹³⁸ With regard to their motivation for this form of involvement most also state that they wished to promote junior researchers (60.4% of 169 respondents agreed completely). The statement *“I decided to engage in this way because I wanted to reciprocate for the sponsorship I received from the Humboldt Foundation”* also elicited a high rate of agreement (58% of 174 individuals). Moreover, many alumni were able to identify completely with the idea that their involvement would contribute to internationalisation (48.2%, n = 81).

The question as to why Lynen Fellows had not been active in the Humboldt Network so far was also most frequently answered – as it was in the case of alumni abroad – with *“I was not aware that I could become involved”*. Of the 232 individuals who responded to this point (multiple answers possible) almost half selected this answer (51.3%, n = 119). This was followed in second place by *“lack of time”* (33.3%, n = 17). The answer *“I don’t see any added value for me in the Humboldt Network”*, on the other hand, was only selected very seldom (6%, n = 14). A comparatively large proportion of Lynen alumni (13.4%, n = 31) took advantage of the opportunity to provide their own answers under “other”. Just as in the case of Humboldt alumni abroad, the most common reason given was that the relevant individuals no longer worked in academia. Others state that they had not yet had opportunities, or only very few, for such involvement. One Lynen Fellow writes, for example: *“Has simply not presented itself so far/no relevant requests received.”* Amongst Lynen alumni, too, the proportion of those (6%, n = 14) who state that they see little added value for themselves in the Humboldt Network in general is very modest.

The group of hosts was also asked about their involvement in the Humboldt Network in the form of working as a subject specialist on one of the Foundation’s committees and/or writing reviews. Here, too, it was interesting to ascertain why they were prepared to give of their time to the Foundation and promote networking by helping to find excellent new researchers.

Nearly 70 per cent (n = 814) stated that they had already worked as a reviewer. Their motivation was also essentially to promote junior researchers: of the 791 individuals who responded to this statement, 78.6 per cent agreed completely. A third of hosts take on this role out of professional interest. Of the 750 hosts who responded, 31.6 per cent completely agreed with the statement *“... because I was interested in the topic of the proposal”*.

¹³⁸ This result seems logical because specialist reviews are largely requested in Germany.

Altogether, 70 (5.7%) of the hosts surveyed stated that they had already worked as a subject specialist on one of the Foundation's committees. The desire to promote junior researchers is the prime motivation here, too (complete agreement: n = 54), followed by the intention to make a contribution to internationalising German science (complete agreement: n = 50). Forty-six individuals agreed with the statement ("agree completely": n=25; "agree": n=21) that they were/had been a member of a Humboldt Foundation selection committee because they appreciated the opportunity to work together with the other committee members.

In the open answers provided by respondents in the context of the questionnaire there are several indications as to what makes the network itself, and thus involving oneself in the network, an attractive proposition over and above the reasons given. The central point made here is that it is a network of excellence and thus a community of people who share common scientific standards. One respondent from Africa, for example, describes the network as *"a community of researchers who strive for excellence, exchange and mutual enrichment."* An alumnus/a from Europe writes that the network stands for *"interdisciplinary work, quality and cooperation as well as for the quality of work achieved by individual researchers who are able to think outside the box"* and is therefore highly valued.

In summary, engaging with the network in the broadest sense means constantly referring to the Humboldt Foundation's sponsorship opportunities in one's own environment and recruiting excellent researchers for its programmes. This can take the form of helping potential candidates with their applications or providing information about the Foundation's programmes during lectures or private conversations with junior researchers. In the context of this involvement, sponsorship recipients ultimately convey a positive image of Germany and constantly promote Germany as a location for research. In this way, the Foundation benefits from a very high level of involvement by the vast majority of alumni at home and abroad as well as hosts in Germany. In the survey, the reasons alumni give for their involvement focus on two points: they wish to express their appreciation and gratitude to the Humboldt Foundation and it is important to them to support junior researchers.

Approximately half of the alumni who completed the questionnaire stated that had not yet become involved in the network in the "narrower sense" proper. The results clearly confirm that the Humboldt Network is basically considered to be attractive, but that the respective alumni have not yet made the effort to become actively involved in the narrower sense.

Moreover, it emerges that participation in one of the Foundation's networking events has a positive effect on the willingness to stay in contact with the Foundation and become actively involved in networking activities.

6.1.6 Alumni associations and Ambassador Scientists

Alumni associations abroad

Section 6.1.5 already addressed the extent to which the various groups of those surveyed participated in the activities within the Humboldt Network.

It emerged that one of the frequent forms of involvement was active membership of one of the Foundation's alumni associations.

Currently, there are 122 associations¹³⁹ of Humboldtians in more than 75 countries across the globe. Alumni associations aim to cultivate a common identity amongst Humboldtians, foster contacts to Germany and the Humboldt Foundation as well as to provide junior researchers with information on Germany as a location for research.

The Foundation itself supports alumni associations by posting contact details on its website and providing a raft of information on topics like current programmes for fellows and alumni, and disseminating the Annual Report and the Foundation's magazine, "Kosmos". Financial support is available for organising Kollegs and, at regular intervals, representatives of alumni associations are invited to take part in the Foundation's strategic networking events.

In return, Humboldt associations submit activity reports which detail recent activities, though not in a uniform format.¹⁴⁰ The reports list the activities that are undertaken to foster contacts within the respective country as well as between associations, which often cooperate closely with the Foundation's local Ambassador Scientists.

Some of the activities described in the reports serve to illustrate the activities in general:

- making contact with all Humboldtians in the country; establishing and maintaining a data base
- creating and developing own websites
- organising Kollegs
- organising lectures and information events for junior researchers
- regularly running annual meetings
- building and fostering contacts to representatives of governments and embassies as well as to (German) science organisations

However, not all of these associations are active and report regularly on their activities by any means; in some cases there has been no contact at all for several years and/or no information is available about meetings or events that have taken place.

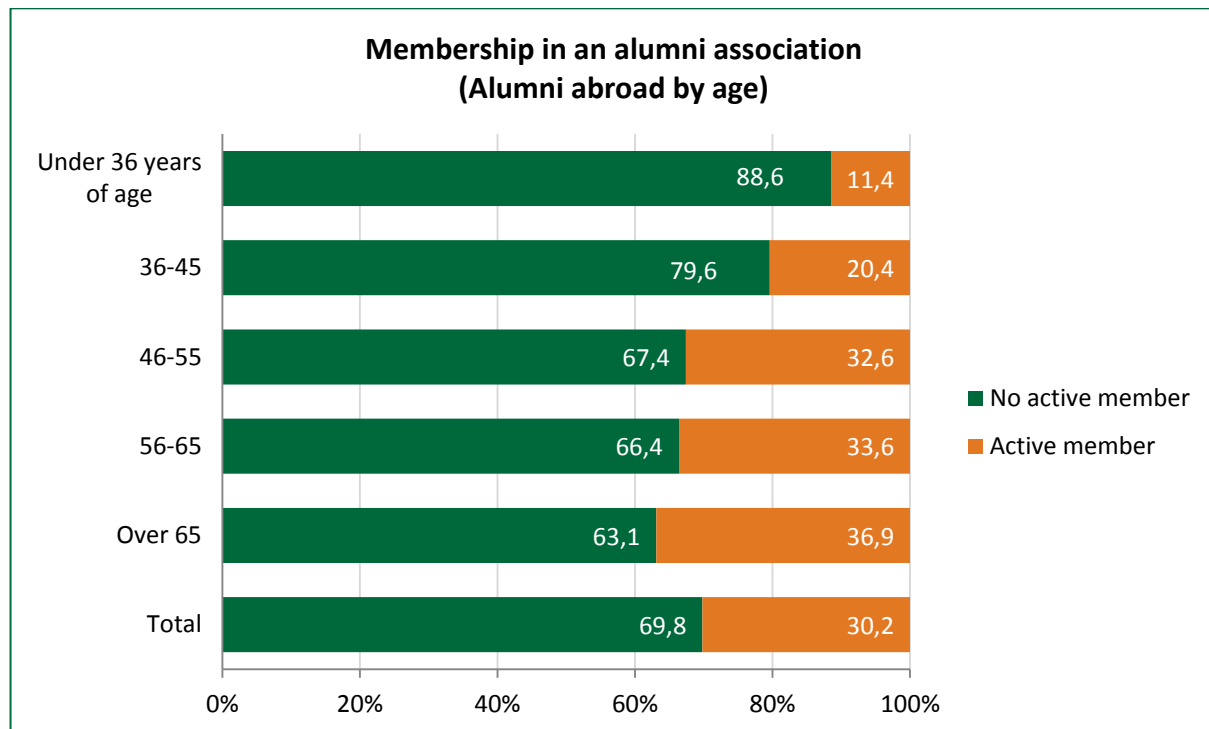
¹³⁹ Including three supraregional associations, e.g. the Alexander von Humboldt-Maghreb Alumni Association

¹⁴⁰ Keyword information taken from these reports is available in the form of tables.

Reading between the lines of some activity reports it emerges that serious problems on the operative level often have to be tackled because, for example, there is no current data base of addresses and/or no comprehensive information about Humboldtians in the respective country.

Some responses ensuing from interviews and open questions suggest that activity in alumni associations is frequently very strongly dependent on just one individual or a handful of highly-engaged research personalities. When this central person resigns or dies the association's activities tend to cease as well. Related to this is a general generational problem because many alumni associations lack younger members. This is confirmed by the results of the online survey: amongst younger researchers, the percentage of those who stated that they were involved in the network in this way was lower than that of older colleagues (see Figure 14).

Figure 14: Membership of alumni abroad in an alumni association by age (online survey)



Alumni associations can certainly play an important role in fostering and extending interaction within the Humboldt Network. However, when it comes to operative problems the Foundation is frequently unable to intervene. In order to prevent the age structure from becoming even more top heavy it would certainly be recommendable to enhance the attractiveness of membership so that junior researchers can also be recruited for networking activities. The evaluations presented in Section 6.1.5 have already shown that the most important motivation for involvement in an alumni association is to maintain a connection with the Foundation and other alumni in the area. In future, greater attention could be drawn to these advantages.

Alumni association in Germany

Of the Lynen alumni who participated in the survey only about a fifth (19.3%, n = 80) is active in the *Deutsche Gesellschaft der Humboldtianer* (German Association of Humboldtians, DGH)¹⁴¹. Involvement is somewhat more pronounced with regard to providing reviews (see Section 6.1.5). Once again, alumni state that they were motivated by gratitude and bonds with the Foundation: some 90 per cent agreed completely or largely with the statement that they had decided to become involved in order to show their gratitude to the Humboldt Foundation.¹⁴²

All in all, the Humboldt Foundation is very interested in supporting the “Network Germany” in order to enhance its presence in Germany and the German research landscape as well as to achieve stronger networking with scientific institutions in Germany. The activities of the DGH and its associated regional groups are particularly appropriate for this purpose.

The *Deutsche Gesellschaft der Humboldtianer e.V.* was founded in 2007 in Kassel with the aim of becoming a “forum for the Humboldt Family in Germany”. This family embraces all the researchers selected by the Humboldt Foundation together with long-serving hosts and members of selection committees.

The aim of the association is, on the one hand, to intensify exchange between the various groups and support one other (e.g. in integrating Humboldtians from abroad and re-integrating German Humboldtians) and, on the other, to foster dialogue with the Foundation as well as with other alumni associations across the world. In addition, the association also seeks to “engage with society and its constant changes.” (Source: www.humboldt-club.de).

There are now some 13 regional groups with a current total of approx. 250 members who meet at regular intervals. Since 2008, the DGH has also organised an annual meeting which is attended by representatives of the Foundation as well.

Lectures are also held as well as other meetings of a rather more informal nature. In 2013, for example, a total of 21 events were organised. In some cases, the association cooperates with the International Offices at German universities, an example being the so-called “Humboldt Days” which are regularly held at Karlsruhe Institute of Technology (KIT).

¹⁴¹ Of the group of Humboldtians who have remained in Germany only those who have already been a host were surveyed. Of these 26 individuals, nine stated that they were members of an alumni association. It cannot, however, be precisely determined whether this referred to the DGH or an association in the alumni’s own countries.

¹⁴² Only promoting junior researchers elicits a similar level of motivation (see Section 6.1.5).

In general, it is a challenge to continue making the Network Germany attractive for its members because, in contrast with the alumni network abroad, there is no connecting thread in terms of content.

So far, networking activities have thus concentrated on the regional level. In this context, one of the objectives is still to improve information sharing between the groups, the board and the members and to communicate the regional groups' dates on the website.¹⁴³ The DGH Annual Meeting in 2013 determined that there was insufficient or insufficiently effective public outreach with regard to the activities of the DGH and regional groups; in future this should be addressed specifically by seeking an individual to take on the role of press officer.

Since 2006, so-called "Alumni Roundtables" have taken place at the Foundation's Annual Meeting. In addition to alumni in Germany¹⁴⁴, from 2010 to 2012, they involved subject specialists and representatives of the DGH as well as Ambassador Scientists¹⁴⁵. For financial reasons this extension of the group of participants has been discontinued for the time being.

The reports that were evaluated in the framework of this study reveal that the participants rated the mixture of junior researchers and experienced academics as highly successful because, amongst other things, it facilitated exchange across the different selection committees.

In addition to current programme information provided by Foundation representatives, the event format included a discussion in subject groups. In 2008, other alumni in Germany (largely Humboldt Research Fellows) took part for the first time, a development that was welcomed by the participants and seen as an invigorating element. The Humboldt Fellowship alumni even suggested holding a separate meeting for those alumni who had "stayed behind" in Germany to discuss and share ideas on their particular situation and experiences. So far, this suggestion has not been followed up.

Ambassador Scientists abroad

The motivation of those who stated that they had already taken on the role of an Ambassador Scientist for the Foundation was similar to that of those who had decided to join an alumni association. A total of 90 alumni abroad as well as three Lynen alumni who responded to the survey reported on this form of involvement. They claim to be motivated, in particular, by gratitude and commitment to the Foundation's goals as well as by the desire to promote junior researchers in their own countries (see Section 6.1.5).

¹⁴³ This was decided in 2012 in Freiberg during the workshop for regional group spokespersons.

¹⁴⁴ Alumni in Germany are invited to the Annual Meeting if they are appointed to a professorship and/or six years after sponsorship has come to an end.

¹⁴⁵ For financial reasons Ambassador Scientists have not been invited since 2012

Ambassador Scientists work in an honorary capacity for a period of three to six years. The task of these “ambassadors” is to disseminate information on Germany as a location for research as well as on the Foundation’s sponsorship programmes and international network. Furthermore, they play an important bridging role as they act both as local contacts for the Humboldt Foundation and other funding organisations as well as for embassies. Ambassador Scientists are almost always active in their countries’ alumni associations as well or even hold the chair. According to the data on the Foundation’s website, 48 Ambassador Scientists were active in 38 countries at the time of the survey.¹⁴⁶

The Humboldt Foundation supports these researchers by providing information materials such as brochures and electronic media (e.g. the “Humboldt Lecture”), by providing information on Germany as a research location and by drawing up statistics and contact information on Humboldtians in their countries as required. In return, the Foundation expects them to submit an annual activity report listing the activities undertaken in the previous year as well as the contacts made. In addition, the Foundation is grateful for reports on the state of the local research landscape and information on concomitant problems as well as for conveying any ideas and suggestions for improvement.

For the purposes of this study, a sample of 58 reports submitted by 32 Ambassador Scientists were evaluated.

The activities described focus, above all, on informing junior researchers about the Humboldt Foundation’s programmes and participating in and organising events, often in cooperation with representatives of the DAAD, DFG, Goethe Institute or embassies. Furthermore, those interested in the sponsorship programmes receive personalised advice. Other focus areas include developing data bases and address lists as well as establishing and maintaining websites.

For the Foundation itself, Ambassador Scientists are very important local contacts, for example in organising events or providing contacts. Moreover, they advise the Foundation on the basis of their specialist and regional expertise on issues like developing new sponsorship programmes or realigning existing ones. They thus play an important role as “nodes” in the network.

Examples of the many networking activities carried out by Ambassador Scientists at local and regional level can be found in the reports:

I participated in official activities (seminars, meetings, lunches) in Santiago de Chile with authorities of the German Government (BMBF), the Alexander von Humboldt Foundation itself, and directors or commissions of the most relevant universities and research institutions of Germany visiting Chile or my university

¹⁴⁶ In some countries, particularly large territorial states like Brazil and India, several Ambassador Scientists work for the Foundation.

at home (i.e. DAAD, DFG, International Relations offices of 15 German universities).

(Ambassador Scientist, South America, report)

I have, in collaboration with my colleagues and friends from the Baden-Württemberg Cooperative State University, the University of Cape Town, the Kenyatta University and the United Nations University Bonn, [...] obtained a DAAD grant of about 175.000 euros for the building of capacity of lecturers of the University of Yaounde I, the Kenyatta University and the University of Cape Town in the production and diffusion of elearning educational resources. This project is called elearning for the University of Yaounde I. This project allows interaction among Humboldtians, selection of valuable junior scientists and also builds capacity of Humboldtians, making them models in our university. This is also very good advertising for Humboldt and Germany.

(Ambassador Scientist, Africa, report)

The DFG has a research station in Loja, Ecuador, and there are now approx. 100 scientists working there, focusing on biodiversity and climate research. We already had close contact with the former head of the focus area [...] in order to develop joint research initiatives between the Loja Station, Ecuador, and our station in Tambopata. We are now trying to extend the contacts, possibly by including the GTZ and researchers from other Peruvian universities, and hoping to make our scientific station in Tambopata the centre of a DFG research initiative in Peru. In this context, the activities of scientists at both stations and in both initiatives should be closely connected.

(Ambassador Scientist, South America, report)

In 2009, regional and supraregional collaboration amongst Humboldtians proved to be very interesting. In connection with the Humboldt Kolleg in Helsinki in October 2009 [...], not only did the Finnish and French Clubs become better acquainted but even the Embassies of the Federal Republic and the Republic of France discovered new forms of cooperation. The Embassies in Estonia will help to organise the Humboldt Kolleg scheduled to take place in Tallinn in 2010.

(Ambassador Scientist, Europe, report)

I made contact with the DAAD [...], based in Sydney at The University of Sydney and had several meetings with him regarding establishing a mentoring scheme for young researchers in Australia with mentoring by senior members of the AAvHF and the DAAD (NB. scheme successfully launched in 2011). I also discussed with him the idea of a joint DAAD/AAvHF session at the AAvHF meeting in September 2011 with invited DAAD alumni. I believe that working more closely with the DAAD in Australia will raise the profile of the AvHF, as the DAAD is much more widely known in Australia than the AvHF.

(Ambassador Scientist, Australia, report)

However, cooperation with other actors in the field of German foreign science policy apparently does not always run so smoothly:

If I were to make a recommendation it would be for closer cooperation between the Humboldt Ambassador Scientists and those of the DFG and DAAD as well as with the local Germany Embassy and/or more effective networking of all alumni in the sense of the 2009 Foreign Science Policy Initiative.

(Ambassador Scientist, North America, report)

I worked together very closely with [...] (First Secretary - Scientific Cooperation, Embassy of the Federal Republic of Germany). I took part in many activities which he organised. We jointly received various high-ranking delegations from the DFG and DAAD. At the end of 2011 [...] returned to Bonn and since then I have unfortunately not had any contact with his successor.

(Ambassador Scientist, Asia, report)

In January 2009, the Foundation organised a conference entitled, “Bonds of Trust – Germany Alumni in Tomorrow’s World” which included a meeting of all current Ambassador Scientists. One of the aims was to create the basis for exchange amongst these central figures in the Humboldt Network.

I also had the opportunity to get to know some of the other African “Vertrauens- wissenschaftler” who attended the conference, inter alia Prof. [...] (Cameroon) and [...] (Nigeria). We discussed the possibility of further networking on the African continent.

(Ambassador Scientist, Africa, report)

However, in some cases, there still seems to be potential for developing this exchange further as the following quotation from an Ambassador Scientist in Asia reveals:

Communication and exchange of information and activities among Humboldt Ambassador Scientists were conducted through emails. Currently, the activities are still limited to giving information on activities of our respective countries to other Humboldt Ambassadors in other countries. Efforts are being made to pave the way for collaboration, invitations to attend international seminars, and discussion on research issues which are developing.

(Ambassador Scientist, Asia, report)

Many Ambassador Scientists also foster close contacts with universities and scientific institutions in Germany or try to establish them:

In the Archaeology Department we have a Research Group Linkage between the Archaeological Institute at Sokhumi State University and the German Archaeological Institute in Berlin, financed by the Humboldt Foundation. My German partner and colleague [...] and I jointly mentor German and Georgian junior researchers [...].

(Ambassador Scientist, Europe, report)

In April 2009, I did a personal visit to the Fraunhofer Institute in Aachen, invited by the Director [...], to explore potential collaborations with our home university in Chile. This was in the context of the new office that the Fraunhofer Institute opened in Chile during 2009, to extend research collaborations with Latin America.

(Ambassador Scientist, South America, report)

The reports often contain suggestions for improving the support given by the Foundation to promote the work of Ambassador Scientists. Here are some examples:

I could imagine, for example, that one-day workshops for Ambassador Scientists every two to three years in Bonn would be meaningful. They would optimise the work of Ambassador Scientists and also extend the networking amongst Ambassador Scientists from different countries (synergy effects). If organising workshops is too complex, perhaps the Ambassador Scientists could be invited to the Foundation's Annual Meetings so that they can share ideas and inform one another about their work.¹⁴⁷

(Ambassador Scientist, Europe, report)

I recognise that the aim to have more up to date information about the alumni in each country is work more related to the local Humboldt Clubs, if they exist in the country. But maybe, the AvH-Foundation could help in this in some form, just sending a message from abroad to the local alumni every year inviting them to update the information. This has been done by the AvH-F [American Friends of the Alexander von Humboldt Foundation], but apparently not in a regular form. It would be of help also to have an historical list of deceased and retired alumni.

(Ambassador Scientist, South America, report)

I should certainly like to emphasise how important business cards are for Ambassador Scientists, especially in English-speaking countries where the title "Ambassador Scientist" is very useful and effective.

(Ambassador Scientist, North America, report)

My presentations and other activities usually take place in [...] where I live. Outside the area [...] I can only organise things occasionally if I attend certain conferences. But this does not happen very often. If the Foundation is satisfied with such a restricted radius, it's ok with me. However, if the Foundation expects Ambassador Scientists to hold lectures and organise activities in various academic centres across the country that are a long way from one's own place of residence, they would need to provide the requisite travel expenses.¹⁴⁸ It would be better if Ambassador Scientists received more detailed information on applications from their own people so that they can see whether their efforts are bearing fruit and where they need to try harder.

(Ambassador Scientist, Asia, report)

The Ambassador Scientists appointed by the Humboldt Foundation in Germany are supposed to advise the Foundation on programme development and on current developments in the German science system as well as certain subject areas. The group has already met twice in connection with the Foundation's Annual Meeting in order to promote exchange and cooperation at regional level.

¹⁴⁷ This was implemented for the first time in 2013 in the context of the Annual Meeting and greatly appreciated by those who took part. So far, it has not been repeated.

¹⁴⁸ This is now possible but was perhaps not widely known at the time of compiling the report.

However, for financial and human resources reasons, the Foundation's activities in this area have been put on ice for the last couple of years. And hardly any activities have taken place at the universities themselves. This may be due to the fact that the researchers chosen for this office are so high-ranking that they have no time to organise their own activities. On request, they are available to hold lectures.

The results of this section clearly demonstrate that alumni associations and especially Ambassador Scientists abroad are able to play a high-profile role in developing and maintaining relationships within the Humboldt Network. Whilst alumni associations are especially active in networking the group of Humboldtians in the particular country, the Foundation's Ambassador Scientists abroad are particularly involved in advising and supporting junior researchers. By cooperating with other actors in German foreign science policy and fostering contacts with institutions in Germany they can, moreover, assume an important role as nodes in the network. Many Ambassador Scientists would, however, welcome more intensive exchange both amongst themselves and with the Foundation as well as improved logistical support for their activities in their countries in the form of financial allowances. In the last few years, a development has taken place in this context involving flanking measures¹⁴⁹, which were possibly not generally known about at the time of compiling the reports evaluated. It should, however, be noted that there seems to be some uncertainty amongst Ambassador Scientist about their role in the network.

6.1.7 Summary

The results of the online survey demonstrate that the Humboldt Network is a network in the true sense of the term: close and loose contacts exist both amongst Humboldtians and between Humboldtians and researchers in Germany. In the majority of cases they tend to be academic rather than personal. Generally, contacts to Germany enjoy a high status amongst those surveyed. This is demonstrated by the fact that the most important collaborative partners of alumni abroad are often to be found in Germany. Moreover, the majority of alumni rate their contacts to Germany as very significant for their professional careers and thus assign them a very high personal status. According to their answers, alumni of the Georg Forster Fellowship Programme as well as alumni from Africa, the Middle East and Asia all demonstrate particularly strong bonds with Germany and the Humboldt Foundation.

Furthermore, the results presented clearly reveal that the Humboldt Network is an active network. Not only have half of those sponsored subsequently returned to Germany for an extended research visit (>1 month) but a similar number of Humboldtians has already invited a researcher from Germany to their own institutions on a reciprocal visit.

¹⁴⁹ In the form, for example, of so-called "Welcome Packages" containing a variety of information and brochures.

Networks stay attractive if they constantly expand and renew themselves. It is therefore essential that committed members of the Humboldt Network publicise the Foundation and its programmes worldwide and thus draw the attention of other outstanding researchers to the sponsorship opportunities. By far the majority of alumni at home and abroad as well as hosts do indeed exhibit this important commitment.

Making a comparison of the three groups (alumni abroad, hosts, Lynen alumni) it emerges that the Humboldt Network is most significant for alumni abroad, whereby there are indications to suggest that it is particularly important for survey participants in Africa, Asia, Central and South America as well as the Middle East and less important for those in Australia, New Zealand, Europe and North America.

6.2 The Humboldt Foundation as an actor in strengthening the network

As already described in section 6.1, the Humboldt Foundation's alumni activities successfully help to maintain long-term relations with sponsorship-recipients in accordance with the motto "Once a Humboldtian – always a Humboldtian."

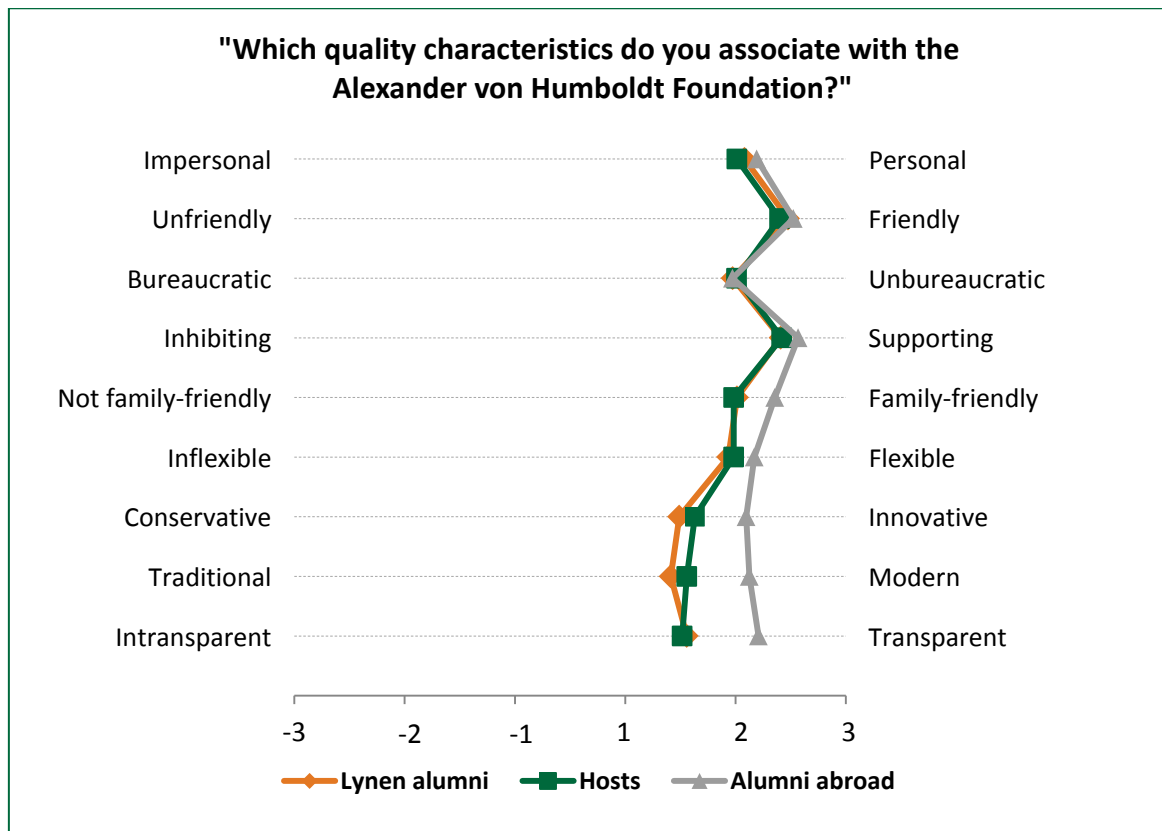
In the networking activities taking place between Humboldtians and hosts as well as with other (junior) researchers the Humboldt Foundation sees itself in the role of a catalyst. It tries to promote sustainable networking in various ways and thus to strengthen the Humboldt Network. Individual mentoring and esteem are the vehicles for building an emotional bond with the Foundation and the network of Humboldtians, which generates a feeling of belonging ("family feeling") based on trust. It is therefore interesting to discover how sponsorship-recipients view the Humboldt Foundation, how they perceive the Humboldt Network and what personal benefits they draw from belonging to it. In this context the question was posed as to the importance of the Humboldt Network for its members with regard to various activities in comparison with other networks.

6.2.1 Polarity profile of the Humboldt Foundation

Figure 15 illustrates how sponsorship-recipients rate the Foundation with regard to certain quality characteristics. Those participating in the survey were asked to evaluate certain attributes associated with the Foundation. With the aid of their responses a so-called "semantic differential" or polarity profile was drawn up, which is presented in the following figure.¹⁵⁰

¹⁵⁰ For this purpose the survey participants could use a six-point scale from +++ to ---.

Figure 15: Polarity profile of the Humboldt Foundation from the respondents' point of view (online survey)



All the ratings fall within the positive range of the scale; there are only marginal, but nevertheless noticeable differences between the three groups.

It clearly emerges that alumni abroad rate the Foundation more positively with regard to some of the attributes than respondents representing Lynen alumni and hosts. This is particularly true of the attributes “modern”, “innovative” and “transparent”, which are the same attributes that are associated less frequently with the Foundation overall. With regard to the attributes “personal”, “friendly” and “supportive”, however, researchers in all groups are largely in agreement.

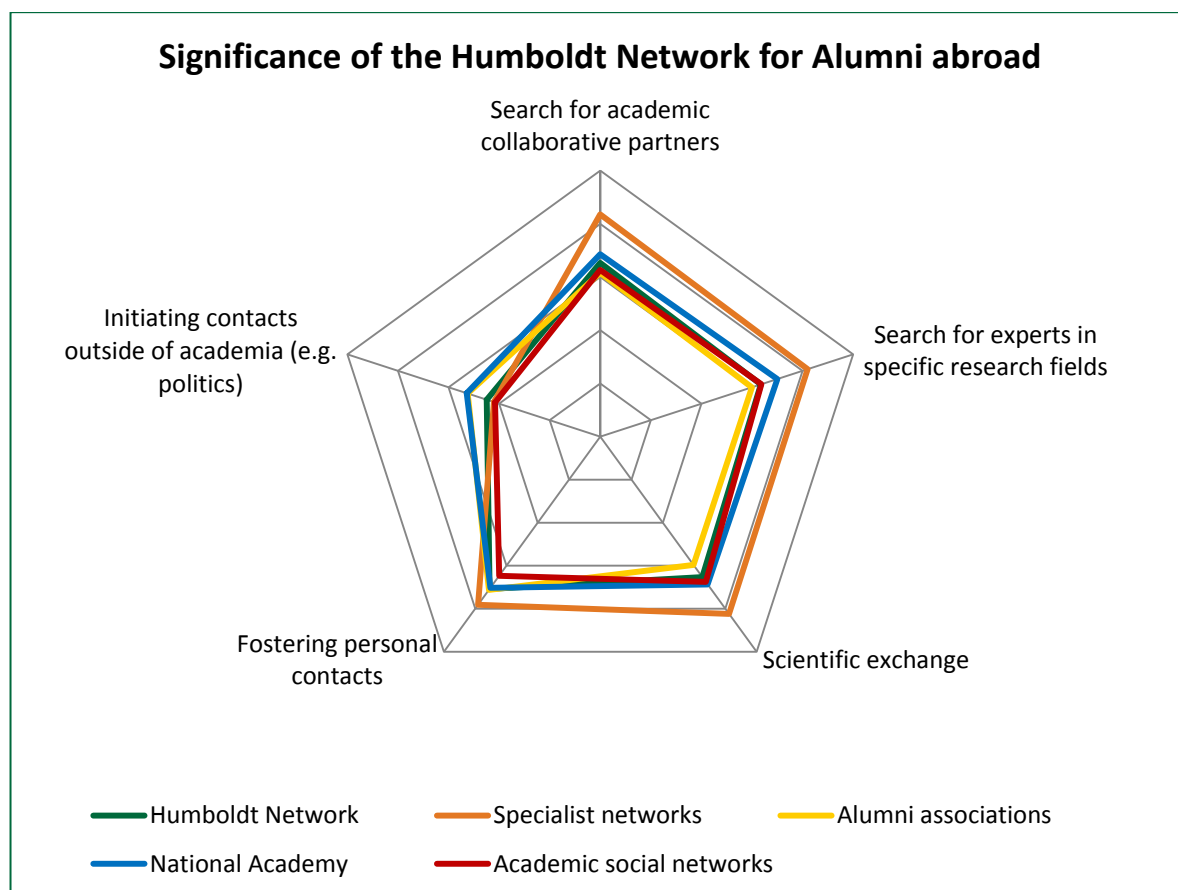
6.2.2 Significance of the Humboldt Network for those surveyed

Researchers usually foster a raft of scientific networks. In the context of the study it was therefore of interest to investigate how much significance was assigned to the Humboldt Network with regard to certain activities and how it was rated in comparison with other scientific networks. Survey participants were asked to rank the significance of five different activities in the Humboldt Network on a scale from 1 (very significant) to 6 (insignificant): “Search for academic collaborative partners”, “Search for experts in specific research fields”, “Scientific exchange”, “Fostering personal contacts”, “Initiating contacts outside of academia (e.g. politics)”. The results for the various groups surveyed are

presented in the following figures with the aid of a spider chart; the scale from 1 to 6 runs from the outside inwards¹⁵¹.

Taking the group of Alumni abroad first of all, it emerges that for them “fostering personal contacts” is the most important activity in the Humboldt Network, followed in almost equal importance by “scientific exchange” and “search for collaborative partners”; the least importance is attributed to “initiating contacts outside of academia (e.g. politics)” (see Figure 16)

Figure 16: Significance of the Humboldt Network compared to other networks amongst alumni abroad (online survey)



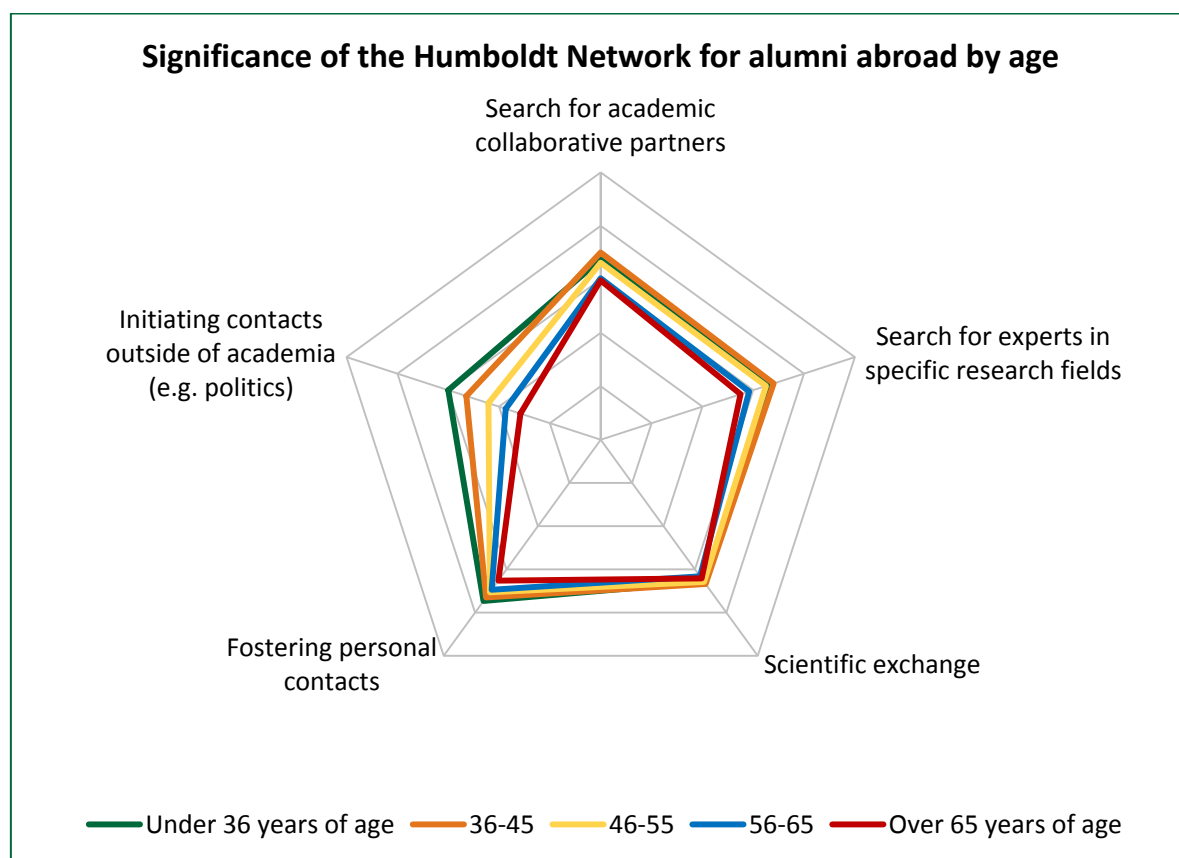
If one compares this assessment of the Humboldt Network with the evaluation of other networks, it emerges that amongst the group of alumni abroad, alumni associations (e.g. of universities and other funding organisations), National Academies (e.g. National Academy of Sciences, Royal Society) and academic social networks (e.g. Research Gate, Academia) are largely rated similarly with regard to their significance. Only the assessment of specialist networks (e.g. learned societies, collaborative networks, conference networks) differs noticeably from those of the other networks: for alumni in all fields – with the exception of initiating contacts outside of academia (e.g. politics, business) – they are of greater significance (see also Table 61, p. 176).

¹⁵¹ An overview of the relevant average values by survey group can be found in Table 61, p. 174.

A comparison of the different assessments of the significance of the Humboldt Network by age reveals that, with regard to the activities stated, it is apparently most significant for younger alumni but gradually becomes less significant with age. This trend is most obvious with reference to “initiating contacts outside of academia” (see Figure 17).

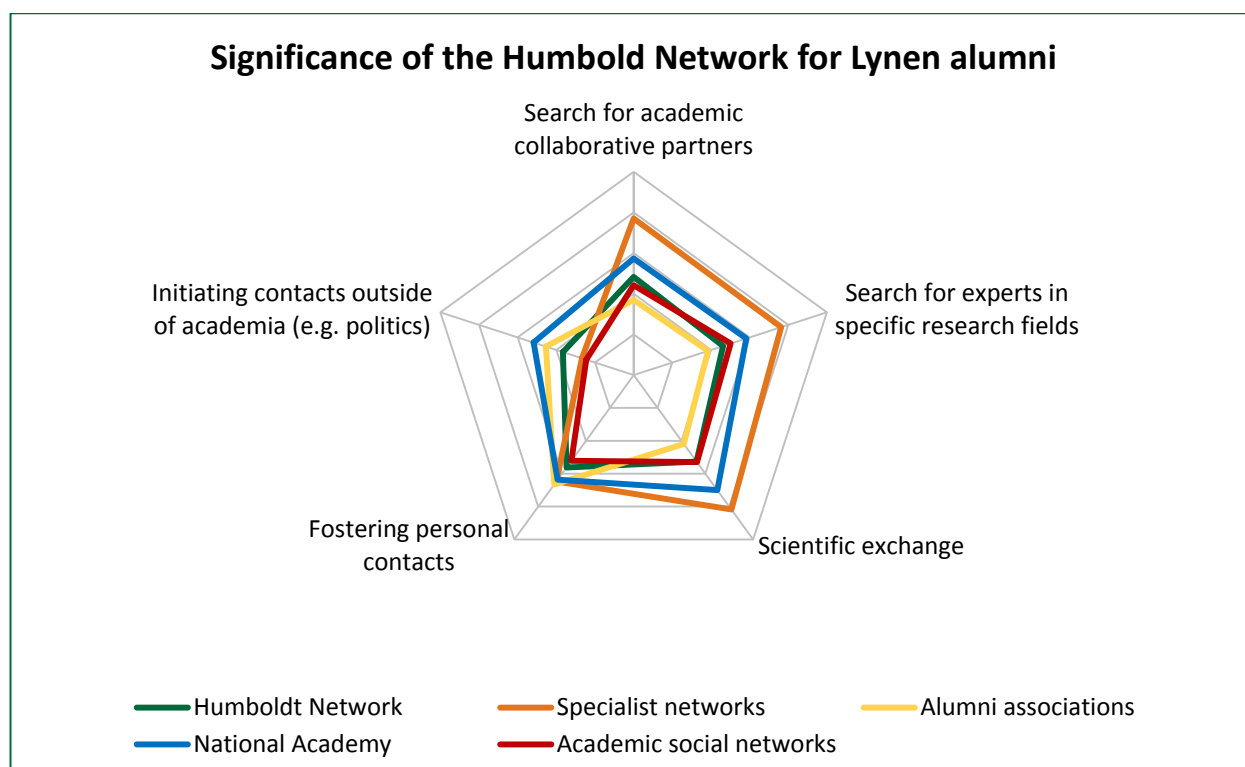
Whilst Humboldt alumni below the age of 46 involve themselves less in a functional role (such as Ambassador Scientist, organising a Kolleg etc.) at this early stage of their careers (see Section 6.1.4), they certainly make greater use of the Humboldt Network for actively pursuing their own goals, such as searching for academic collaborative partners.

Figure 17: Significance of the Humboldt Network for alumni abroad by age (online survey)



Comparing the assessments of the survey groups of Lynen alumni and Hosts it emerges that here, too, “specialist networks” are assigned the greatest significance (see Figure 18 and Figure 19 as well as Table 61). Both groups see the Humboldt Network as having the greatest significance for “fostering personal contacts”, followed, as was the case with alumni abroad, by “scientific exchange”.

Figure 18: Significance of the Humboldt Network compared to other networks for Lynen alumni (online survey)



When comparing the spider charts in Figures 18 and 19 it is noticeable that hosts' and Lynen alumni's assessments of the significance of the networks differs considerably from that of alumni abroad. The charts for hosts and Lynen alumni, by contrast, are similar.

In all areas, the Humboldt Network is seen as less significant by Lynen alumni than by alumni abroad. Hosts, for their part, consider the Humboldt Network to be more significant for the activities "scientific exchange" and "fostering personal contacts" than Lynen alumni do. For the "search for experts in specific research fields" and "initiating contacts outside of academia", on the other hand, they rate the Humboldt Network as less significant by comparison.

For Lynen alumni the "National Academies" are more important networks for the activities named than the Humboldt Network. "Alumni associations" are only considered more important with reference to "fostering personal contacts" and "initiating contacts outside of academia". "Academic social networks" are rated by all the Lynen alumni surveyed as not particularly significant in nearly all respects.

In the case of hosts, after "specialist networks", the "National Academies" come in second place for most of the activities named. Much less significance is ascribed to "alumni associations"; where they are used it tends to be for "initiating contacts outside of academia" and fostering personal contacts.

Figure 19: Significance of the Humboldt Network compared to other networks for hosts (online survey)

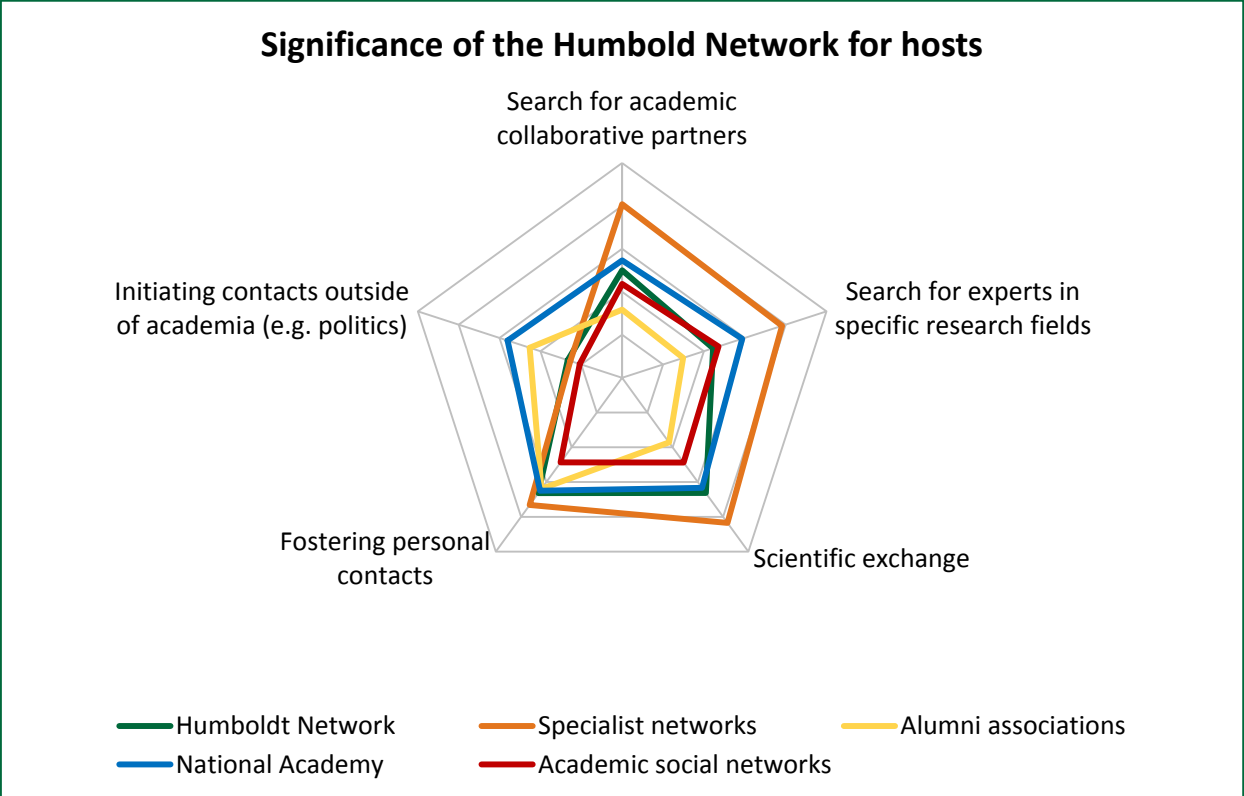


Table 61: Assessment of academic networks with regard to specific activities (indicated in mean values) (online survey) ¹⁵²

Assessment of academic networks with regard to specific activities			Search for academic collaborative partners		Search for experts in specific research fields		Scientific exchange		Fostering personal contacts		Initiating contacts outside of academia	
Humboldt Network	Alumni abroad	(n=3,053-3,849)	(n=3,849)		(n=3,729)		(n=3,783)				(n=3,053)	
	Lynen	(n=352-449)	2.73	(n=439)	2.82	(n=434)	2.74	(n=443)	2.46	(n=3,805)	3.75	(n=352)
	Hosts	(n=810-1,010)	3.59	(n=977)	3.68	(n=941)	3.37	(n=1,010)	3.19	(n=1,002)	4.17	(n=810)
Academic networks	Alumni abroad	(n=2,430-3,076)	(n=3,076)		(n=2,997)		(n=3,004)				(n=2,430)	
	Lynen	(n=297-356)	1.82	(n=356)	1.90	(n=349)	1.88	(n=354)	2.09	(n=2,959)	3.90	(n=297)
	Hosts	(n=774-945)	2.15	(n=945)	2.18	(n=930)	1.91	(n=941)	2.76	(n=931)	4.66	(n=774)
Alumni associations	Alumni abroad	(n=1,249-1,482)	(n=1,482)		(n=1,437)		(n=1,431)				(n=1,249)	
	Lynen	(n=103-116)	2.92	(n=112)	3.00	(n=109)	3.02	(n=111)	2.44	(n=1,457)	3.38	(n=103)
	Hosts	(n=241-278)	4.15	(n=275)	4.07	(n=267)	3.90	(n=270)	2.67	(n=278)	3.73	(n=241)
National Academies	Alumni abroad	(n=788-942)	4.41	(n=942)	4.51	(n=916)	4.14	(n=910)	2.81	(n=898)	3.74	(n=788)
	Lynen	(n=17-24)	2.57	(n=23)	3.09	(n=23)	2.57	(n=24)	2.49	(n=22)	3.36	(n=17)
	Hosts	(n=158-180)	3.13	(n=180)	3.06	(n=175)	2.83	(n=175)	2.82	(n=177)	3.41	(n=158)
Academic social networks	Alumni abroad	(n=1,214-1,541)	(n=1,541)		(n=1,495)		(n=1,511)				(n=1,214)	
	Lynen	(n=141-171)	2.87	(n=167)	2.82	(n=167)	2.62	(n=168)	2.76	(n=1,481)	3.92	(n=141)
	Hosts	(n=325-381)	3.79	(n=381)	3.49	(n=372)	3.35	(n=375)	3.39	(n=381)	4.77	(n=325)

¹⁵² Respondents were asked to rate the significance of the various options on a scale from 1 (very significant) to 6 (insignificant).

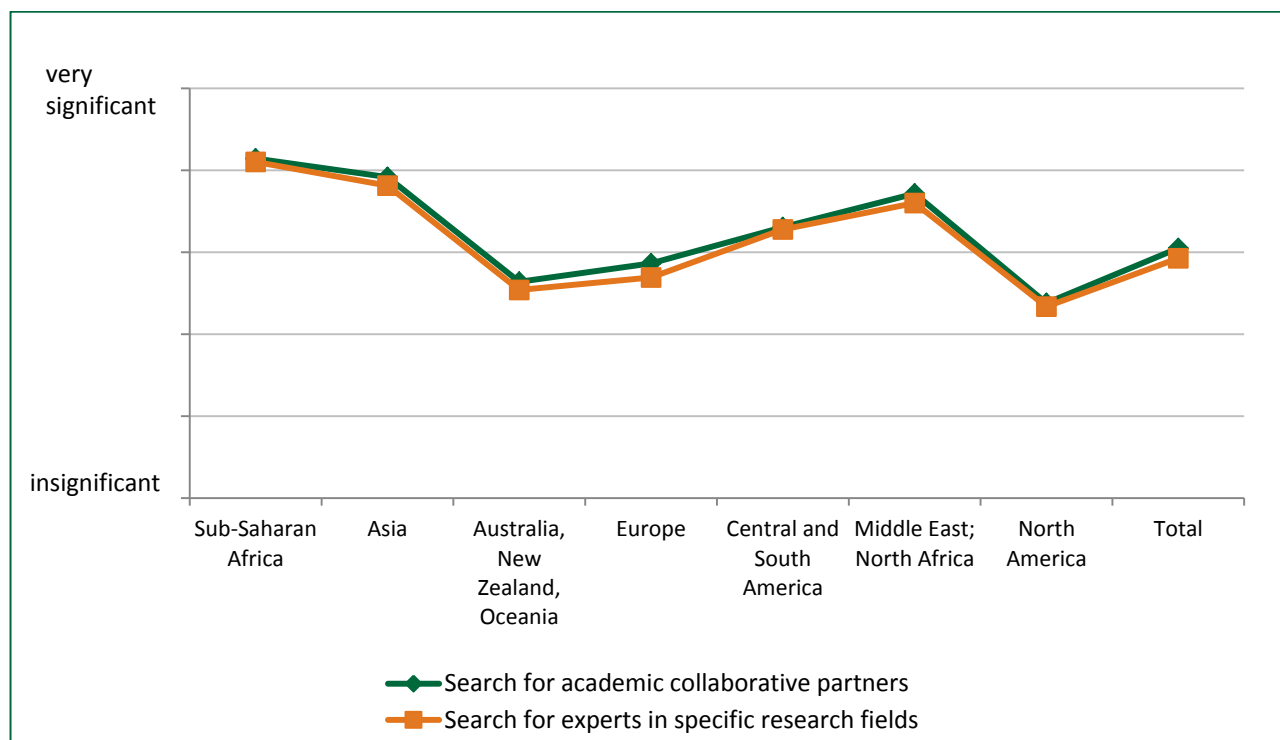
If one takes into account the impact of various potentially moderating factors such as region, age, the initial sponsorship programme, gender and discipline on the assessment of activity options within the Humboldt Network it emerges that the statistical impact of these factors is only sufficiently large with regard to “searching for academic collaborative partner” and “searching for experts in specific research fields” to offer potential for further analysis. In the case of the other activity options the impact of these factors is statistically so low that it can be assumed that factors other than those named above influence respondents answers.¹⁵³

The question as to the interrelationship of these individual factors is also examined by testing what proportion of variance in the respondents’ answers elucidates the respective factors over and above the other factors. Respondents’ regional affiliation emerges as particularly weighty. If one considers the factors gender, discipline, age or programme as “control variables”, it becomes clear that regional affiliation elucidates half respectively of the variance explained over and above the control factors by these factors. Thus with reference to the Humboldt Network, respondents’ regional affiliation has by far the greatest impact on the response behaviour of all respondents with regard to the activity options “search for academic collaborative partners” and “search for experts in specific research fields”.

The following Figure 20 demonstrates how survey participants from the different regions rate the importance of the Humboldt Network for the “search for academic collaborative partners” and “search for experts in specific research fields”. The lines on the graph are almost identical and clearly illustrate that alumni from Africa, Asia, Central and South America as well as the Middle East, in particular, rate this significance highly to very highly. For alumni from Australia, New Zealand, Europe and North America, by contrast, the Humboldt Network is far less significant for the “search for academic collaborative partners” or the “search for experts in specific research fields”.

¹⁵³ These statements are based on multiple hierarchical regression analysis whereby the activity options present the dependent variables and the moderating factors the independent variables. In relation to the activity options “search for academic collaborative partners” and “search for experts in specific research fields”, a total of 13 percent and 14 per cent variance in the answers respectively could be explained by the moderating variables cited. With regard to the remaining activity options the variance explanation only accounts for 5 and 6 per cent respectively so that these options will not be considered in more detail.

Figure 20: Significance of individual activity options in the Humboldt Network, by region (online survey)



With regard to the activities considered here, the Humboldt Network is rated more positively in terms of significance by alumni abroad than by the Lynen alumni and hosts who provided answers.

6.2.3 Added value of Humboldt Network

In addition to the significance for the activity options examined, it was interesting, above all, to discover where the members of the Humboldt Network identified its added value in comparison with other networks. In order to try and find an answer to this question, firstly, statements by a number of alumni were evaluated that had been recorded in private conversations. Secondly, from the answers to some of the questions in the online survey inferences could be drawn on alumni's bonds with the Foundation.

For example, all survey participants were asked to say whether the term "Humboldt Family" had special connotations for them and, if so, which.¹⁵⁴

This question was answered by 2,703 alumni abroad, 188 Lynen alumni and 439 hosts. Whilst some two-thirds of hosts ascribed a certain degree of significance to the term¹⁵⁵, the proportion amongst both groups of alumni was noticeably higher at more than 80 per cent respectively. It thus emerges that across all the groups surveyed the term "family" does have emotional connotations.

¹⁵⁴ D.5 Does the term "Humboldt Family" mean anything to you? If so, what do you associate with it?

¹⁵⁵ These associations may be positive or negative.

One feels proud to be part of a family that has high values/traditions.
(Humboldt alumnus/-a, Europe, online survey)

Has a sense of permanent belonging, and I agree with it.
(Humboldt alumnus/-a, South America, online survey)

Many alumni describe a kind of security that is felt within the “community”:

[...] a network, in which I feel at home and meet people who think the same way and have similar interests and a fundamentally scientific way of approaching things.
(Lynen alumnus/-a, online survey)

..where my heart goes back to. (Humboldt alumnus/-a, Asia, online survey)

..to feel "at home". (Georg Forster alumnus/-a, Europe, online survey)

For the majority of people the Humboldt Family is, above all, a community that shares common values and experiences, has common interests, is intellectually and personally inspiring and also functions as a sort of “icebreaker” in making contacts:

It is very special (an honour) and valuable to be a member of this family. Cooperation between people across all national and cultural boundaries. Worldwide understanding based on common values.
(Lynen alumnus/-a, online survey)

A group of excellent academic colleagues and friends that I feel fortunate to belong to. It is always an intellectual pleasure to interact with them.
(Georg Forster alumnus/-a, South America, online survey)

Yes, it is an association of people who, in a certain sense, are very similar because they are all able to enthuse about their subjects. They have similar values, sometimes also similar problems. And one has the feeling one has known them forever, that one has really met “kith and kin”. Secondly, they are people who really are good. To me, the term “Humboldt Family” is also a statement about the quality of the academic profile; a token of trust.
(Humboldt alumnus/-a, Europe, online survey)

If I happen to meet other Humboldtians (at conferences, for example) there is immediately a feeling of belonging because, in my experience over the years, we share common (scientific) values.
(Lynen alumnus /-a, online survey)

Many respondents also ascribe their “family feeling” to the support they receive from the Foundation or other Humboldtians:

I associate the idea of a genuine network with it, that people are willing to actively help search for accommodation, for example, or possibly organise a seminar or something similar for someone in the Humboldt Family.
(Lynen alumnus/-a, online survey)

I completely feel that the relation with Humboldt is so close as in the family, where family members always help each other and can rely on each other. It is a meaningful expression in all terms.

(Georg Forster alumnus/-a, Middle East, online survey)

The family is always there. The Humboldt Family, too. I know that I can rely on its support or suggestions whenever I need them.

(Humboldt alumnus/-a Europe, online survey)

The Humboldt Family includes all generations of Humboldtians – it is like a real family: you are a part of it (i.e. you benefit from the nice things but are also responsible for the community).

(Lynen alumnus/-a, online survey)

That “little difference” which, in the opinion of many respondents, makes the Foundation more than just another funding organisation, is also attributed to the personal contact with staff at Foundation headquarters:

[...] I am used to Germans being very serious looking people, you got to the office, yes, purely business. But there’s a difference in the Humboldt Foundation. There is this family type of contact. This family type of relating to one another.

(Georg Forster alumnus/-a, Africa, group discussion)

The Foundation had managed to create an identity of its own with which sponsorship-recipients could identify:

I think they have created an identity and they make people identify with [...].

(Award winner alumnus/-a, North America, group discussion)

Other Humboldtians emphasise, above all, the Foundation’s efforts to create a sustainable bond:

[...] I think it’s been a very good way of running a programme. It’s intensive, it takes time, the organization actually has to invest a lot of time but it’s sustainable. Sustainable, so you build very strong bonds and loyalty and things like that.

(Georg Forster alumnus/-a, Africa, guided interview)

The feeling of belonging for life is emphasized even more strongly by another participant in the discussion:

I think the von Humboldt is special in several respects but I think one important respect is that it has this long-term view that when you were a Humboldt Fellow once then you are always a member of the Humboldt Family, that you can always count on them, you can have this continuing collaboration within the network and that they can sponsor you to go to Germany, [...].

(Humboldt alumnus/-a, Sub-Saharan Africa, group discussion)

The insight that when sponsorship begins one is joining a family and embarking on a long-term bond is often what induces a consciousness for the potential of this bond and one's own role within this fabric:

I think the fact that you know that you are going to have like a life-long association with the von Humboldt makes you to begin to think differently about how you relate to it.

(Humboldt alumnus/-a, Africa, group discussion)

An award winner who was taking part in one of the Foundation's networking events for the first time expressed similar sentiments:

[...] well, I am realising now that's a bond for life so to speak, and it's nice to be in a sort of network where you can always be at home with other colleagues.

(Award winner alumnus/-a, Europe, guided interview)

According to many of those participating in the discussions, actual encounters, e.g. during the fellows' study tour and particularly at the events organised by the Foundation, contribute in particular to creating the frequently-described feeling of belonging amongst Humboldtians.

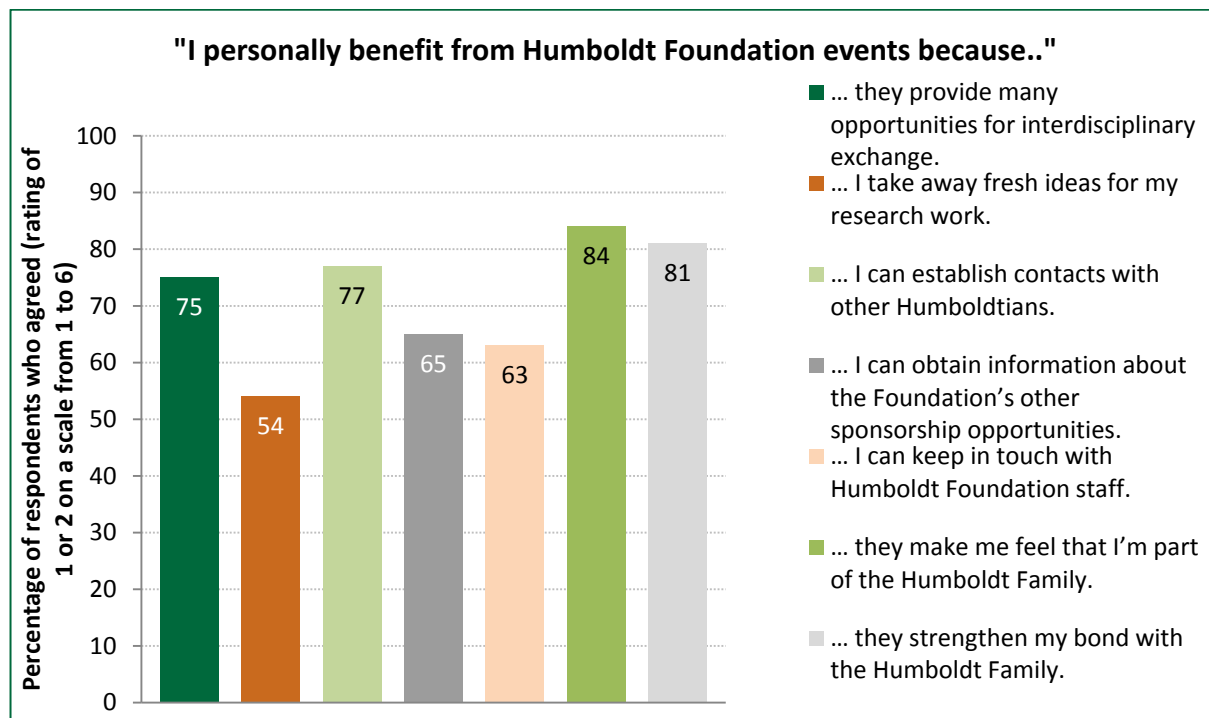
One interview partner, for example, describes what makes these events so special for him:

I would say that some of the network activities like the yearly meeting I attended in Berlin or a meeting like this, it's not crucial for me to meet people I wouldn't meet otherwise, but I think [...] it really enhances the, you know, image of the Humboldt Foundation, it makes the Humboldt Foundation more than just a funding agency for research stays. It tries to [...] convey the spirit of what it means, what are the other goals of the Humboldt Foundation and the kind of partnership and collaboration. So in that sense I would say that some of the activities enhance the whole programme by giving it more meaning, people feel a different connection, feel a different commitment and gratefulness by being part of it through those events.

(Award winner alumnus/-a, North America, guided interview)

The immense importance of the Foundation's events for strengthening the family feeling is underpinned by the fact that in the online survey almost 60 per cent of alumni abroad (n = 2,348) completely agreed with the statement that they felt part of the Humboldt Family at the Foundation's events. More than half (54%, n = 2,086) also wholeheartedly agreed with the statement that events promoted the notion of being connected with the Foundation. If one includes the second level on a scale from one to six (Level 1 "agree completely" + Level 2 "agree"), these percentages even increase to some 84 per cent and 81 per cent respectively (see Figure 21.)

Figure 21: Assessment of Humboldt Foundation events by alumni abroad (online survey)



There is also a high level of agreement with these two statements amongst the group of hosts: 86 per cent ($n = 76$) chose one of the two top categories with regard to the feeling of belonging to a family; 77 per cent were of the opinion that attending Humboldt Foundation events strengthened bonds with the Foundation ($n = 295$).

Amongst the Lynen alumni who participated in the survey, the picture is not quite so clear cut: whilst 77 per cent ($n = 275$) also agreed with the statement on bonds, the percentage dropped to 72 per cent ($n = 257$) with regard to family feeling. In the case of this group, the professional benefit to be gained from attending Foundation events is just as important: some three-quarters especially agreed with the statements that they could make contact with other Humboldtians and foster interdisciplinary exchange.

The feeling of belonging to a family develops most strongly amongst researchers from Africa and Asia. The proportion of Humboldtians who completely agree with the statement that one feels part of the Humboldt Family at the Foundation's events, averages 60 per cent amongst all alumni abroad. Amongst the survey respondents from Sub-Saharan Africa, 75 per cent agreed with this statement, from the Middle East and North Africa 70 per cent and from Asia 66 per cent. By contrast, the percentages for researchers resident in North America and Europe were just 50 per cent and 57 per cent respectively.

The picture is similar when it comes to bonds with the Foundation: some 71 per cent of participants from Sub-Saharan Africa agreed with a high degree of conviction that

attending Foundation events strengthened bonds with the Foundation, as did 66 per cent of participants from the Middle East and North Africa, and 61 percent of participants from Asia; the average for alumni overall was just 55 per cent.

The feeling of belonging does not only manifest itself in contact with the Foundation but also develops between the members of the network, especially through the common experience of staying in Germany:

[...] there is a cultural experience in spending a time working in Germany with a Humboldt Fellowship [...]

(Humboldt alumnus/-a, South America, group discussion)

Sharing memories about the "study tours" and life in Germany

(Humboldt alumnus/-a, Europe, online survey)

I associate all my good experiences and appreciation of Germany and the German way of life with it.

(Humboldt alumnus/-a, Asia, online survey)

When and wherever I meet a Humboldtian, we instantly share a connection (irrespective of disciplinary background). Our shared experience creates an instant sense of comradeship that leads to conversation and in many cases a lasting connection.

(Humboldt alumnus/-a, North America, online survey)

The Foundation's role is also seen in terms of being an ambassador for Germany as a research location:

I mean in the scientific world I think the Humboldt Foundation acts like a German ambassador. It conveys something about Germany, it conveys sort of "Gemütlichkeit" a little bit, the spirit of Germany also not just connected to German science, connected to Germany as a country.

(Award winner alumnus/-a, North America, group discussion)

For me the Humboldt Family makes a very successful contribution to living out understanding between peoples and to engendering a positive perception of Germany abroad. Its contribution thus goes well beyond funding science.

(Lynen alumnus/-a, online survey)

There are, however, also a number of researchers who interpret the idea of the "Humboldt Family" in rather less emotional terms and instead tend to emphasise the utilitarian, scientific component of belonging to a group.

In all three groups surveyed, approximately a third of the responses focus, above all, on aspects of quality, internationality and interdisciplinarity. Some, however, prioritise the multigenerational character of the network and the prestige associated with the community in their definitions of the term.

One Lynen alumnus/a, for example, defines the term as follows: *“International science at a high level combined with friendly ties”*; another speaks of the *“great expertise of friendly researchers”*; yet others note the following key words: *“Academic quality. Internationality. Excellence.”* or *“cross-border interdisciplinary community”*. (Sources: commentaries in the context of the online survey)

Some respondents even speak of a scientific trump card they carry around in their pockets with them their whole lives:

To be a member of the Humboldt Family is great. I became a Full Professor at an early age due to my association with AvH. I use it as a trump card. It is the greatest Degree I obtained in my life.

(Humboldt alumnus/-a, region unstated, online survey)

or:

It is my passport to all the world.

(Humboldt alumnus/-a, Middle East, online survey)

Amongst the group of hosts the following definitions can, for example, be found:

It is a unique network which is very important for academic contacts abroad and is therefore also very important for the perception of German science there.

(Host, online survey)

The group of all researchers who have been sponsored by the Humboldt Foundation. Belonging is a sign quality which constitutes a life-long advantage.

(Host, online survey)

Furthermore, a number of critical responses can be found, largely in the groups of Lynen alumni and hosts. They often rate the term “Humboldt Family” as being to some extent too sentimental and too traditional and instead associate it with opaque distribution structures and insider networks. The following statements illustrate the point:

Only very little significance. However, I must unfortunately say that it all sounds to me rather science cliquey. I consider myself to be part of the scientific community. I cooperate with the partners with whom I expect to make the most progress in the respective project. I don't want to (have to) choose my collaborative partners on the basis of whether they belong to the right political party, live in the right country [...] or are members of certain funding organisations.

(Lynen alumnus/-a, online survey)

I find the expression sentimental and conservative. Family structures have changed radically over the last few decades. The term is a bit reminiscent of the Bonn Republic.

(Lynen alumnus/-a, online survey)

I don't like it. There's something sect-like about it. The Foundation as a funding tool without the "family element" would have greater potential.

(Lynen alumnus/-a, online survey)

Terms that imply intimacy and privateness should not be used in a scientific-academic context in my opinion.

(Host, online survey)

[...] Usually, Humboldtians are not only scientifically, but also socially competent individuals, which means scientific contacts spontaneously become "familiar". But in my opinion, the element of the modern/youthful in research that Humboldt, after all, championed, should be emphasised more in cultivating the Foundation's image. The term "family" underlines the private element and should be complemented by a more contemporary, dynamic term.

(Host, online survey)

But there are also critical voices amongst alumni abroad who claim that the world-spanning "Humboldt Family" only really exists on paper and is of little significance when it comes to everyday life in science, let alone searching for collaborative partners.

I mean there are so many people who approach me and people I am in contact with, I would never look up the Humboldt database to figure out who is a Humboldtian or not, just to find somebody in a certain research field. There are so many other contacts and so many other networks I would use before. [...]

(Award winner alumnus/-a, North America, group discussion)

In our subject it is difficult because a lot of very highly-qualified colleagues are not Humboldtians. That is why a lot of the potential collaborative partners are not to be found amongst Humboldtians. So partnerships and contacts mostly exist between people who work together or know each other – whether they are Humboldtians or not.

(Humboldt alumnus/-a, Europe, online survey)

I build my networks through disciplinary conferences and publications, not through the Humboldt Foundation. But I do enjoy meeting people who have spent time in Germany and care about all things German.

(Humboldt alumnus/-a, North America, online survey)

I think it is best to think of Humboldtians as spokes of a wheel, radiating outwards, connecting Germany to the world. Interconnections between them are less important; on the research level they are best supported by small focused research meetings.

(Humboldt alumnus/-a, North America, online survey)

Moreover, in the group of alumni abroad there are also people who feel the term family is inappropriate and are unable to identify with it:

It's hard to build a family identity across the academic world, so I wouldn't recommend putting any more emphasis on this particular frame.

(Humboldt alumnus/-a, North America, online survey)

I find the term “family” inappropriate for academic fields. “Network” is better.
(Humboldt alumnus/-a, North America, online survey)

I have much respect for the Foundation, but I don't see it as a family. A network is fine, a letter community might be accepted exaggeration, but not a family.
(Humboldt alumnus/-a, Middle East, North Africa, online survey)

Conclusion

The Humboldt Network is one of several networks for researchers around the globe; there are also specialist networks, for example, or those of scientific academies. The results of this chapter reveal that membership of the Humboldt Network does not make other networks obsolete. In comparison with other networks, the Humboldt Network is of greater or lesser importance with regard to certain activity options.

Within the Humboldt Network, the fostering of personal contacts and scientific exchange are ascribed the greatest significance amongst the activities listed. This is true, at differing levels, both for alumni abroad as well as for Lynen alumni and hosts. Amongst alumni abroad the Humboldt Network is also considered comparatively significant with regard to searching for scientific collaborative partners (see Table 61, p. 176).

As became particularly clear after evaluating the answers to the open questions in the survey, the explicit added value of belonging to the Humboldt Network lies in the exclusivity of access. It is clearly demarcated and thus not open to everyone. Belonging is therefore seen as a privilege; moreover, the certainty of belonging to this network for an entire lifetime is rated as positive by the respondents. It is perceived as a community of people with similar values and experiences whose members are connected with one another by the sense of a common identity. This sense of belonging is subjective and emotionally anchored. The most important connecting elements are seen as the common experience of spending time in Germany, the connection with the Foundation and the feeling of being honoured by being selected from a group of outstanding researchers. The outcomes thus show that the added value perceived subjectively by the members of the Humboldt Network is essentially emotional rather than utilitarian.

Due to this emotional bond with the Foundation as well as with the network, many members can identify with the term “family” as a symbol for a sustainable community of trust, security and solidarity. The feeling of “belonging to a family” in the context of the Humboldt Network is particularly strong amongst researchers from Africa and Asia.

In order for this emotional bond to develop, soft factors like long-term personal contacts to staff at the Foundation as well as attending Humboldt events are particularly decisive. The Foundation's events apparently play a considerable role in engendering a feeling of belonging to the “Humboldt Family” both amongst sponsorship-recipients and hosts. The importance of participating in one of the networking events or the Foundation's study tour can therefore not be over-emphasised because this is where it is possible, above all,

to make contacts with the families of various groups of Humboldtians and to foster and strengthen the feeling of community which those surveyed describe as one of the main added values of the network.

There is, however, a group of network members who favour a more businesslike attitude and therefore prefer the term “Humboldt Network” to “Humboldt Family”. Particularly for the groups of Lynen alumni and hosts the advantages of membership in a network of excellent researchers are uppermost. They tend to be much more critical of the notion of family than alumni abroad. This could possibly be due to the fact that this group does not share the common experience of a stay in Germany.

6.3 Humboldtians as multipliers

One of the main goals of the Humboldt Foundation’s activities is to promote Germany’s international academic networking in a globalised world by creating life-long bonds with Germany and conveying a positive image of Germany. By sustainably connecting sponsorship recipients with Germany, the latter are supposed to become ambassadors in their own countries for German culture and science. In order to achieve this goal, it is essential that Humboldtians enjoy looking back on the time spent in Germany. If this is the case, an important pre-requisite for adopting the role of a multiplier has been fulfilled. Alumni abroad, for example, can play this role by drawing attention to the Foundation’s sponsorship portfolio and the research opportunities in Germany. Thus, in the last resort, positive experiences in Germany also contribute significantly to strengthening the Humboldt Network.

The aim of the following chapter is therefore to use the results of the online survey to discover how alumni perceived their stay in Germany and how they pass on their knowledge of Germany and the German science system in their own countries.

First of all, alumni abroad were asked about their experiences in Germany in general. The answers were very positive: of the 4,430 individuals who answered this question, some three-quarters (72.5%) were of the opinion that their initial stay in Germany sponsored by the Foundation had led to a positive change in their image of Germany. Roughly a quarter (25.9%) said their impression of Germany had remained unchanged whilst just a very small proportion (1.6%) said that their stay had led to a more negative image.

A total of 2,723 alumni took advantage of the opportunity to add comments on how their image of Germany had changed for the better. Many comments emphasise the warmth and friendliness they encountered in Germany and which they had not expected to this extent. Some alumni report that they had embarked on their research stay with prejudices

about people in Germany which, however, had not been confirmed. One former Humboldt Fellow in Germany wrote, for example:

While I was aware of the fact that the quality of research in Germany is outstanding, I was a bit skeptical about Germans because we heard that they are quite dry people. However, this opinion completely changed after a few months of my stay in Munich and I have now many friends from academia as well as from outside.

The remarks of a Humboldt alumnus/a from Asia point in the same direction: *“The general perception is that Germans are very reserved people and not very open. I found this stereotype to be completely untrue.”*

In some cases, the comments note that sponsorship recipients had been afraid of being confronted with xenophobia during their stay in Germany and had been positively surprised to find that this was not the case. A Georg Forster alumnus/a from Sub-Saharan Africa, for instance, wrote:

Before my visit I had thought Germany is a racist country. But on getting to Germany I found out that the Germans are friendly, always ready to help. Germany as a country is peaceful, I was never afraid to walk alone in the night. (...)

Many comments underline the fact that sponsorship recipients had made friendships during their stay in Germany that went well beyond purely scientific relations. The following quotation from a Humboldt alumnus/a from Europe is illustrative of many similar statements:

I always had positive thoughts for Germany. One thing that changed was about the social life there. I did not think that I would have that close German friends. In the end of my stay I had many friends from my institution and I still keep contact with them.

By contrast, 63 alumni describe how their image of Germany had become worse as a result of their stay. The most frequent reason for this development was the research situation at German universities, whereby the points of criticism in this area differ considerably. Some, as in the following quotation, instance the lack of job prospects for junior researchers and its impact on the working atmosphere.

I realised that mid-faculty was missing in the academic landscape. Postdocs who don't manage to secure a professorship have no prospects. So many gifted German postdocs leave Germany and go abroad (e.g. to the United Kingdom where such positions do exist – lecturer, reader, associate professor). The number of professorships is much, much smaller than the number of postdocs, which engenders unhealthy competition and a dog-eat-dog fight. At least, that was my experience at my host institute.

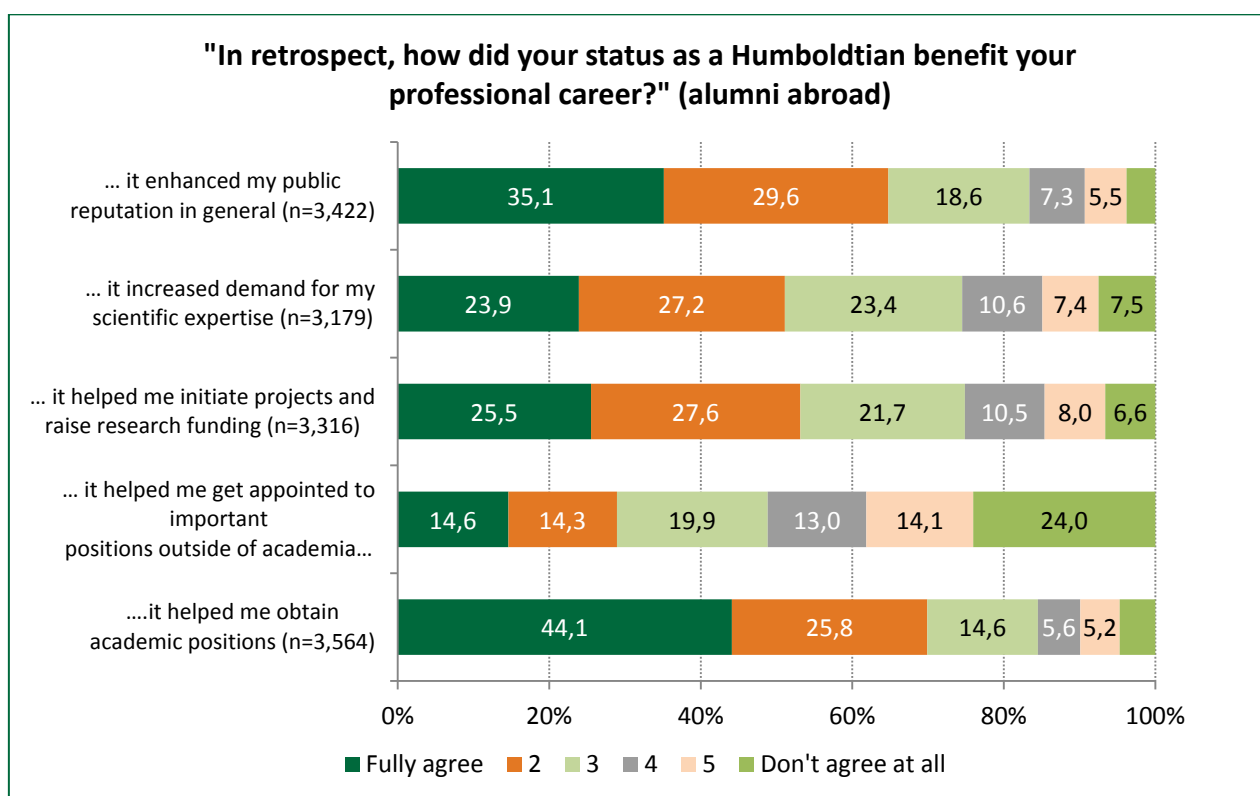
Some respondents complain that they had expected features like “diligence”, “discipline” and “punctuality” in Germany but had not encountered them. Others considered

Germany bureaucracy to be burdensome. Only three individuals stated at this point that their image of Germany had suffered due to experiencing xenophobia.

One factor that influences people's bond with Germany and their willingness to continue collaborating with academics in the Humboldt Network is the kudos Humboldt sponsorship recipients enjoy in academia at home and abroad. This factor has an impact not only on their continued career development and thus also on their position within the network but also on the individual sponsorship recipients' assessment of the Foundation and the Humboldt Network and their willingness to use the network and engage with it.

No less than 44 per cent of alumni abroad fully agreed with the statement that, in retrospect, their status as a "Humboldtian" had been helpful in obtaining academic positions during their careers. Moreover, this status had proved useful for their public reputation in general (see Figure 22). This illustrates the international kudos attached to being a Humboldt alumnus/a at scientific level, which Humboldt sponsorship recipients can exploit for their careers.

Figure 22: What it means to alumni abroad to be a Humboldtian (online survey)

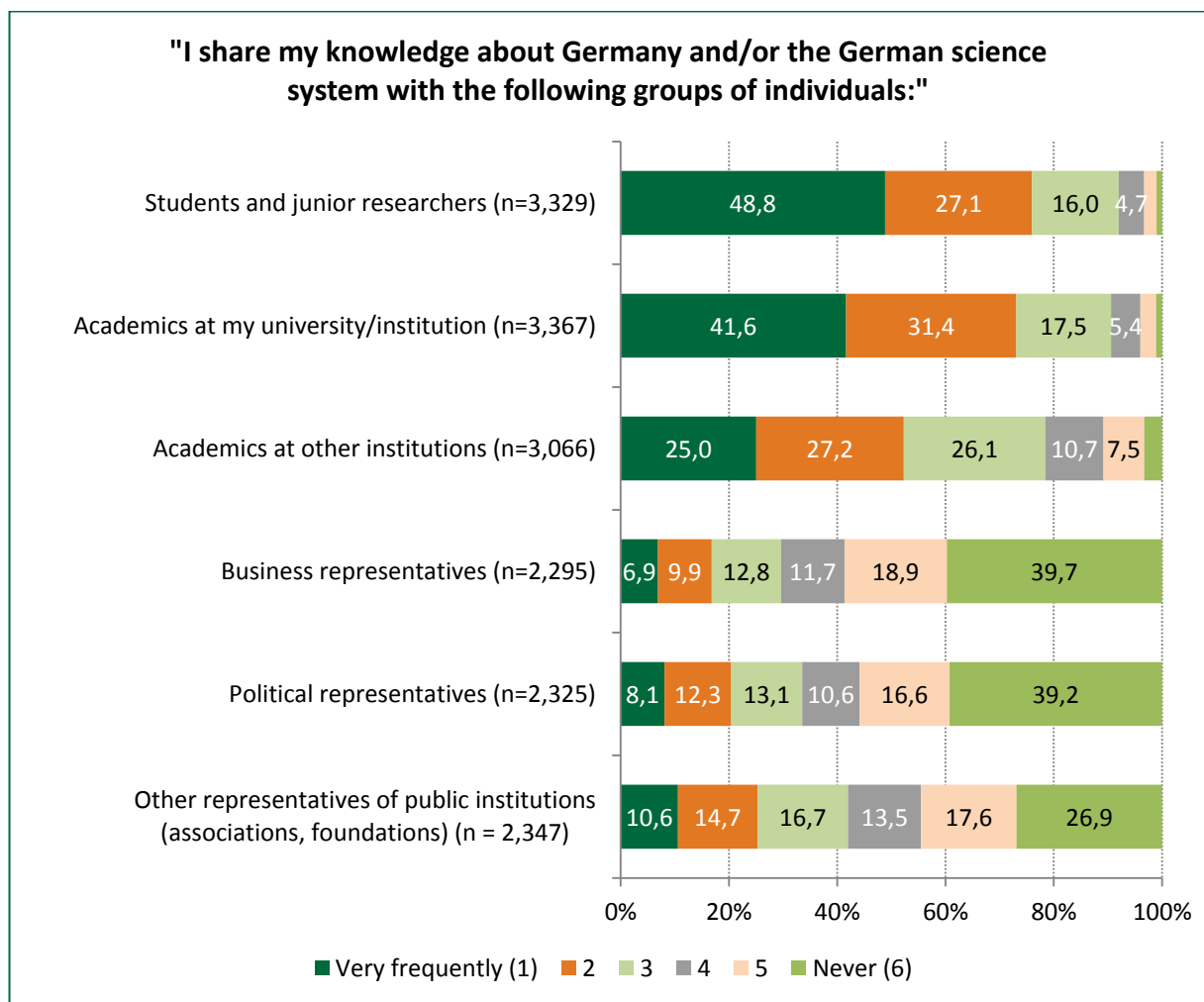


Humboldtians' importance in their role as intermediaries and multipliers for German foreign cultural and educational policy in their own countries is crucially influenced by whether they are perceived as first-class researchers who have been chosen on the basis of strict selection procedures and become members of a world-spanning network of excellence. Thus in the framework of the study it was interesting to examine whether German embassies and German or foreign organisations like those involved in research

(funding) and development cooperation as well as internationally active foundations or similar institutions made use of Humboldtians' expertise on Germany.

Figure 23 reveals that alumni abroad are largely active as ambassadors for Germany and the German science system at universities (see also Chapter 6.1.5). This comes as no surprise as it is the main area of activity for by far the largest percentage of survey respondents. In addition to this, some alumni stated that they had passed on their knowledge about Germany and the German science system to representatives of public institutions (e.g. associations), governments (e.g. embassies) and academia. This group of people thus has an impact as multipliers that goes beyond academia.

Figure 23: Groups with which alumni abroad share their expertise about Germany (online survey)



If one compares alumni in the different fields of academia with reference to their function as multipliers outside of academia, on a percentage basis, engineering scientists adopt this function particularly frequently. With regard to passing on knowledge to other representatives of public institutions (associations, foundations etc.), the largest proportion of people who adopt the role of multiplier can be found amongst humanities scholars (see Table 62).

Table 62: Groups outside of academia with which alumni abroad share their expertise about Germany, by field (online survey)

	Humanities and Social Sciences	Life Sciences	Natural Sciences	Engineering
Business representatives	13.7% (76)	17.5% (59)	15.2% (150)	26.3% (80)
Political representatives (including embassies)	20.5% (123)	23.0% (80)	17.9% (175)	25.7% (74)
Representatives of other public institutions (associations, foundations etc.)	30% (185)	25.9% (92)	21.7% (211)	26.8% (79)

The ways in which such a function as an ambassador for Germany can manifest itself outside of university is illustrated, for example, in the report of one Ambassador Scientist:

As an Ambassador Scientist, I work together closely with the German Embassy in [...]. I am a regular guest at important events at the Embassy (such as “Germany Days in [...]” etc.), in which I am actively involved at the request of the embassy [...]

For the purposes of the study it was also interesting to examine the strength of the individual actors’ bonds with Germany and to ascertain whether there were groups within the network which exhibited a particularly strong or weak bond with Germany. In order to address this question, an index for was drawn up for “individuals’ bond with Germany” (“very strong”, “strong”, “weak”) on the basis of data in the online survey. To this end, information such as the following was used: long-term cooperation with academic contacts in Germany such as hosts, other researchers at the host institute and/or other academics in Germany; further research stays, communication of knowledge about Germany etc. (see Evaluation Concept in the appendix).

If one considers the group of 5,075 alumni abroad, the three categories created with the help of the indices are very well-balanced: approximately one third (32.9%) of alumni have a very strong bond with Germany, whilst a further third has a strong bond (33.5%) and a further third (33.6%) has a weak bond.

In this context, women have a weaker bond with Germany in percentage terms (28.4%) than their male colleagues (33.8%). Amongst alumni award winners, on the other hand, there is a relatively high proportion of individuals (40%) with a strong bond with Germany. With reference to the fields of academia there are no significant differences between the groups. The picture is somewhat different with regard to regions: a large proportion (71.1%) of alumni in North America has a weak bond with Germany. In this respect, this group clearly differs from the others. By contrast, roughly half the alumni (50.6%) from the Middle East and North Africa has a strong bond with Germany. This proportion is almost equally high in the group of sponsorship recipients from Central and South America (44.4%) and Sub-Saharan Africa (45.5%).

In addition to Humboldtians' own assessment of their activities as ambassadors for Germany and the German science system it was also interesting to include the perspective of the Federal Foreign Office in the survey – how did they view the network and its usefulness for foreign cultural and educational policy? Consequently, a guided interview was conducted with a leading representative of the Federal Foreign Office. The latter reported that contacts to Humboldt alumni were often and willingly used when planning trips by delegations from Germany to the respective country. Especially when preparing measures for science systems in transition and developing countries, the Federal Foreign Office valued and called upon Humboldt alumni as advisors. According to him, across the world, Humboldtians belonged to the “top segment” of individuals with a close relationship with Germany. This meant they were sought-after contacts for local German organisations abroad whereby to some extent, the role played by the relationship to the Humboldt Foundation could only be a matter of speculation. In general, however, the embassies in transition and developing countries with small Humboldt Networks had quite a good overview of these relationships. In highly-developed countries with dense Humboldt Networks the situation was completely different. This impression was confirmed in the conversations with representatives of foreign embassies working in Germany: in transition and developing countries, Humboldtians played a much more major role in the work and perception of embassy staff than in highly-developed countries. There is, however, evidence to suggest that in some European countries that are currently battling with an economic crisis the importance of Humboldtians in the perception of embassy staff is high.

The representative of the Federal Foreign Office reported that, usually, embassies drew on the knowledge of local Humboldt alumni associations when they were systematically searching for members of the Humboldt Network who would be competent sources of information on specific topics in a certain country. He described Humboldt alumni who held government posts as a “godsend” for embassies. In the case of these individuals, the embassy was usually aware that Humboldt sponsorship was the reason, or one of the reasons, for their particular affinity with Germany. According to the interview partner, however, the Humboldtians who were in particularly close contact with German embassies tended to belong to the older generation. It would be desirable to achieve a greater mix of age and career stages.

The process of passing on Information about important contacts in the Humboldt Network to colleagues in the Foreign Service was organised strategically. Embassy staff about to go abroad received current lists, provided by the Foundation, of Humboldtians in the respective country.

In addition to the importance of Humboldt alumni as sources of information on academic, political and social themes in their own countries, embassy staff also referred to the importance of Humboldtians as founts of knowledge on and ambassadors for Germany at home or in their countries of residence. It was, therefore, considered very necessary to

ensure that alumni had an accurate image of Germany. The Foundation's re-invitation programme was therefore greatly endorsed.

In the interview, the constantly increasing importance of the Humboldt Network was emphasised: against the backdrop of growing competition from scientifically upwardly-mobile transition countries like Brazil and India, in particular, it was of almost immeasurable value to have Humboldtians recommending study and research visits to Germany to their students and junior researchers in their own countries. The representative of the Federal Foreign Office emphasised that in this context Africa should be kept in mind as well.

Conclusion

Approximately three-quarters of alumni report that their image of Germany improved as a result of their initial stay in Germany. It follows that, in the majority of cases, the research stays sponsored by the Foundation lead to positive experiences in Germany and thus lay important foundations for later activities as multipliers for Germany abroad.

The results presented prove that this really is the case: in their own countries, Humboldtians often become ambassadors for German culture and science. They not only pass on their knowledge about Germany and the German science system to academics and students but also to institutions outside of the immediate academic field and thus communicate an accurate image of Germany in their own countries. They are, accordingly, perceived by institutions such as embassies and research funding organisations as advisors and experts. The Federal Foreign Office also emphasises the importance of the Humboldt Network for its own work as well as for German foreign cultural and educational policy as a whole.

Furthermore, the majority of survey participants were of the opinion that the status of being a Humboldtian brought advantages with regard to obtaining academic positions and that it enhanced their reputation in general. Thus belonging to the Humboldt Family apparently implies a high level of kudos for sponsorship recipients abroad.

Here, as at many points in the study, it emerges that Humboldtians in the Middle East and Africa have a close bond with Germany whilst alumni from North America have a comparatively loose bond.

6.4 Networking activities in the Humboldt Network not involving the Foundation's participation

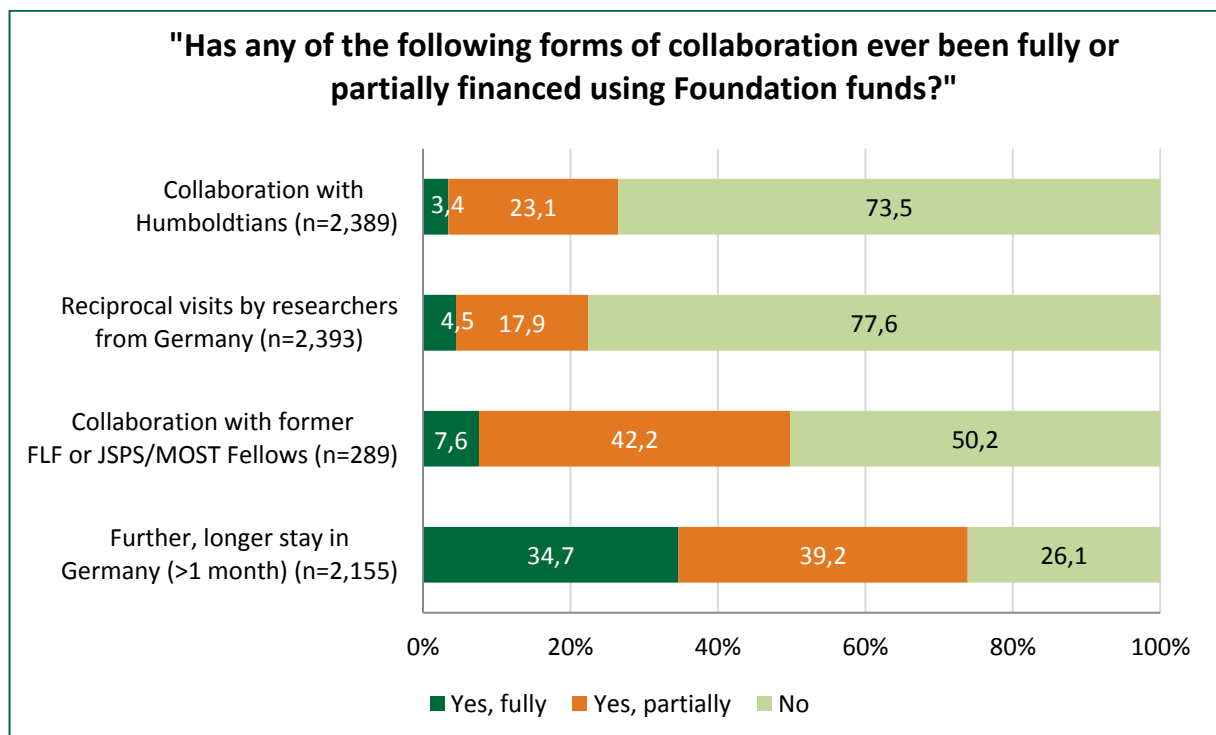
Whilst presenting the networking habits of members of the Humboldt Network in Section 6.1, it already became clear that many different academic contacts exist both amongst

Humboldtians and to individuals in Germany. Some of these contacts are financed by the Humboldt Foundation, others on the strength of other funding sources.

One goal of this study is to collate information on the contacts and collaborations within the Humboldt Network that are usually invisible to the Foundation because they are not sponsored by the Foundation but from other sources. The following evaluations thus address the question as to how the type, extent, intensity and financing of such academic collaborations involving members of the network that are not sponsored by the Humboldt Foundation can be expressed on the basis of the results of the online survey.

In order to discover more about this cooperation, at various points in the online questionnaire, alumni abroad were asked whether their activities with other Humboldtians or researchers in Germany were completely or partially financed by the Foundation. Figure 24 shows that a large proportion of the academic collaborations pursued in the network by Humboldtians abroad are organised without direct financial support from the Foundation. This is true, above all, for cooperation with other Humboldtians as well as reciprocal visits by researchers from Germany to alumni's own institutes. Approximately three out of four respondents said that the respective cooperation and/or exchange had not been financed by funding from the Foundation. In the case of long-term further research stays in Germany by alumni abroad, the proportion of full or partial funding by the Humboldt Foundation is greatest. Nevertheless, here, too, 26 per cent of survey participants stated that a stay had not been financed by the Foundation.

Figure 24: Funding of contacts of alumni abroad within the Humboldt Network (online survey)



Those surveyed were asked to answer an open question to provide information on the source of the financing. The answers differ according to the type of cooperation. It emerges, however, that a large proportion of collaborations is financed by institutions such as national funding organisations, the EU or universities at home.

The findings are further substantiated by the evaluations in Chapter 5 (“Alumni sponsorship tools”). At various points here, too, (e.g. Sections 5.4.2.1.1 and 5.4.2.4) it is mentioned that following the use of alumni tools, collaborations ensued that were not, or only partially, financed on the strength of funding provided by the Foundation.

Indications that collaboration amongst Humboldtians and/or with German researchers had continued without the Foundation’s financial involvement can also be found quite frequently in the reports submitted after using various support mechanisms (e.g. further research stays). A German researcher, for example, reports that after having visited the researcher he had previously hosted in his own country, he had met another Humboldtian at a conference there with whom he had then started to cooperate:

The conference enabled me to meet the Humboldtian [name]. [...] Since then, active scientific collaboration has ensued with Mr [...] regularly coming to Hannover on research visits, which will continue in future.

The evaluation of the online survey, the document analysis and the guided interviews reveal that the Foundation’s sponsorship often apparently sparks further collaborations which are financed from other sources. The following quotations are typical of many similar statements on the issue.

For example, in a personal interview, a Humboldt Fellow reported:

The Humboldt funding was like it gave me a start to collaborate closely with the professor I'm working with in Germany. [...] [In the meantime] we have been working on a BMBF funded project for the last four and a half years.

An Ambassador Scientist and former fellow from Africa made the following comments in conversation:

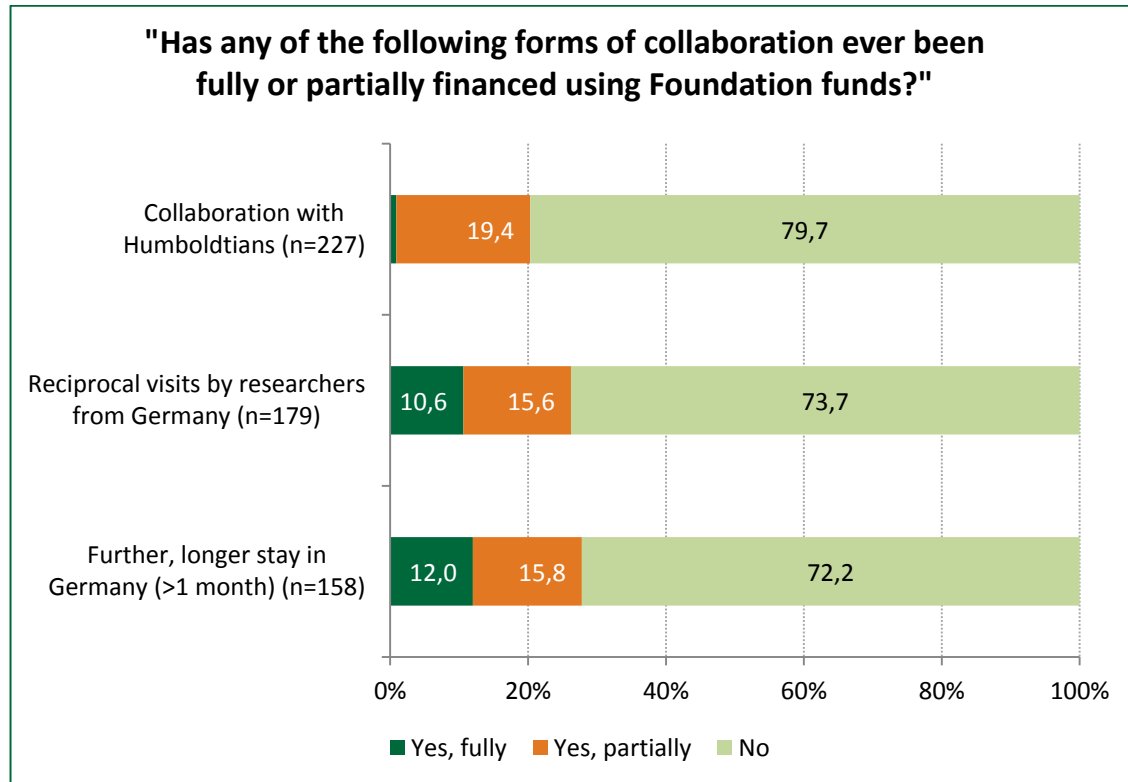
Yes, we [my host and I] are still in contact. I think after that I took him two students under the DAAD fellowship. [...] So once you have that initial contact, it becomes easy to continue collaborating even using other funding schemes. And in this case we use the DAAD.

A Mexican Humboldtian expressed similar sentiments:

I have contact with many other professors at the institution [of my host institute]. (...) but all these collaborations are outside of Humboldt, they are basically because we met in some other places and because it's people that I met when we were in Germany during that time and we still hold a very tight friendship or collaborations (...) We never applied for the Humboldt again, not for any money for research, nor for anything else. So these students or these collaborations came with money from some other sources.

To an even greater extent than alumni abroad, Lynen alumni (not hosts) foster and perpetuate their contacts in the Humboldt Network on the basis of funding from sources other than the Foundation (see Figure 25 in the following). Other funding sources named include university funds, third-party DFG and/or BMBF funding programmes and the DAAD.

Figure 25: Funding of Lynen alumni's contacts within the Humboldt Network (online survey)



When interpreting the data it is important to note that, apart from collaborations which consciously perpetuate contacts ensuing from the Humboldt Network, alumni also happen to encounter other Humboldtians in the course of their academic work. As the Foundation sponsors outstanding international researchers, it is only natural that the latter should meet one other during research activities in their own subjects, so that additional networking takes place in the Humboldt Network along the way.

Hosts (including Lynen alumni who become hosts) were also asked whether their collaboration with Humboldtians had been or was completely or partially financed by the Humboldt Foundation. Of the 713 individuals who responded in the context of the online survey, more than half (58.1%) stated that financing had partially been provided by the Humboldt Foundation. Some 10 per cent replied that the Foundation had funded the collaboration completely and roughly a third answered the question in the negative. Just as in the case of Lynen alumni, the other sources of finance for collaboration with Humboldt visiting researchers tended to be, amongst others, their own universities, the DFG, BMBF and EU.

In summary, if one considers the three different groups of actors, Lynen alumni make least use of Humboldt Foundation sponsorship for their collaborations with members of the network whilst hosts take somewhat greater advantage of the Foundation's offers of finance. The group of alumni abroad also finances a considerable proportion of its cooperation with researchers who belong to the Humboldt Network with the aid of other funding.

Conclusion

Overall, these results show that a great deal of academic cooperation within the Humboldt Network is not financed by the Foundation. This means that networking processes also take place on a large scale outside of the Foundation's field of vision. Even though this finding indicates a considerable gap in the Foundation's knowledge about the extent of these collaborations, it should, none the less, be rated positively as it clearly indicates that Humboldt sponsorship frequently sparks further academic contacts and leads to the tapping of additional sources of funding.

7 Final conclusions and recommendations

The task of this study was to examine whether two of the core goals the Alexander von Humboldt Foundation pursues in fostering the Humboldt Network as a unique feature are being achieved. These goals are (1) to promote the internationalisation of the German science and research landscape and (2) to contribute to German foreign cultural and educational policy through academic cooperation. The methods for achieving these goals are to maintain, strengthen and extend scientific contacts between sponsorship-recipients and German colleagues as well as amongst Humboldtians all over the world.

In order to examine whether these goals are being achieved, as a first step, each of the Foundation's alumni sponsorship tools was evaluated (see Chapter 5). In addition to this, an attempt was made to map the networking activities between Humboldt sponsorship-recipients around the globe and their colleagues in Germany (see Chapter 6). In the course of this mapping, the networking habits and motivation of members of the Humboldt Network as well as the role played by Alexander von Humboldt Foundation headquarters in the networking activities were investigated in detail in the form of an explorative study.

For this purpose, various quantitative and qualitative tools were used: in addition to a comprehensive online survey of the various groups of individuals within the network, a document analysis was undertaken, and guided interviews and conversations were conducted. Essentially, the data collection period covered the first half of 2014, followed by the evaluation and subsequent preparation of the report.

The Humboldt Network: global connections

The results of the study show that the contacts between alumni abroad and Germany are stable and sustainable: If one considers the connections between the alumni surveyed and academics in Germany at least two years after the end of the initial stay sponsored by the Foundation, it emerges that the majority still maintains academic, or at least friendly relations with colleagues in Germany. Some 80 per cent, for example, are still in contact with their host and as many as 90 per cent state that they fostered connections to academics in Germany outside of their host institute (see Chapter 6.1.1).

These contacts to Germany have a high status for alumni abroad. Thus two-thirds of the survey participants in this group rate their contacts as "generally very important" for their professional careers; a further 22 per cent see them as "very important in part or during a specific phase". Alumni of the Georg Forster Research Fellowship Programme and, in regional terms, alumni from Africa, the Middle East and Asia, value the contacts to Germany particularly highly. According to academic field, it is humanities scholars and social scientists who, in retrospect, ascribe the greatest importance to their contacts with Germany for their careers (see Chapter 6.1.1).

Furthermore, Humboldtians all over the world foster intensive contacts amongst themselves: some 78 per cent of alumni stated that amongst the researchers with whom they collaborated closest there was at least one individual who had also received a fellowship or award from the Humboldt Foundation. These contacts are also very important to Humboldtians. With reference to their careers, more than half the alumni in the survey rated their contacts to other Humboldtians as “generally very important” (26.4%) or “very important in part or during a specific phase” (25.4%) (see Chapter 6.1.3). The significance of these contacts is underlined by the wish, which is frequently expressed by alumni and hosts alike, to be able to make contact more easily with the aid of online searches (see Recommendation 5 “Access to information on individuals in the network”, p. 209).

These findings clearly indicate that the Humboldt Network is an active, cross-border, cross-disciplinary network. Moreover, the results also show that stable, sustainable contacts exist between top international researchers across the world and partners in Germany that often manifest themselves in the form of close academic cooperation. These worldwide academic relations make an important contribution to internationalising the German science and research landscape.

Alumni tools promote the development and strengthening of world-spanning contacts

According to the results of the study, the Foundation’s alumni tools definitively promote the development and strengthening of academic contacts between sponsorship recipients and their research colleagues in Germany as well as amongst Humboldtians worldwide (see Chapter 5).

With the help of the various alumni sponsorship measures it seems to have been possible to satisfy the differing needs of researchers in the network who represent different subjects and cultures and have reached different stages in their academic careers. Overall, the survey participants largely rate the alumni tools positively and see them as beneficial for their own careers. The results of the survey also show, however, that the various sponsorship opportunities are not known to all members of the network equally (see Chapter 5.4.1, particularly Table 13 to Table 16).

Moreover, when considering the portfolio of alumni tools it becomes clear that the objectives and efficiency factor of the various tools in maintaining the network vary. Apart from tools that essentially support individuals (e.g. printing subsidies, book donations), others aim, above all, to strengthen the network in specific regions as well as in its entirety (e.g. Kollegs, colloquia). Accordingly, tools that can be used proactively and strategically and reach many Humboldtians (e.g. Kollegs, colloquia) are juxtaposed with tools that can be used reactively (e.g. book donations, printing costs) and rather tend to benefit the individual user. The weighting of these two groups within the range of the Foundation’s alumni tools as a whole should be discussed (see Recommendation 1, “Alumni tools”, p. 205).

A more detailed analysis of alumni tools reveals clear differences between the various groups: alumni from certain regions seem to benefit significantly more from alumni sponsorship in percentage terms than others. This is partly explained by the fact that some alumni tools are exclusive to part of the network, that is, alumni from developing countries and transition economies. They are designed specifically to help researchers from these regions to conduct research projects and to foster their collaborations with German academics. However, even the tools that are open to all Humboldtians, such as the highly sought-after sponsorship for further research stays in Germany, are more sought after by alumni from transition and developing countries in proportion to sponsorship recipients in the region. Academics from North America as well as research award winners use the existing opportunities significantly less or are unaware of their existence (see Chapter 5.4.1 and summary Chapter 5.6).

Networking activities outside of the Foundation's field of vision

The results of the study, however, give no cause to doubt that Humboldtians in highly-developed countries also benefit from the catalytic effect of initial sponsorship, both with regard to contacts to academics in Germany and to Humboldtians in other countries. In this context, they apparently remain much more closely connected with Germany, even in the context of collaborations that are financed by third parties subsequent to sponsorship from the Humboldt Foundation, than the Foundation's existing data had been able to quantify so far. Up to now, only little information had been available on networking activity not involving participation by the Foundation. The insights ensuing from the study now provide clear evidence to show that for a large proportion of alumni the Foundation's sponsorship sparks sustainable collaboration and further academic projects for which alternative financial sources can be found. This means that activities involving Humboldtians and researchers in Germany, which take place after the research stay sponsored by the Humboldt Foundation has come to an end, are being continued independently and without further support from the Foundation. In order to be able to offer members across the globe an attractive network in the long term, it is important that alumni who cooperate with hosts in Germany or amongst themselves on the basis of funding provided by third parties should remain visible and available as contacts for activities within the Humboldt Network (see Recommendation 1, "Alumni tools", p. 205).

Attending Humboldt events enhances bond with Germany and the Foundation

The findings of the study demonstrate that, in general, both alumni's bond with Germany and their engagement in the network is significantly greater if they have taken part in the Foundation's networking events. Thus participating in such events seems to sustainably strengthen the basis for later activity in the Humboldt Network and the bond with Germany (see Section 6.1.3 and Chapter 6.1.5). In particular, the physical encounters that

occur during various events like the fellows' study trip help to encourage the feeling of belonging, of being part of a "Humboldt Family" (see Chapter 6.2.3).

On top of this, the bond between alumni, who had only completed their stay in Germany in the previous three years, and the Foundation proved to be especially close (see Chapter 4.1.4, see Recommendation 2 "Bonding with the Humboldt Network at an early stage", p. 207).

Feodor Lynen Fellows: an important group with potential

With the help of the Feodor Lynen Research Fellowship Programme further bonds are forged between excellent academics in Germany and Humboldt sponsorship recipients around the world. Due to their professional success, their strong affinity with international research collaborations and, last but not least, the fact that they are representatives of a young generation of researchers they can take on important functions as "nodes" in the network.¹⁵⁶

The results of the study show that by far the majority of Lynen alumni remain in contact both with their Humboldt hosts as well as with other researchers in the host country for years after the stay abroad financed by the Humboldt Foundation has come to an end (see Chapter 6.1.2). The programme thus not only promotes the internationalisation of German academic careers and, by extension, of Germany as a research location but also the Humboldt Network itself.

As in the evaluation of the Feodor Lynen Research Fellowship Programme that was conducted in 2012, however, there are indications in this study to suggest that Feodor Lynen fellows take less advantage of the alumni tools on offer and tend to build collaborations with other researchers abroad rather than with Humboldtians (see Chapter 6.1.2). Moreover, Lynen alumni have a comparatively weaker emotional bond with the network, certainly not least because they do not share the common experience of a stay in Germany (Chapter 6.2.2).

This group in the network is special for another reason: a fifth of Lynen alumni do not continue their professional careers in academia and thus do not belong to the Foundation's classic target group for alumni sponsorship measures.

Due to the central role Lynen alumni could play in fostering and extending the network, an attempt should be made to address them more directly with appropriate alumni sponsorship measures and to recruit them for greater involvement in networking activities (see Recommendation 3 "Lynen alumni / Network Germany", p. 208).

Emotional bond and motivation for involvement in the Humboldt Network

With the aid of a series of questions, an attempt was made to assess the feeling of belonging to the network and the Foundation.

¹⁵⁶ See Final Report on the evaluation of the Alexander von Humboldt Foundation's Feodor Lynen Research Fellowship Programme, Technopolis, July 2012

As a result of the bond with the Foundation and Germany that is often described as emotional, many members of the network are apparently able to identify with the concept of a “Humboldt Family” as the symbol for a sustainable community of trust, security and solidarity. Some describe this participation in the community as intellectually and personally inspiring. Lynen alumni and hosts judge the term more critically and prefer the description “Humboldt Network”. They see the advantage of belonging to this network in being part of a community of excellent, international researchers (see Chapter 6.2.3).

In the case of sponsorship recipients from transition and developing countries, the feeling of “belonging to a family” with regard to the Humboldt Network is particularly strong: for example, an average of approximately 60 per cent of alumni abroad stated that they felt part of the Humboldt Family when they attended Foundation events. Amongst respondents from Sub-Saharan Africa (75%), the Middle East and North Africa (70%) as well as Asia (66%), on the other hand, the level of agreement was noticeably higher. By comparison, only 50 per cent of researchers resident in North America and 57 per cent of those resident in Europe completely agreed with this statement (see Chapter 6.2.3).

One type of bond with the network expresses itself in the various different ways individuals engage with the purposes of the Foundation.

There are various reasons for engagement of this kind: roughly 30 per cent of survey participants abroad, for example, are members of a Humboldt association. The main reason for becoming a member is given as fostering contacts to other alumni (82% of 1,030 responses); maintaining a connection with the Foundation is cited just as frequently. Whilst this reveals that the benefit of alumni associations is seen, above all, in fostering networks, the motivation for other forms of involvement like preparing reviews or becoming an ambassador scientist can be found, first and foremost, in a feeling of indebtedness and gratitude towards the Foundation and/or the desire to do something for junior researchers. When asked about the reasons for their involvement, nearly all alumni who are or have been ambassador scientists for the Foundation agreed completely with the statement that they “(...) wanted to give something back to the Foundation” (85 per cent of 81 respondents) (see Chapter 6.1.6).

In the case of Lynen alumni, promoting junior researchers also plays a decisive role in their involvement as reviewers. Approximately 60 per cent of respondents (n = 169) completely agreed with this claim. The statement, “I decided to engage in this way because I wanted to reciprocate for the sponsorship I received from the Humboldt Foundation” also elicited agreement (58% of 174 individuals) (see Chapter 6.1.5).

Amongst hosts the undisputed motivation for network activity can be found in the wish to promote junior researchers. Hosts who had already worked as reviewers for the Foundation, for example, stated that their motivation had been to promote junior

researchers: of 791 individuals who rated this statement, 79 per cent agreed completely (see Chapter 6.1.5).

In response to the question as to why sponsorship recipients had not so far actively engaged with the network by organising Kollegs or joining an alumni association, the majority answered, “I was not aware that I could become involved ” (alumni abroad 49.9%; Lynen alumni: 51.3%). The reason that came in second place was “no time” (alumni abroad 37.3%; Lynen alumni: 33.3%). The option, “I don’t see any added value for me in the Humboldt Network”, on the other hand, was only chosen in very few cases (alumni abroad: 5.8%; Lynen alumni: 6%) (see Chapter 6.1.5).

Importance and added value of the Humboldt Network for its members

The Humboldt Network is one of several networks for researchers around the globe; there are also specialist networks, for example, or those of scientific academies. In the context of the explorative study an attempt was made to position the value of the Humboldt Network to its members amongst the other, competing networks. The findings of the study show that membership of the Humboldt Network does not make other networks obsolete. It is used with differing degrees of intensity for certain activities like searching for experts or fostering personal contacts (see Chapter 6.2.2). The features which lend it a singular, personal significance and added value are apparently the exclusivity of access, which is considered a privilege, and the fact that members belong for life. The answers to the open questions clearly demonstrate that many Humboldtians feel that being part of this network based on top-level researchers is hugely enriching, both personally and professionally (see Chapter 6.2.3). It can therefore be claimed that the subjective added value ascribed to the Humboldt Network by its members is primarily emotional rather than utilitarian.

Humboldtians are active multipliers in their own countries

According to the findings of the study, most Humboldtians associate positive experiences with their research stay in Germany sponsored by the Humboldt Foundation, which thus lays important foundations for adopting a role as a multiplier for Germany abroad (see Chapter 6.3).

It emerges that Humboldtians really do adopt this role when they return to their own countries by becoming “ambassadors” for the research location, Germany, and promoting the Foundation’s programmes. In response to the online survey, for example, a quarter of alumni abroad stated that they had already advised or supported one or more individuals in preparing a Humboldt application (see Chapter 6.1.5).

Overall, both in the online survey and the guided interviews, members of the Humboldt Network emphasised at various points that they considered integrating junior researchers to be extremely important. Humboldtians’ engagement in this context is essential for maintaining the appeal of the network and should therefore continue to be supported and

sponsored in every respect (see Recommendation 6, “Promoting junior researchers” p. 209).

Humboldt ambassador scientists abroad are a particularly engaged group of Humboldtians. According to the outcomes of the study they are active on behalf of the Humboldt Network and in recruiting junior researchers in many ways, even though in some cases there is still some doubt about the nature of their actual role (see Chapter 6.1.6 and Recommendation 4, “Ambassador scientists abroad”, p. 208). Thanks to their deeper understanding of academia in Germany but also of German culture, politics and society, alumni disseminate a realistic, up-to-date image of Germany and its science and research landscape abroad. In addition, some alumni act as contacts and provide feedback for German policy-makers and academia (see Chapter 6.3). As such, Humboldtians make an important contribution to Germany foreign cultural and educational policy.

Summary

All in all, after evaluating the results of the explorative study, it can be concluded that the activities in the Humboldt Network that are decisively supported and sponsored by the Foundation’s alumni sponsorship measures significantly contribute to internationalising Germany as a knowledge and research location as well as to German foreign cultural and educational policy. The two core goals of fostering and extending the Humboldt Network can therefore be seen as being achieved.

Recommendations

1. Alumni tools

Alumni tools in general:

Looking at the dimensions “awareness”, “usage” and “evaluation” of alumni tools, there are noticeable differences between both the various programme groups, not least with reference to alumni’s countries of origin and academic fields. Moreover, at several points in the study it is revealed that information gaps of varying degrees exist with regard to the alumni sponsorship measures that are on offer. Regular, more broadly-based marketing efforts would therefore be desirable to enhance the state of knowledge amongst members of the network and render the use of alumni tools more calculable for alumni in general.

The results also show that, apparently, a large proportion of collaborations within the network are funded by third parties without direct support from the Humboldt Foundation. Nevertheless, the Foundation’s alumni tools are of vital importance to academic cooperation, especially in countries that offer few funding alternatives. Accordingly, alumni from Africa and Asia generally rate the impact of alumni sponsorship activities and the network on their own academic careers much higher than North American or European alumni.

Thus the Humboldt Foundation’s goal in fostering the network should be to offer Humboldtians and hosts an appealing, sustainable network with interesting collaborative partners for all members. Alumni who cooperate with hosts in Germany or with one another using third-party funds should, therefore, remain visible in the Humboldt Network and available as contacts for activities. In order to achieve this, increased efforts will be required to involve alumni from academic fields and regions – in particular high-tech countries – who have not been so actively involved in networking activities in the past (e.g. by expanding the alumni tool “Research Group Linkages”).

The Foundation offers both alumni tools for largely personalised sponsorship (e.g. printing subsidies, book donations) as well as those that are mainly designed to strengthen the network in specific regions or in general (e.g. Kollegs, colloquia). In order to continue using the funds available in the best interests of the Foundation’s goals, all the tools should be examined to establish whether the cost-benefit ratio is appropriate. In this context, it should be discussed whether proactive, strategic tools that reach a large number of Humboldtians (e.g. Kollegs, colloquia) should be given greater weight than more reactive tools that tend to benefit individuals (e.g. printing subsidies, book donations).

Specific alumni tools:

- The majority of alumni are very satisfied with the tool, *Further Research Stays in Germany*. Those alumni abroad who did voice criticism expressed the wish to extend the duration of a further stay in Germany to up to six months. They also felt it should be possible to apply for it sooner than three years after completing the initial fellowship period. To maintain or even increase the appeal of the tool in the future, headquarters should therefore consider whether such modifications would make sense.
- About half of the *hosts in Germany* are aware that it is possible to receive financial support from the Foundation for a reciprocal visit to their alumni abroad. The Foundation should continue to publicise and expand this tool in order to involve hosts more in network activities and enlist their support for marketing purposes. The results of the study also suggest that many hosts feel a strong bond with the Foundation and are very willing to get involved.
- The survey showed that a third of Feodor Lynen alumni are not aware of the Foundation's alumni sponsorship tools. The Foundation should assess whether the portfolio of tools for this group could be redesigned to better meet the needs of Lynen alumni and involve them more in the Network than has previously been the case. Moreover, Lynen alumni rarely take advantage of the opportunity to undertake a further research stay with Humboldtians abroad. One of the objectives of this tool is to foster connections between German researchers and partners in transition and developing countries. So far, only a few Lynen fellows have been on a research visit to countries in this category; even fewer of them have used alumni sponsorship for a further stay with their respective host. The Foundation should, therefore, consider measures to enhance the appeal of a stay with Humboldtians in transition and developing countries for Lynen alumni. It would make sense to develop the tool of Further Research Stays for Lynen alumni with Humboldtians for this purpose.
- The results of the study show that alumni sponsorship meets its objectives with regard to *Research Group Linkages*. Research Group Linkages are a particularly effective tool for recruiting young researchers for the Humboldt Network. Currently, the programme is only open to alumni from nations with weak currencies. In order to create additional opportunities for scientific exchange and involve more groups in the network, the programme could be expanded to include alumni from other countries. By supporting linkages between institutes in Germany and partner institutes in high-tech countries it might be possible to tap the potential of these regions for the network once again.
- The results of the study demonstrate that the *Humboldt Alumni Award* works well and should be continued in the same manner.
- From the survey participants' perspective, *Humboldt Kollegs* are an excellent networking tool that promotes regional exchange and facilitates the involvement of junior researchers. The respondents' only criticism concerns the selection of topics, which is sometimes considered too broad. The programme's sponsorship guidelines

do, however, allow for more specific topic areas. It should, therefore, be communicated more clearly that Kollegs do not have to be interdisciplinary. In addition, the Foundation's objective of regional networking, which is just as important as academic exchange, should be made clearer to those participating in this type of event.

- The results of the study suggest that *Humboldt Colloquia* intensify the bonds between the alumni who participate in a given region as well as their connection with the Foundation. Foundation headquarters should therefore explicitly retain Humboldt Colloquia as a strategic tool to continue the targeted expansion and maintenance of the Humboldt Network on a country-by-country basis.
- Many alumni who participated in the survey expressed their desire for better access to electronic knowledge bases such as journals, databases etc. The Foundation should consider re-allocating resources from *book donations* and *print subsidies* to electronic media, or supplementing them with electronic media. In this context, the Foundation could also examine the possibility of granting every Humboldtian access to digital archives as soon as they become members of the Humboldt Network. Such exclusive access would add yet greater value to membership of the network.
- Alumni consider *equipment subsidies* an important factor that supports the continuity of their research activities. In particular, they help alumni from transition and developing countries to remain on a par with their international academic communities and should therefore continue to be available to this group.

Need for new alumni tools:

The results of the study suggest that there is a two-fold need for additional alumni tools: Firstly, there should be further initiatives to support and expand academic networking amongst the alumni themselves. Secondly, in order to maintain the excellence of the Network, tools are needed to enhance the appeal and usefulness of membership, in particular for alumni from high-tech countries. In addition to expanding Research Group Linkages, this could be achieved by organising events that specifically cater for the interests and needs of Humboldtians from these countries (high-level events).

2. Bonding with the Humboldt Network at an early stage

The response rates to the online survey can be seen as an indicator of Humboldtians' bond with Germany and the Foundation. The response rate was particularly high amongst alumni whose initial stay ended less than three years previously, but it dropped noticeably as the interval following the stay in Germany lengthened. This shows that the bond is strongest immediately after the first research stay sponsored by the Foundation.

Moreover, there is a positive correlation between participation in networking events organised by the Foundation and later involvement in the network. This leads to the conclusion that events are a way – perhaps the way – of making fellows identify with

Germany and the Foundation during their initial research stay, and thus recruiting them for the network on a sustainable basis. The Foundation should also address sponsorship holders who have not participated in these events after their research stay in order to retain them in the network. Due to their strong bonds with Germany and the Foundation during the first three years after completing their initial research stay, it seems recommendable to systematically reach out to alumni during this period.

3. Lynen Alumni / Network Germany

The Foundation should explore whether and to what extent the group of Lynen alumni could be involved more in network activities. Due to their special connection with the Foundation, this group should be analysed separately in order to better assess their needs with regard to alumni sponsorship and to collect more information about their motivation for international networking.

According to the outcomes of the online survey, Lynen alumni would be interested in more exchange within the network, but apparently no appropriate platform exists. The Foundation's own online social network, Humboldt Life, could serve this purpose in the future. In addition, the Foundation could consider facilitating additional alumni meetings, either in the context of Foundation events or in cooperation with the "German Association of Humboldtians" (DGH).

The results of the study suggest that a number of hosts would like to get more involved in the network. It should, therefore, be considered whether this potential could be tapped, for example by inviting hosts to the Foundation's networking events more often.

Since 2012, budget constraints for personnel at headquarters have forced the Foundation to significantly reduce its activities on behalf of the network in Germany. From a strategic point of view and based on the outcomes of the study as described above, this step should be reconsidered since the value of the Network Germany for the entire Humboldt Network is very substantial. One point to consider in this context is that despite the fact that alumni sponsorship is not particularly cost-intensive, it requires a large amount of human resources (high levels of personnel in relation to the funding required).

4. Ambassador scientists abroad

Ambassador scientists abroad perform vital tasks on behalf of the Foundation locally, which means they are in a position to assume a central role in maintaining and expanding the Humboldt Network. The study shows that these particularly committed alumni are still somewhat uncertain as to what their role really is. The Foundation could perhaps do more to manage expectations, for example by communicating more specific information (such as the option of having travel expenses reimbursed), by providing more information material, by showcasing best practices on the website, or by reviewing and potentially rewriting the "job description". There are also indications to suggest that ambassador scientists would like to network more. For example, many participants rated the gathering

first held at the Foundation's Annual Meeting in 2013 as very beneficial. Humboldt Life has also been offered to ambassador scientists and could play an important role as a future networking and sharing tool.

5. Access to information on individuals in the network

Alumni and their hosts suggest improving access to information about network members and creating ways of searching for other Humboldtians using certain criteria (e.g. Who is currently in Germany? Where are there Humboldtians in my country?). It seems that members are either not sufficiently aware of the "Searching the Network" option on the Foundation website, or it does not fully meet their needs for a quick, comprehensive search.

Alumni abroad as well as hosts and Lynen alumni in Germany greatly welcome the recently added option for sharing and networking via a social media tool ("Humboldt Life"). At the beginning of 2015, however, the development of Humboldt Life had to be put on hold for financial reasons. This measure should be reconsidered as soon as possible in order to expand this networking tool and make it appealing for the long term.

6. Promoting junior researchers

The results of the study illustrate how strongly alumni feel about involving junior researchers and how very committed they are to introducing them into the network. The Foundation should continuously examine existing alumni tools to ascertain whether they fully exploit opportunities to open the network to new generations. This could be done by creating yet better opportunities for Humboldt alumni to recruit junior researchers for Humboldt sponsorship.

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Table 63: Representativeness by academic field

		Humanities and Social Sciences	Life Sciences	Natural Sciences	Engineering	N/n
Alumni (abroad)	Basic population	25.9%	18.3%	43.0%	12.9%	12,263
	Return rate	30.4%	13.9%	42.8%	12.9%	
	Responses	1,377	630	1,936	586	4,529
	Missing responses					546
Lynen	Basic population	21.5%	17.7%	52.7%	8.1%	1,423
	Return rate	23.6%	14.7%	53.6%	8.1%	
	Responses	119	74	270	41	504
	Missing responses					48
Hosts	Basic population	28.0%	20.8%	37.9%	13.3%	4,150
	Not stated					219
	Return rate	27.0%	17.5%	43.8%	11.7%	
	Responses	324	210	525	140	1,199
	Missing responses					125
Total	Basic population	4,643	3,355	7,589	2,249	18,055
	Responses	1,820	914	2,731	767	6,591

Table 64: Representativeness by alumni's current country of residence (abroad) or by Lynen alumni's first host country

		Sub-Saharan Africa	Asia	Australia, New Zealand and Oceania	Europe	Central and South America	Middle East; North Africa	North America	N/n
Alumni (abroad) country of residence)	Basic population	3.2%	25.9%	3.1%	39.5%	4.2%	3.0%	21.0%	12,263
	Return rate	3.6%	24.1%	3.2%	44.6%	5.2%	3.5%	15.8%	
	Responses	165	1,094	147	2,025	234	160	719	4,544
	Missing responses								531
Lynen alumni (first host country)	Basic population	0.9%	3.1%	5.1%	19.2%	1.3%	0.6%	69.9%	1,423
	Return rate	0.9%	2.7%	5.6%	20.2%	1.6%	0.5%	68.3%	
	Responses	5	15	31	111	9	3	375	549
	Missing responses								3
Total	Basic population	410	3,215	449	5,123	539	378	3,572	13,686
	Responses	170	1,109	178	2,136	243	163	1,094	5,627

Table 65: Representativeness by age group

		27-35 years old	36-45 years old	46-55 years old	56-65 years old	66 and older	Total
Alumni (abroad)	Basic population	7.0%	23.9%	30.7%	27.8%	10.7%	12,263
	Return rate	7.6%	26.4%	30.5%	26.1%	9.4%	
	Responses	347	1,199	1,386	1,184	427	4,543
	Missing responses						532
Lynen alumni	Basic population	12.6%	39.7%	36.9%	10.0%	0.8%	1,423
	Return rate	14.8%	37.6%	37.0%	9.4%	1.2%	
	Responses	75	191	188	48	6	508
	Missing responses						44
Hosts	Basic population	0.1%	12.6%	38.5%	35.4%	13.3%	1,401
	Not stated						2,968
	Return rate	0.1%	9.7%	34.5%	35.7%	20.0%	
	Responses	1	117	415	429	241	1,203
	Missing responses						121
Total	Basic population	1,042	3,668	4,826	4,044	1,507	18,055
	Responses	423	1,507	1,989	1,661	674	6,951

Figure 26: Versions of the questionnaire

More than two thirds of those surveyed (68%) received one of two basic modules:

- Questionnaire A (“Basic alumni module”): Alumni of the programmes Humboldt Research Fellowship, Georg Forster Research Fellowship and the research awards (who are currently active in academia outside of Germany), sent to 8,351 individuals (Groups 1, 2, 4, 5, 7, 8, 10-13, 15, 16, 18, 20, 22-29).¹⁵⁷
- Questionnaire B (“Basic host module”): Hosts in Germany who are not Humboldt Foundation alumni, sent to 4,039 individuals (Groups 31, 33, 35).

Special and combined variations of these basic modules were compiled for other groups:

- Questionnaire C (“Lynen module”): Modified version of questionnaire A For alumni of the Feodor Lynen Research Fellowship (researchers active in Germany who did not act as hosts between 2001 and 2013), sent to 1,027 individuals (groups 14, 17, 19, 21).
- Questionnaire D (“Abridged US module”): Shortened version of questionnaire A For US-based alumni of the Humboldt Research Fellowship and research awards whose sponsorship concluded within the last 3-5 years, sent to 1,516 individuals (groups 42-55).

¹⁵⁷ Add to this another 1,100 individuals who received the unabridged basic alumni module with merely one additional block of questions (about patterns of participation in Network conferences) (see questionnaire U below)

- Questionnaire G: A combination of parts of questionnaires B and C
Alumni of the Feodor Lynen Research Fellowship who are not only resident in Germany but also hosts, sent to 238 individuals (groups 30, 32, 34)
- Questionnaire J: Questionnaire B with parts of questionnaire A
Alumni of the Humboldt and/or Georg Forster Research Fellowships or the award winner programmes who are both resident in Germany and hosts, sent to 92 individuals (groups 36-38).

Additional questions about patterns of participation in Network conferences were asked of research fellows whose initial sponsorship ended 0-2 and 3-5 years ago¹⁵⁸. This required additional adjusted modules:

- Questionnaire E: Abridged questionnaire A¹⁵⁹ + set of questions about Network conferences
Humboldt and Georg Forster research fellows whose sponsorship ended 0-2 years ago, sent to 1,299 individuals (groups 1, 2, 4, 5)
- Questionnaire F: Abridged questionnaire C¹⁶⁰ + set of questions about Network conferences
Feodor Lynen research fellows whose sponsorship ended 0-2 years ago, sent to 212 individuals (groups 3,6)
- Questionnaire U: Questionnaire A + set of questions about Network conferences
Humboldt and Georg Forster research fellows whose sponsorship ended 3-5 years ago, sent to 1,097 individuals (groups 7, 8, 10, 11)
- Questionnaire V: Questionnaire C + set of questions about Network conferences
Feodor Lynen research fellows whose sponsorship ended 3-5 years ago, sent to 184 individuals (group 9)

¹⁵⁸ Alumni working in the USA whose initial sponsorship ended 3-5 years ago were not asked about their participation in Network conferences (see questionnaire D) as this would have required another special module.

¹⁵⁹ Since individuals whose initial sponsorship ended less than 3 years ago are not yet eligible to apply for the full range of alumni support tools, the questionnaire was abridged accordingly.

¹⁶⁰ Alumni of the Feodor Lynen Programme whose initial sponsorship ended less than 3 years ago are not yet eligible to apply for the full range of alumni support tools. Therefore, the questionnaire was abridged accordingly.

Table 66: Target groups and return rate

Group		Number of individual addressed	Respondents
Research Fellows			
1	Humboldt Research Fellowship, initial sponsorship ended 0-2 years ago (2013-2011), postdocs (incl. USA)	775	460 (59.4%)
2	Georg Forster Research Fellowship, initial sponsorship ended 0-2 years ago (2013-2011), postdocs	100	61 (61%)
3	Feodor Lynen Research Fellowship, initial sponsorship ended 0-2 years ago (2013-2011), postdocs	186	97 (52.2%)
4	Humboldt Research Fellowship, initial sponsorship ended 0-2 years ago (2013-2011), experienced researchers (incl. USA)	363	213 (58.7%)
5	Georg Forster Research Fellowship, initial sponsorship ended 0-2 years ago (2013-2011), experienced researchers	61	45 (73.8%)
6	Feodor Lynen Research Fellowship, initial sponsorship ended 0-2 years ago (2013-2011), experienced researchers	26	15 (57.7%)
7	Humboldt Research Fellowship, initial sponsorship ended 3-5 years ago (2010-2008), postdocs	213	105 (49.3%)
8	Georg Forster Research Fellowship, initial sponsorship ended 3-5 years ago (2010-2008), postdocs	140	85 (60.7%)
9	Feodor Lynen Research Fellowship, initial sponsorship ended 3-5 years ago (2010-2008), postdocs	184	70 (38%)
10	Humboldt Research Fellowship, initial sponsorship ended 3-5 years ago (2010-2008), experienced researchers	91	52 (57.1%)
11	Humboldt Research Fellowship, initial sponsorship ended 3-5 years ago (2010-2008), without a career step	653	312 (47.8%)
12	Humboldt Research Fellowship, initial sponsorship ended 6-8 years ago (2007-2005)	940	414 (44%)
13	Georg Forster Research Fellowship, initial sponsorship ended 6-8 years ago (2007-2005)	116	55 (47.4%)
14	Feodor Lynen Research Fellowship, initial sponsorship ended 6-8 years ago (2007-2005)	169	68 (40.2%)
15	Humboldt Research Fellowship, initial sponsorship ended 9-15 years ago (2004-1998)	2,224	912 (41%)
16	Georg Forster Research Fellowship, initial sponsorship ended 9-15 years ago (2004-1998)	147	77 (52.4%)
17	Feodor Lynen Research Fellowship, initial sponsorship ended 9-15 years ago (2004-1998)	425	149 (35.1%)
18	Humboldt Research Fellowship, initial sponsorship ended 16-25 years ago (1997-1988)	2,801	1,080 (38.6%)
19	Feodor Lynen Research Fellowship, initial sponsorship ended 16-25 years ago (1997-1988)	376	131 (34.8%)
20	Humboldt Research Fellowship, initial sponsorship ended more than 26 years ago (1987-x)	1,488	481 (32.3%)
21	Feodor Lynen Research Fellowship, initial sponsorship ended more than 26 years ago (1987-x)	57	22 (38.6%)

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Research Award Winners			
22	Research award winners (PTR), research stay ended 0-2 years ago (2013-2011) incl. USA	259	129 (49.8%)
23	Research award winners, previously fellows (PTR-STP), research stay ended 0-2 years ago (2013-2011)	24	16 (66.7%)
24	Research award winners (PTR), research stay ended 3-5 years ago (2010-2008)	83	37 (44.6%)
25	Research award winners, previously fellows (PTR-STP), research stay ended 3-5 years ago (2010-2008)	22	11 (50%)
26	Research award winners (PTR), research stay ended 6-8 years ago (2007-2005)	80	28 (35%)
27	Research award winners, previously fellows (PTR-STP), research stay ended 6-8 years ago (2007-2005)	13	7 (53.8%)
28	Research award winners (PTR), research stay ended 9-15 years ago (2004-1998)	125	47 (37.6%)
29	Research award winners, previously fellows (PTR-STP), research stay ended 9-15 years ago (2004-1998)	29	10 (34.5%)
Hosts			
30	Hosts, FLF-alumni, 1 guest	111	55 (49.5%)
31	Hosts, non-FLF-alumni, 1 guest	2,116	553 (26.1%)
32	Hosts, FLF-alumni, 2-3 guests	77	34 (44.2%)
33	Hosts, non-FLF-alumni, 2-3 guests	1,209	372 (30.8%)
34	Hosts, FLF-alumni, 4+ guests	50	20 (40%)
35	Hosts, non-FLF-alumni, 4+ guests,	714	264 (37%)
36	Hosts, Humboldt research fellowship/Georg Forster alumni and/or award winners in Germany, 1 guest	32	10 (31.3%)
37	Hosts, Humboldt research fellowship/Georg Forster alumni and/or award winners in Germany, 2-3 guests	37	10 (27%)
38	Hosts, Humboldt research fellowship/Georg Forster alumni and/or award winners in Germany, 4+ guests	23	6 (26.1%)
USA			
42	Humboldt research fellowship, initial sponsorship ended 3-5 years ago (2010-2008), postdocs, USA	18	6 (33.3%)
43	Humboldt research fellowship, initial sponsorship ended 3-5 years ago (2010-2008), experienced researchers, USA	24	6 (25%)
44	Humboldt research fellowship, initial sponsorship ended 3-5 years ago (2010-2008), without a career step, USA	89	33 (37%)
45	Humboldt research fellowship, initial sponsorship ended 6-8 years ago (2007-2005), USA	113	26 (23%)
46	Humboldt research fellowship, initial sponsorship ended 9-15 years ago (2004-1998), USA	188	54 (28.7%)
47	Humboldt research fellowship, initial sponsorship ended 16-25 years ago (1997-1988), USA	417	134 (32.1%)
48	Humboldt research fellowship, initial sponsorship ended 26+ years ago (1987-x), USA	289	82 (28.4%)
49	PTR-STP, research stay ended 0-2 years ago (2013-2011), USA	11	5 (45.5%)
50	PTR, research stay ended 3-5 years ago (2010-2008), USA	106	22 (20.8%)
51	PTR-STP, research stay ended 3-5 years ago (2010-2008), USA	8	2 (25%)
52	PTR, research stay ended 6-8 years ago (2007-2005), USA	72	22 (30.6%)
53	PTR-STP, research stay ended 6-8 years ago (2007-2005), USA	7	3 (42.9%)

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54	PTR, research stay ended 9-15 years ago (2004-1998), USA	164	41 (25%)
55	PTR-STP, research stay ended 9-15 years ago (2004-1998), USA	10	2 (20%)
Total		18,055	6,951

Table 67: Further research stays (3 months) – total number of grants by decade 1959-2013 (data base)

	1959-1963	1964-1973	1974-1983	1984-1993	1994-2003	2004-2013	Total
Georg Forster Humboldt fellowship					14	221	235
Award winner	20	668	2,396	3,802	3,672	2,945	13,503
Other fellowships			48	223	330	541	1,142
Total	20	668	2,444	4,028	4,056	3,814	15,030

Table 68: Number of participants in Humboldt Colloquia per year 2004-2013 (data base)

Type of sponsorship	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Georg Forster Humboldt fellowship		3	1	22		21	25		2	
Lynen	143	104	229	162	230	140	79	247	149	79
Award winner	15		5	8	3	2	6	3	6	13
Other fellowships	10	22	6	9	9	1	3	13	33	13
Other guests			7	6	1	13	2	11	8	1
Total	179	147	269	220	258	209	120	286	219	106

Table 69: Number of participants in Humboldt Colloquia in the Humboldt Network by type of sponsorship (data base)

Type of sponsorship	Number of sponsored individuals (from 1985)	Individuals in the network	Percentage
Georg Forster Humboldt fellowship	93	684	13.6%
Lynen	6,485	22,516	28.8%
Award winner	166	3,322	5.0%
Other fellowships	419	4,182	10.0%
Total fellows only	101	908	11.1%
Other guests (including 217 hosts)	7,264	31,612	23.0%

Table 70: Usage of alumni sponsorship tools by alumni abroad, broken down according to Eastern and Western Europe (online survey)¹⁶¹

		Humboldt Kolleg		Humboldt Colloquium		Research group linkages		Printing subsidies		Equipment subsidies		Book donations		Further research stays		Short stays	
Eastern Europe	Received/responded	28.9%	211	23.5%	170	7.1%	50	10.3%	73	41.7%	312	38.3%	286	50.3%	407	35.0%	20
	Aware, not (yet) used	40.4%	295	45.7%	330	44.4%	311	52.7%	374	40.3%	302	40.8%	305	40.5%	328	45.0%	3
	Unaware	30.7%	224	30.7%	222	48.4%	339	37.0%	263	18.0%	135	20.9%	156	9.1%	74	20.0%	1
Western Europe	Received/responded	13.7%	112	11.8%	95	0.1%	1	6.3%	50	5.2%	39	7.2%	55	26.2%	227	14.6%	1
	Aware, not (yet) used	35.5%	291	42.1%	340	27.2%	208	32.1%	255	34.2%	258	33.7%	259	51.7%	448	48.3%	4
	Unaware	50.8%	416	46.2%	373	72.7%	556	61.6%	490	60.7%	458	59.2%	455	22.1%	191	37.0%	3

¹⁶¹ Only alumni from certain countries are eligible to apply for book donations, equipment subsidies and research group linkages. The lists of countries are updated to reflect current global economic developments. The current lists of countries are attached to the appendix (Table 73 and Table 74).

Table 71: Usage of alumni support tools by alumni abroad, broken down according to academic field (online survey)¹⁶²

		Short stays	Further research stays	Book donations	Equipment subsidies	Printing subsidies	Research group linkage	Kolleg	Colloquium
Humanities and Social Sciences (n=796-1,108)	Received/responded	24.8% (260)	45.4% (503)	28.8% (244)	13.4% (108)	15.8% (156)	2.1% (17)	24.8% (249)	22.7% (224)
	Aware, but not yet used	46.1% (483)	41.3% (458)	31.6% (268)	40.1% (324)	40.0% (394)	38.8% (309)	39.2% (394)	43.0% (424)
	Unaware	29.0% (304)	13.3% (147)	39.6% (336)	46.5% (375)	44.2% (435)	59.0% (470)	36.0% (362)	34.3% (338)
Life Sciences (n=412-501)	Received/responded	18.8% (92)	27.7% (139)	15.9% (66)	31.8% (140)	2.2% (10)	4.1% (17)	20.8% (99)	16.6% (78)
	Aware, but not yet used	47.6% (233)	50.1% (251)	40.4% (168)	31.6% (139)	35.1% (161)	34.7% (143)	36.3% (173)	41.9% (197)
	Unaware	33.7% (165)	22.2% (111)	43.8% (182)	36.6% (161)	62.7% (288)	61.2% (252)	42.9% (204)	41.5% (195)
Natural Sciences (n=1,287-1,559)	Received/responded	20.9% (312)	33.9% (528)	18.6% (245)	23.5% (314)	1.3% (18)	3.3% (42)	19.2% (284)	12.8% (186)
	Aware, but not yet used	49.0% (733)	47.8% (745)	40.4% (533)	39.2% (524)	36.3% (510)	30.6% (394)	34.2% (505)	39.4% (571)
	Unaware	30.1% (451)	18.3% (286)	41.0% (541)	37.4% (500)	62.4% (876)	66.1% (851)	46.5% (687)	47.7% (691)
Engineering (n=364-458)	Received/responded	22.6% (100)	31.2% (143)	16.6% (63)	21.7% (83)	2.2% (9)	4.1% (15)	19.8% (84)	16.9% (72)
	Aware, but not yet used	47.9% (212)	50.0% (229)	46.4% (176)	47.0% (180)	42.6% (173)	37.6% (137)	37.3% (158)	43.4% (185)
	Unaware	29.6% (131)	18.8% (86)	36.9% (140)	31.3% (120)	55.2% (224)	58.2% (212)	42.9% (182)	39.7% (169)

¹⁶² Only alumni from certain countries are eligible to apply for book donations, equipment subsidies and research group linkages. The lists of countries are updated to reflect current global economic developments. The current lists of countries are attached to the appendix (Table 73 and Table 74).

Table 72: Overview of all projects winning the Humboldt Alumni Award for innovative networking initiatives

Humboldt Alumni Award Winner	Year	Project
Professor Dr Adjai Paulin Oloukpona-Yinnon, Togo	2009	Adjai Paulin Oloukpona-Yinnon wants to use the Humboldt Alumni Award to build an international Humboldt Network in West Africa for sustainable academic collaboration within Africa offering systematic links to Germany. This project will also include countries where there are no Humboldtians so far.
Professor Dr Bakhtyar Karimov, Uzbekistan	2009	Bakhtyar Karimov's objective is to renew and intensify contacts between Humboldt alumni in Central Asia. He plans an interdisciplinary, inter-regional network for science, education, culture and business.
Dr Odunayo C. Adebooye, Nigeria	2009	Odunayo C. Adebooye wants to build a "Scientific and Humanities Research Information Network" (SHRINET) in Nigeria. The objective is to remove obstacles to academic activity by bridging an information gap amongst young Nigerian scientists caused by insufficient access to the internet and international publications.
Professor Dr Makoto Arai, Japan	2010	Makoto Arai plans to establish a German-Asian network in Geriatrics with a mission to humanise the way we approach dementia and improve the social integration of patients.
Professor Dr Claudio Borri, Italy	2010	Claudio Borri wants to use the Humboldt Alumni Award to create a transdisciplinary network of researchers. Based in Italy, the project will connect numerous Mediterranean countries in an interdisciplinary network of Humboldtians, junior researchers and other scholars on topics relating to risk management and natural disaster protection.
Professor Dr Victor Fernando Lolas Stepke, Chile	2010	Victor Fernando Lolas Stepke wants to use the Humboldt Alumni Award for international collaboration to improve the ethical foundations of biomedical and psycho-social research in Latin America.
Professor Dr Seigo Hirowatari, Japan	2011	This joint networking initiative by Seigo Hirowatari and the Humboldt associations of Japan-East and Japan-West was launched to build an information and counselling network for young Japanese researchers who are interested in a research stay in Germany.
Professor Dr Tatjana Ilarionova, Russia	2011	With the help of the Humboldt Alumni Award, Tatjana Ilarionova wants to publish a journal with the title "Russia and Germany. A Scientific Humboldt Journal". The goal is to foster connections between Humboldtians in Russia and the Commonwealth of Independent States (CIS).
Professor Dr Sabine Wilke, USA	2011	Sabine Wilke wants to use the Humboldt Alumni Award to build a transatlantic research network on humanities in environmental research.

Dr Olanike Deji, Nigeria	2012	With her initiative "Gendered Agriculture in Humboldt (GAH) Network for Sustainable Food Security and Development in Nigeria", Olanike Deji wants to help capitalise on the potential of female Nigerian scientists and their gender-specific perspective on issues such as food safety and battling poverty.
Professor Mama Foupouagnigni, Cameroon	2012	Based on her conviction that mathematics are at the root of many aspects of our lives, Mama Foupouagnigni plans to build an "African-German Network in Mathematical Sciences and Applications".
Dr Matthew Grayson, USA	2012	Matthew Allen Grayson wants to develop a transatlantic "Electronic Materials Gateway Network" in engineering. His objective is to inspire young talents in the USA and in Germany and encourage them to embark on a scientific career.
Professor Dr Randa Abou Bakr, Egypt	2103	In the context of his networking initiative "Forum for the Study of Popular Culture", Randa Abou-Bakr wants to build a forum to explore popular culture and offer its resources and expertise to scientists in the field.
Professor Dr Samuel G. K. Adiku, Ghana	2013	The initiative, "Towards the Establishment of an Effective Humboldt Network in Ghana" by agricultural scientist Samuel G.K. Adiku, is designed to support scientists in Ghana in building their research careers and applying for research fellowships in Germany.
Professor Dr Hamadi I. Boga, Nigeria	2013	Hamadi I. Boga wants to develop a German-African "Network for Capacity Building in Molecular Biology and Bioinformatics in Eastern Africa". The network will help inform scientists from Sub-Saharan Africa about the latest research methods and make them competitive internationally. In addition, Hamadi I. Boga wants to enable junior researchers to collaborate with research institutions in Germany.
Professor Dr Draiton G. De Souza, Brazil	2013	The "Dignitas Humboldt" networking initiative is designed to expand German-Brazilian-Argentinian collaborations in the humanities.
Professor Dr Kay L. Double, Australia	2013	The purpose of the "Research Ambassadors and Mentoring Program (RAMP): A National Mentoring Scheme to Support Young Australian Researchers" by Kay L. Double is the development of a national mentoring programme to support young Australian researchers of all fields in their career goals, as well as to disseminate information about Germany as a research location.
Dr Heather G. Marco, South Africa	2013	With her "Tri-Nations Network to Promote Modern Approaches to the Study of Biological Diversity: South Africa, Namibia, Germany", the South African zoologist Heather G. Marco wants to intensify research collaboration between scientists from South Africa, Namibia and Germany and to expand international academic and cultural exchange between young scientists from South Africa and Namibia.

Table 73: List of countries for research group linkages (as of April 2013)

Afghanistan	Grenada	Pakistan
Albania	Guatemala	Palau
Algeria	Guinea	Palestinian Territories
Angola	Guinea-Bissau	Panama
Antigua and Barbuda	Guyana	Papua New Guinea
Argentina		Paraguay
Armenia	Haiti	Peru
Azerbaijan	Honduras	Philippines
	Hungary	Poland
Bangladesh		
Belarus	India	Romania
Belize	Indonesia	Russian Federation
Benin	Iran	Rwanda
Bhutan	Iraq	
Bolivia		Samoa
Bosnia Herzegovina	Jamaica	Sao Tomé and Príncipe
Botswana	Jordan	Senegal
Brazil		Serbia
Bulgaria	Kazakhstan	Seychelles
Burkina Faso	Kenya	Sierra Leone
Burundi	Kiribati	Slovakia
	Korea, Dem. PR of	Slovenia
Cambodia	Kosovo	Solomon Islands
Cameroon	Kyrgyzstan	Somalia
Cape Verde		South Africa
Central African Republic	Laos	South Sudan
Chad	Latvia	Sri Lanka
Chile	Lebanon	St. Kitts and Nevis
China, PR of	Lesotho	St. Lucia
Colombia	Liberia	St. Vincent and the Grenadines
Comoros	Libya	Sudan
Congo	Lithuania	Suriname
Cook Islands		Swaziland
Costa Rica	Macedonia	Syria
Cote d'Ivoire	Madagascar	
Croatia	Malawi	Tajikistan
Cuba	Malaysia	Tanzania
Czech Republic	Maldives	Thailand
	Mali	Timor-Leste
Djibouti	Marshall Islands	Togo
Dominica	Mauritania	Tonga
Dominican Republic	Mauritius	Tunisia
	Mexico	Turkey
Ecuador	Micronesia, Fed. States	Turkmenistan
Egypt	Moldavia, Rep.	Tuvalu
El Salvador	Mongolia	
Equatorial Guinea	Montenegro	Uganda
Eritrea	Morocco	Ukraine
Estonia	Mozambique	Uruguay
Ethiopia	Myanmar	Uzbekistan
Fiji	Namibia	Vanuatu
	Nauru	Venezuela
Gabon	Nepal	Vietnam
Gambia	Nicaragua	
Georgia	Niger	Yemen
Ghana	Nigeria	
	Niue	Zambia
		Zimbabwe

Table 74: List of countries for equipment subsidies and book donations (as of September 2014)

Albania	Haiti	Russian Federation
Algeria	Honduras	Rwanda
Angola		
Antigua and Barbuda	India	Samoa
Argentina	Indonesia	Sao Tomé and Príncipe
Armenia	Iran	Senegal
Azerbaijan		Serbia
	Iraq	Seychelles
Bangladesh		Sierra Leone
Belarus	Jamaica	Solomon Islands
Belize	Jordan	Somalia
Benin		South Africa
Bhutan	Kazakhstan	South Sudan
Bolivia	Kenya	Sri Lanka
Bosnia Herzegovina	Kiribati	St. Kitts and Nevis
Botswana	Korea, Dem. Rep. of	St. Lucia
Brazil	Kosovo	St. Vincent and the Grenadines
Burkina Faso	Kyrgyzstan	Sudan
Burundi		Suriname
	Laos	Swaziland
Cambodia	Lebanon	Syria
Cameroon	Lesotho	
Cape Verde	Liberia	Tajikistan
Central African Republic	Libya	Tanzania
Chad		Thailand
Chile	Macedonia	Timor-Leste
Colombia	Madagascar	Togo
Congo	Malawi	Tonga
Congo, Dem. Rep. of	Malaysia	Tunisia
Cook Islands	Maldives	Turkey
Costa Rica	Mali	Turkmenistan
Cote d'Ivoire	Marshall Islands	Tuvalu
Croatia	Mauretania	
Cuba	Mauritius	Uganda
	Mexico	Ukraine
Djibouti	Micronesia, Fed. States	Uruguay
Dominica	Moldavia	
Dominican Republic	Mongolia	Uzbekistan
	Montenegro	
Ecuador	Morocco	Vanuatu
Egypt	Mozambique	Venezuela
El Salvador	Myanmar	Vietnam
Equatorial Guinea		
Eritrea	Namibia	Yemen
Ethiopia	NauruNepal	
		Zambia
Fiji	Nicaragua	Zimbabwe
	Niger	
Gabon	Nigeria	
Gambia	Niue	
Georgia		
	Pakistan	
Ghana	Palau	
Grenada	Palestinian Territories	
Guatemala	Panama	
Guinea	Papua New Guinea	
Guinea-Bissau	Paraguay	
Guyana	Peru	
	Philippines	