

## Evaluation of the Alexander von Humboldt Foundation's Humboldt Research Fellowship Programme

### Short version

#### Introduction

In April 2009, Technopolis was contracted to evaluate the Alexander von Humboldt Foundation's Humboldt Research Fellowship Programme. The Foundation's fellowship programme was first announced in 1954. Since then, more than 22,000 academics from all over the world have conducted a research stay in Germany on the strength of one of the Humboldt Foundation's research fellowships. These fellowships are granted to exceptionally qualified scientists and scholars from abroad to promote long-term research stays at research institutions in Germany. They are dedicated to facilitating a research project of the fellow's own choice in cooperation with an academic host. The main pillars of the programme are support for networking amongst the fellows during their stay in Germany and after the fellowship has come to an end, German language classes at the beginning of the fellowship and life-long alumni sponsorship.

This evaluation uses an impact analysis to examine whether the programme achieved its objectives over the period 1970-2009, during which a total of 16,875 fellows were sponsored. Both quantitative methods (analysis of the Humboldt Foundation's sponsorship and contact data as well as an electronic survey of fellows and hosts at German research institutions) and qualitative methods (interviews, case studies) were used.

The Humboldt Research Fellowship Programme is largely financed by the Federal Foreign Office and the Federal Ministry of Education and Research and pursues the following objectives:

#### Global Objectives (GO)

GO 1: To contribute to the internationalisation of the German research landscape by promoting excellent academics from abroad.

GO 2: To foster the development of influential "connoisseurs and friends of Germany" by promoting excellent foreign academics.

GO 3: To build and develop an enduring, world-spanning network of elites.

#### Programme Objectives (PO)

PO 1: To select applicants with very high academic qualifications.

PO 2: To launch sustainable research collaborations by providing initial funding.

PO 3: To facilitate permanent use of the network for international research collaborations.

PO 4: To facilitate access to international experts and decision-makers in the fields of academia, politics, culture and business for partners from the relevant sectors in Germany.

PO 5: To convey a multifaceted, realistic image of Germany by creating personal and cultural bonds, breaking down prejudices and promoting knowledge of the science system.

#### The most important results regarding the achievement of objectives

1. The major global objectives of the Humboldt Research Fellowship Programme are to contribute to the internationalisation of the German research landscape by promoting excellent academics from abroad, to foster the development of influential "connoisseurs and friends of Germany" by this means and, finally, to build and develop an enduring, world-spanning network of elites. The Humboldt Research Fellowship Programme fulfils these objectives to a very high degree: every fifth fellow who received a fellowship 20 or more years ago now holds, or did hold, a top leadership position. 80% of alumni working at a university or higher education institution 20 or more years after the fellowship are full professors.

Thus, all over the world, Humboldtians hold leading positions, above all, at academic and research institutions, but also in politics, culture and industry. By maintaining sustainable contact with its alumni, the Humboldt Foundation fosters a large alumni network which is also used by other

academic and research institutions as well as by stakeholders in the area of international science and cultural policy.

2. The selection procedure, which is based on external review and the discussion of applications by a multidisciplinary committee, has proved its worth. This is demonstrated both by the fellows' subsequent career development and by the results of the interviews held with selection committee members and hosts in Germany.
3. However, there is probably still potential amongst highly-qualified academics that is not being fully exploited: the programme is open to academics irrespective of gender, ethnic origin, nationality, religion and ideology, as well as research field, and there are no quotas. This openness is not only reflected by the selection procedure and the criteria on which it is based but also by the fact that the fellowship, as a matter of principle, is accessible to differing target groups. Analyses of the EU's She Figures for Europe suggest that women are clearly underrepresented in the Humboldt Research Fellowship Programme – which indicates that the programme is not as successful at addressing women as men. Survey results indicate no significant differences between women and men in the course and impact of the fellowship. In the long term, both female and male alumni achieve above average career success: according to the European She Figures, the percentage of women who hold a position equivalent to a W3 professorship within the academic faculty in the EU is 6%, amongst men 17%; in the group of 1990s alumni, the percentage of full professors was 48% for women and 68% for their male colleagues. Differences between men and women also emerge in relation to managerial positions. In every cohort women have nearly as many leadership functions as men; the difference varies between 0 and 7 percentage points and declines with time. However, the proportion of female alumni at top leadership level does not exceed 11% whilst amongst male alumni (fellowship approved prior to 1990) the share increases to 20%.
4. Research stays are academically productive and provide a sound basis for further cooperation. More than 70% of hosts and fellows continue the scientific collaboration they have developed during the fellowship stay. Fellows often cooperate beyond the boundaries of the host institute; humanities scholars, in particular, cooperate especially frequently with other academics from Germany and with other Humboldtians. By comparison, engineering scientists most frequently continue their scientific cooperation with their host or host institute.

Whether there is a need for collaborative research or for the long-term continuation of a collaboration varies from individual to individual and subject to subject. For example, integration and cooperation at the host institute play quite a different role for humanities scholars than for fellows from other disciplines. For the former, their own research work and publication activities are uppermost; thus sharing knowledge on research themes with academics at the host institute and conducting research there are both relevant and useful. Much less significant for humanities scholars than for fellows from other fields are the duties to be carried out at the institute, be they part of research projects, applications or teaching. Over a longer period, it emerges that it is again the humanities scholars who return to Germany most frequently on further research stays: the proportion of returning scholars amongst the alumni in the humanities surveyed was 68%, and a comparatively large number of them returned comparatively often on extended stays. Amongst other groups, 59% of natural scientists, 53% of engineering scientists and 50% of life scientists came back to Germany on a further research stay. Humanities scholars were also the group who most frequently received sponsorship from the Humboldt Foundation for stays of this kind. The fact that, by comparison, life scientists did not continue their concrete collaborations with their German colleagues as often is connected with the culture of cooperation usually practised by laboratory-based sciences, which is based on teamwork. While it is taken for granted that the results of such collaborative research are published jointly, the continuation of cooperation is not the immediate aim of the research stay. Rather, the research stay is considered to have been successful if the results the fellows achieve in a group open the door to a promising career independent of their former mentors. Thus “long-term collaboration” is an indicator that only partially lends itself to evaluating the success of academic exchange.

5. The basis for a long-term bond between the fellows and the Foundation are firstly laid by accompanying measures during the fellowship period: more than 90% of fellows take part in at least one of the Humboldt Foundation's networking events. Of all the mentoring activities offered by the Foundation, these were the ones to receive the greatest approbation (78% very good; 20% good). Secondly, the Humboldt Foundation promotes contact between fellows and their colleagues in Germany on a long-term basis – which means over a period of several decades – by providing financial assistance and grants as well as by organising events. Approximately 70% of fellows who came to Germany in the 1970s and 1980s returned to Germany at a later stage for one or more

further research stays, while the overall figure was 60%. Just over half of the fellows who returned received funding for at least one of these stays from the Humboldt Foundation. Thirdly, contact within the Humboldt Network is maintained locally by alumni associations and events for and involving Humboldt alumni. In particular, Humboldt *Kollegs* and colloquia are attended by alumni after the fellowship has come to an end. Alumni associations as a tool for maintaining the bond with the Humboldt Network have become less significant amongst the younger cohorts: according to the results of the survey almost every third fellow is an active member of a Humboldt Association; however, the proportion of fellows amongst the youngest cohorts is only 22% whilst amongst the two oldest it is 37% and 38% respectively. The drop in the number of European fellows involved is particularly noticeable: from 41% of the fellows in the first ten years of sponsorship to 17% of the fellows approved since 2000. The trend is similar in North America: 29% of fellows in the 1970s compared with 15% of fellows in the most recent cohort. There are, however, clear differences between the continents: while networking amongst Humboldtians plays a relatively minor role in North America (24% are members of alumni associations), it is of much more importance in Asia (33%), Africa (55%) and the European transformation countries.

Thus the network is enduring even though the significance and maintenance of the network have become less important to younger generations of fellows.

6. In 2007, the Humboldt Foundation introduced a career-stage model linked to the year in which candidates completed their doctorates; this replaced the age-limit. A difference is now made between “post-doctoral researchers”, who completed their doctorates less than four years prior to application, and “experienced researchers”, who completed their doctorates more than four years previously. In the context of the survey, fellows were asked to state the year in which they were awarded their doctorates, and on this basis they were retrospectively allocated to one of the two categories in order to assess the impact of the fellowship programme more effectively. It emerges that qualification-related aspects of the fellowship are more important to the fellows sponsored in the “postdoctoral” category than to “experienced researchers” who benefitted more from networking. In absolute figures, the development of the network profits more from promoting experienced academics; promoting young researchers is more “risky” as, in the long run, they are less like to pursue an academic career than those sponsored at a later stage in their careers. Finally, it emerges that “experienced researchers” take greater advantage of alumni sponsorship.
7. It is difficult to quantify the cultural policy aspect of fostering connoisseurs and friends of Germany. One way of doing so is to teach German language skills which, as the survey shows, are of most use in everyday life. This is due to the fact that, depending on the area of academia, the need for German language skills in the workplace varies enormously and usually goes hand in hand with the fellow’s knowledge of German: in terms of the number of scientists from abroad, the institutes are most international in the natural sciences (in 48% of institutes more than 20% of scientists come from abroad) and least international in the humanities (22% of institutes); engineering sciences and life sciences fall in between (40% and 42% respectively). In the life sciences, even a relatively small number of researchers from abroad will tend to mean that English is chosen as the first working language; fellows in the engineering sciences, however, are required to speak German at the institute more often, even when the number of foreigners increases. English is spoken least frequently amongst humanities scholars, even if the proportion of foreigners exceeds 30%, and most frequently amongst life scientists, followed by natural scientists.

Comments in final reports reveal that, in retrospect, fellows who had “had happiness forced upon them”, because the Foundation could require them to attend a language course, were very pleased they had done so. Others, who had not taken an intensive course, regretted the decision afterwards. This is clearly an added value in intercultural contact which promotes knowledge of Germany amongst target groups who otherwise would not be so involved with their host country. The events and study tours organised by the Humboldt Foundation cement the bonds to Germany thanks to a combination of generous hospitality and belonging to an academic elite. Asked about their experiences in Germany, the vast majority respond positively. However, criticism is part of a multifaceted image of Germany: the main butt of criticism is administrative bureaucracy and the opening times of offices and shops, but also xenophobia.

## Recommendations

On the basis of these observations the evaluation comes to the following conclusions and concomitant recommendations for the further development of the programme:

1. In retrospect, the Humboldt Research Fellowship Programme has fulfilled its objectives of initiating sustainable research collaborations and thereby creating an enduring, world-spanning network by enabling highly-qualified academics from abroad to conduct research stays in Germany. These contacts are of great importance to the fellows as well as to German researchers with regard to their international networking. It is, therefore, recommended to continue the programme in its basic form.

All other conclusions deal with certain aspects of the programme and pick up selected results from the evaluation to formulate recommendations. There are points which should be followed up and aspects of the programme that should be adapted to more recent developments.

2. The selection process is characterised, firstly, by an unwavering commitment to academic excellence and, secondly, by the strength of engagement and enormous discipline demonstrated by the selection committee. However, almost every third host is critical of the selection process with regard to transparency and the traceability of the funding decision. We, therefore, suggest that the selection committee's rules should be published, and argue for the continuation of the system in its present form.
3. In order to raise the proportion of women the first priority should be to increase the number of potential female candidates by adopting a targeted information policy<sup>1</sup>. This means addressing women specifically by including a statement on the Foundation's website<sup>2</sup> that the recruitment of women is one of the Foundation's objectives. It should be monitored in all the part processes of the programme where differences between women and men exist. Gender-related statistics should be published and used as an inducement for women to apply, especially as the evaluation shows that women make just as good use of the fellowship as men, but by comparison, women apply too seldom.
4. In addition to the observations on the proportion of women amongst fellows mentioned under point three, a comparison of data on Humboldt Fellows with international data on research personnel in some OECD countries<sup>3</sup> reveals that fellows from relatively smaller countries are rather less well represented in the Humboldt Research Fellowship Programme than fellows from larger countries. This raises the question as to whether there are structural differences in the distribution of fellowships according to country of origin or gender that are not a product of academic level but information deficits. Such information deficits could possibly be explained by the way the network functions whereby the practice of self-reference tends to mean that "similar" candidates are recommended. In this case, the Humboldt Network alone is not an adequate means of reaching all the relevant target groups. By utilising international indices it would be possible to monitor the geographic and specialist origin as well as the gender of researchers in order to identify potential target groups which have not or hardly applied so far and to provide them with tailored information.
5. To address certain target groups explicitly we recommend increasing the local presence of Humboldt personnel, possibly on a rotating basis. This could improve the dissemination of information in dynamic regions or comparatively small, research-relevant countries independent of specific events. Such stays could be organised in cooperation, for example, with the German Science and Innovation Forums that have been established since 2009.
6. The Humboldt Foundation has an alumni database that has been maintained for decades including the current contact details for approximately 70% of its alumni. This database is an excellent source of information for making targeted contact with individuals. In order to be able to use it to greater effect as a basis for future, structured monitoring, marginal additions are necessary, particularly with regard to updating alumni's career data. Paired with strategic monitoring drawing on international indices this would help to achieve an explicit understanding of what success means and how it can be measured.

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<sup>1</sup> In the European Commission's study "Gender and Excellence in the Making" (2004, p. 23 f) it is described how the preferred, informal mechanisms of disseminating information – which usually involve recommendations within networks – sustain the existing composition of the networks. Thus informal mechanisms are not suitable for reaching new target groups.

<sup>2</sup> This assumes that it really is an objective supported by dedicated funding.

<sup>3</sup> It was only possible to compare the countries for which data on research personnel differentiated according to qualifications is accessible.

7. As mentioned at the outset, this evaluation shows that the vast majority of fellows in the first cohorts went on to have successful careers and now comprise an international network of elites. This trend can be observed amongst the fellows in later cohorts, too, but it is unclear how the situation will develop in future: on the one hand, the science organisations in which careers can be made, have changed; on the other, mobility amongst young academics as a whole has increased. The results of the survey reveal, for example, that only 56% of fellows in the youngest cohort were immediately employed at their home institute after the research fellowship; this figure was 74% amongst fellows in the 1970s. In order to keep abreast of alumni's development and continue maintaining contact with coming generations we recommend the Foundation to contact all their alumni once or twice in the years immediately following the fellowship.
8. Alumni sponsorship is one of the Foundation's core tools. A comparison of academic fields and continents of origin shows that while it is utilised on a broad basis, the major users are humanities scholars and fellows from countries with weak currencies. Alumni sponsorship and its function in promoting the network are seen by the stakeholders as significant unique features and quality markers of the Humboldt Foundation. The results of the survey indicate that the sponsorship opportunities have not been understood by all alumni; some are critical of them. A more complex understanding of the positioning of alumni sponsorship is therefore required.
9. The differentiation between "post-doctoral researchers", who completed their doctorates less than four years prior to application, and "experienced researchers" reveals that in both cases a large percentage of the objectives are achieved; but for younger researchers qualification-related aspects are relatively more important whilst experienced researchers place greater emphasis on networking. These differences should be taken into account, especially in the design of the fellowship and in the context of post-fellowship alumni sponsorship.