



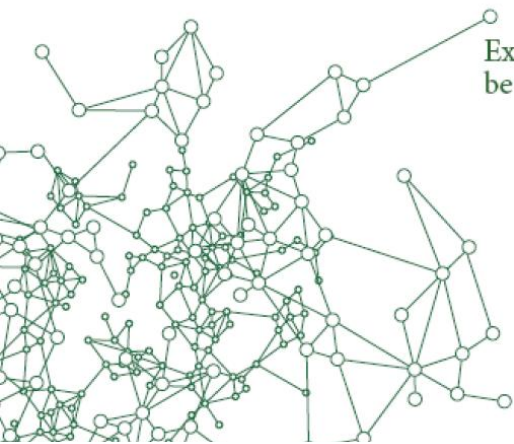
Alexander von Humboldt
Stiftung/Foundation

Stipendiatinnen und Stipendiaten 2015/2016

Internationales Klimaschutzstipendium

Fellows 2015/2016

International Climate Protection Fellowship



Exzellenz verbindet –
be part of a worldwide network.



Assessing the Responsiveness of Ghanaian Amphibians to Global Change

Worldwide, many amphibian populations have been in continuous decline for the past four decades, often culminating in their extinction. Habitat loss and fragmentation, exacerbated by climate change are the most important proximate causes of species declines. The aim of this research project is to apply ecological niche modelling methods to gain baseline information on how Ghanaian most vulnerable species -endemic, rare and already endangered ones- are and will be faring under different global change scenarios and models. Species data will be compiled from existing collections and relevant databases, available at the Museum für Naturkunde in Berlin. Ecological niche models will establish both current and potential future range shifts for each species. The results of this project will provide the benchmark for the development of appropriate conservation measures and a country-wide framework for the monitoring of amphibians in response to global change.



Adum, Gilbert Baase

Degree: Master of Philosophy | **Field:** Wildlife and Range Management | **Affiliation at the time of application:** Safe the Frogs! Ghana, Kumasi, Ghana

Host Institution in Germany: Museum für Naturkunde – Leibniz-Institut für Evolutions- und Biodiversitätsforschung, Berlin | **Host:** PD Dr. Mark-Oliver Rödel

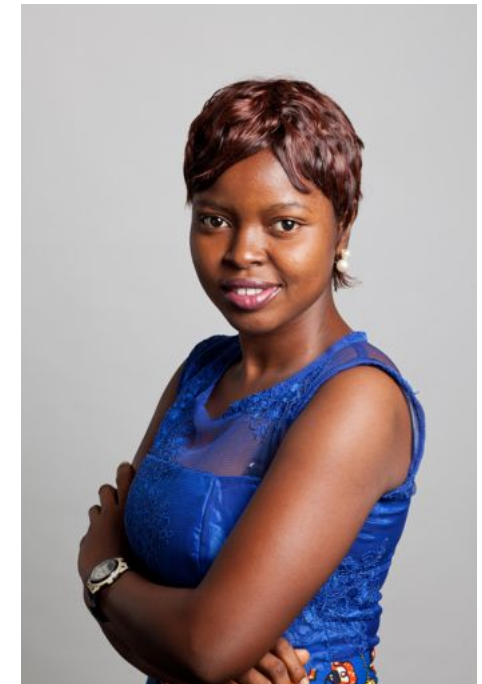
Low Emission Initiatives: A Rural Appraisal of Various Mitigative Strategies Used by Rice Farmers as a Scheme for Sustainable Environmental Management in Nigeria

Methane (CH₄) has the second climate forcing potential of the three main greenhouse gases influenced by land management. Rice paddies have been identified as a major contributor of CH₄ worldwide and hence Nigerian paddies are not left out. Though Nigeria stands out as the largest rice producer in West Africa, the link between rice production and GHG emission has not been significantly explored. Based on these indications, the project aims to spatially assess CH₄ emission from rice fields and evaluate the low emission practices used by rice farmers via a local participatory approach in Nigeria. It is expected to provide decision makers with empirical evidences on the trend of CH₄ emission from Nigerian paddies, and sustainable land management techniques from the grass root. This will consequently make it possible for stakeholders to properly develop strategies to strengthen farmers' adaptive capacity and reduce GHG footprints from paddies in that region.

Akpeokhai, Agatha Ochuware

Degree: Master of Technology | **Field:** Cartography | **Affiliation at the time of application:** Federal University of Technology, West African Science Service Centre on Climate Change and Adapted Landuse (WASCAL), Minna, Nigeria

Host Institution in Germany: Universität Bonn, Geographisches Institut | **Host:** Professor Dr. Gunter Menz



Management of Allowances Reserve in Kazakhstan's Emission Trading System

Domestic emission trading systems (ETS) are one of the carbon pricing tools of reduction GHG emissions and play a major role in the development of a country's green economies. More and more countries start thinking about the implementation of domestic ETS. Kazakhstan is the first country in Central Asia, which has already implemented ETS. But, Kazakhstan's ETS needs improvements, especially in the management of the allowances reserve. The reserve is an additional instrument for the government, which must be well managed. This requires clear rules and criteria to articulate, in which cases the reserve is used, what volume of allowances should be distributed or removed from the market, and how the reserve also can be used to influence the current market price. One of the composing goals of the project is to conduct scenario and uncertainty analysis using the Monte Carlo approach. In this project the experience of EU ETS will be learned more deeply with focus on upcoming market reserve stability. The results of this project will be provided to the Ministry of Energy of the Republic of Kazakhstan.



Baigunakova, Danira

Degree: Master of Economics | **Field:** Economics | **Affiliation at the time of application:** JSC Zhasy1 Damu, Astana, Kazakhstan

Host Institution in Germany: Umweltbundesamt, Deutsche Emissionshandelsstelle, Berlin | **Host:** Dr. Jürgen Landgrebe

National Carbon Stocks of Mangrove Ecosystems in Colombia: Capacity Building for their Inclusion in Climate Change Mitigation Strategies

Given that national estimations of carbon stocks are relevant inputs for decision-making and implementation of future climate change mitigation strategies, it is necessary to adjust the national inventory of carbon stocks for mangrove ecosystems in Colombia. The development of a statistical model for the estimation of carbon stocks in mangrove ecosystems at the national level is proposed, using information of carbon stocks from inventory data collected in permanent plots installed in mangrove's forests of Colombia. The model will be developed using bio-physical variables. Standard statistical techniques will be used. The model will allow predicting spatially explicit carbon stocks and their associated uncertainty levels. To complete the analysis and for contributing to increase the institutional capacity of Colombia in terms of climate change mitigation, the current technical capacity level of Colombia to include mangroves in climate change mitigation will be identified. This project will provide a sound scientific and technical base for planning and implementing coastal carbon management activities as proposed by the Blue Carbon policy framework.

Bolívar Cardona, Jhoanata María

Degree: Master of Science | **Field:** Forest Engineering | **Affiliation at the time of application:** Centro de Investigación en Ecosistemas y Cambio Global – Carbono y Bosques, Medellín, Colombia

Host Institution in Germany: Max-Planck-Institut für Biogeochemie | **Host:** Dr. Carlos A. Sierra



Global Value Chain Governance and Climate Change Mitigation

The global framework of climate change mitigation is currently fragmented into countries and industrial sectors. From the life cycling analysis perspective, this framework has been naturally challenged by a shift of focus from individual company operations to carbon emission mitigation of whole supply chains. To tackle this challenge, it must go beyond corporate fence lines, national borders, and even traditional divisions across public and private goods. Accounting these, the project will explore how multinational corporations (MNCs), who are the leaders of global value chain (GVC), can contribute to climate change mitigation. The study will not only investigate the German experience of pioneering MNCs dealing with climate change mitigation via their GVC governance, but also study how to spread German experience to China, which is a country of both the largest carbon emission and possessing more and more influential MNCs in future. The outcome of the project is supposed to show how MNCs can succeed where government have failed for climate change mitigation



Bu, Maoliang

Degree: PhD | **Field:** Economics and Management |
Affiliation at the time of application: Nanjing University & Hopkins-Nanjing Centre, Nanjing, China

Host Institution in Germany: Universität Würzburg |
Host: Professor Dr. Doris Fischer

Building Strategies for Adaptation to Climate Change. Impacts on Agriculture and Rural Family Dynamics, Working with Sustainability Focus

Besides housework and family woman in rural Ecuador are also contributing to farm work and agricultural production. They have shown interest in being trained in agricultural and sustainability issues and clean production in order to reduce their vulnerability to climate change and to improve their conditions in the agricultural sector. The strengthening of this population group and their influence within their communities is important for social economy, solidarity, and hence ecological behavior. The project seeks to strengthen the capacities of actors in rural families (especially woman) and develop tools and measures to adapt to climate change by analyzing concepts and methods for sustainability, ancestral knowledge, agricultural production systems, gender related impacts and influences. It is expected to articulate the results, knowledge and experiences generated in this research to stakeholder and public sector in Ecuador in the international community. In follow-up processes workshops for the focus groups and conferences with focus on the results are planned.

Chávez, Jeancarlo

Degree: Master of Management | **Field:** Local Community Management | **Affiliation at the time of application:** Ministry of Agriculture, Livestock, Aquaculture and Fisheries, General Coordination of Technological Innovation, Quito, Ecuador

Host Institution in Germany: Deutsche Gesellschaft für Internationale Zusammenarbeit, Eschborn | **Host:** Friederike Kraemer



Designing Effective Sino-German Cooperation in International Carbon Action Partnership (ICAP) and International Renewable Energy Agency (IRENA)

Despite taking pragmatic steps forward, the United Nations Framework Convention on Climate Change (UNFCCC) has yet to deliver transformational changes. While the pivotal role of the UNFCCC in international climate governance should be honored, it is increasingly clear that international cooperation in particular fields uniting powerful players could be a valuable complement. Emission trading schemes (ETS) and the expansion of renewable energy (RE), if designed well, are cost-effective climate protection measures and are important components of both Germany's and China's national climate strategies. The International Carbon Action Partnership (ICAP) and the International Renewable Energy Agency (IRENA) (through their roles as inter-governmental fora, their global nature, and the relatively technical outlook and thus more apoliticized institutional culture) provide ideal platforms to forge Sino-German partnership and accelerate enhanced actions across the world. Giving equal emphasis on desktop research and interviews, the project will assess current ETS and RE developments in both Germany and China and analyze important domestic factors that incentivize proactive international actions. It will probe into important institutional features of both ICAP and IRENA and seek the best political strategies to create synergies between the two countries. By evaluating different partnership scenarios and providing cooperation pathways, the project intends to inform policy makers on both sides with readily implementable proposals, so that their cooperation can mutually reinforce

each other's domestic actions, strengthen the profiles of ICAP and IRENA, and ultimately advance the global ETS and RE agenda.



Li, Shuo

Degree: Bachelor of Arts | **Field:** Foreign Affairs and International Relations | **Affiliation at the time of application:** Greenpeace East Asia, Beijing, China

Host Institution in Germany: International Carbon Action Partnership, Berlin | **Host:** Constanze Haug

Micrometeorological Studies of Urban Air in Cairo for the Mitigation of and Adaptation to Climate Change

The Mediterranean coastal region is densely populated with a large share of people living in urban areas and highly vulnerable to the effects of climate change. A focal point of these current and future changes is the Greater Cairo region. Adaptation and mitigation to global warming and the greenhouse effect are therefore the subjects of the project. Urban planning and the behaviour of the urban inhabitants can help to mitigate air pollution and regulate local temperatures in urban area. The study will look at the urban climate in Cairo, and downscale the atmospheric conditions to the level of individuals. Spatial analysis will be carried out with the help of measured and simulated urban climate data and socio-demographic data, to identify critical areas. A model is to be developed for a selected region of high thermal and air pollution stress in Cairo, so as to derive recommendations for the adaptation to demographic and climate changes.

Mahmoud Shaaban Mohamdeen, Abdelrhman

Degree: Bachelor of Science | **Field:** Earth Physics and Atmospheric Science | **Affiliation at the time of application:** Ministry of State for Environmental Affairs, Egyptian Environmental Affairs Agency, Cairo, Egypt

Host Institution in Germany: Helmholtz-Zentrum für Umweltforschung - UFZ, Leipzig | **Host:** Professor Dr. Uwe Schlink



How to Achieve Effective Participation of Forest Communities in REDD+ Mechanism in the Democratic Republic of Congo: Case of Measurement-Reporting-Verification (MRV) Process

The Democratic Republic of Congo's (DRC) forest area is estimated at 155 million hectares, which represents up to 61% of the entire Congo Basin forest area. More than 70% of the population in DRC depends on forests for their survival and livelihoods. Through REDD+ mechanism (Reducing Emissions from Deforestation and forest Degradation) the DRC has committed to manage its rich forest resources sustainably and reduce poverty. The United Nations Framework Convention on Climate Change (UNFCCC) encourages the participation of all stakeholders, including local communities in all REDD+ activities including Monitoring, Reporting, and Verification mechanism (MRV). But up to now, there is limited knowledge of the role of local communities in this mechanism in the DRC. The research project seeks to fill this gap by investigating the role of local communities in the implementation of the MRV of carbon in REDD+ projects. In the study interviews with relevant stakeholders in the DRC will be carried out to establish how the research findings concur or differ with existing knowledge. It is expected to design a participation guide on MRV practices on the basis of the research findings, in the interest of communities.



Mukungu Nkombela, Joelle

Degree: Master of Environmental Science and Management in Developing Countries | **Field:** Forest Management, Rural Sociology | **Affiliation at the time of application:** Organisation Concertée des Ecologistes et Amis de la Nature (OCEAN), Kinshasa, Democratic Republic of Congo

Host Institution in Germany: Universität Freiburg | **Host:** Dr. Christine Schmitt

Indigenous Knowledge and Community-Based Adaptation to Climate Change

Climate change poses a growing and pervasive threat to poverty alleviation and continued development in Vietnam, especially in its mountainous regions. Community-based adaptation is an integrated approach that combines traditional knowledge with innovative strategies to address impending environment-related vulnerabilities. Although indigenous knowledge of ethnic minority groups in the Northern Vietnam is essential to build resilient communities, they are not adequately recognized in the current climate change adaptation policy. The project will deploy methods of theoretical research to develop an applicable conceptual framework to identify and recommend possible indigenous knowledge for adaptive solutions. The study will gather feedbacks from German and Vietnamese colleagues through stakeholder consultations for comprehensive research findings. The findings will be shared with local adaptation policy-makers.

Nguyen, Cong Nhue

Degree: Master of Science | **Field:** Human Geography, Social Geography | **Affiliation at the time of application:** Plan International Vietnam, Hanoi

Host Institution in Germany: Fachhochschule Köln, Institut für Technologie und Ressourcenmanagement in den Tropen und Subtropen (ITT) | **Host:** Professor Dr. Johannes Hamhaber



Acquiring Skills for Bottom up Climate Change Adaptation Strategies for the Coastal Communities in Madagascar

In Madagascar many people are affected by climate change through the loss of livelihoods. Those who are living in coastal areas are particularly vulnerable due to their dependence on natural resources. Adapting to climate change is crucial for those communities to secure their livelihoods and increase their resiliency. However current communities' actions to adapt to the changes are limited due to multiple barriers such as limited capacity, a lack of awareness, and a lack of effective information sharing. Within the research project the knowledge and understanding of climate change and adaptation strategies will be expanded. New methods, tools, approaches from ongoing adaptation projects in Germany will be evaluated and best practices and strategies that are applicable to the local context in Madagascar will be determined. It is expected to identify useful support and monitoring tools for implementing participatory climate change adaptation programmes.



Paulot, Sylvia

Degree: Master of Science | **Field:** Climatology | **Affiliation at the time of application:** Blue Ventures Conservation, Toliara, Madagascar

Host Institution in Germany: Ecologic Institute for International and European Environmental Policy, Berlin | **Host:** Dr. Grit Martinez

Impacts of Climate Change on the Distribution of Native and Invasive *Bactrocera* Fruit Flies and Consequent Yield Losses in Fiji and the Pacific Islands

Horticulture fruits and vegetables serve as staple food and complement the agricultural industries on which the economies of the Pacific islands rely on. However, the agricultural production system is threatened by fruit flies, which damage the commodities produced, increase cost of production due to costly treatment procedures, and slow trade by triggering quarantine restrictions. The project aims to study the potential impacts of the changing climatic parameters on the distribution, abundance, and effects of the native fruit flies *Bactrocera passiflorea* and the invasive fruit flies *Bactrocera xanthodes* in the Pacific Islands. The results would have potential for better pest risk analysis in the future for the Pacific Island countries and form the basis for better policies for protection against invasive insects. Since fruit flies are a major pest worldwide, and fruits are an important subsistence and commercial crop, the current research will also contribute towards understanding better food security in response to climate change globally.

Prasad, Ravikash

Degree: Master of Science | **Field:** Environmental Science, Biology | **Affiliation at the time of application:** The University of the South Pacific, Suva, Fidschi

Host Institution in Germany: Universität Würzburg, Abteilung für Tierökologie und Tropenbiologie | **Host:** Professor Dr. Ingolf Steffan-Dewenter



The Role of Corporate Sustainability Strategy in Advancing Low-carbon Development: A Case Study of Cocoa in Peru

Businesses can use their scale and market reach to play a determinant role in furthering low-carbon development in developing countries. Companies could take advantage of higher productivity and resilient supply chains by allocating their sustainability and CSR (Corporate Social Responsibility) investments towards inclusive businesses and shared value. The study will analyze how corporate sustainability strategies address opportunities and risks in managing environmental and social impacts, taking as a case study cocoa farming in Peru and chocolate producers in Germany and the EU. Life-Cycle Assessment analysis on cocoa farming in Peru will be applied as well as theoretical research on corporate sustainability/supply chains and empirical research on German and EU chocolate producers. The goal is to develop a general sustainability strategy framework that will allow companies to become active players in a country's low-carbon development by better identifying and addressing opportunities and risks in their supply chains



Raschio, Giancarlo

Degree: Master of Science | **Field:** Environmental Management and Business | **Affiliation at the time of application:** Ecosystem Services LLC, Lima, Peru

Host Institution in Germany: Deutsches Institut für Lebensmitteltechnik e.V. | **Host:** Dr.-Ing. Alexander Mathys

A Model for Environmental Planning for the Installation of an Industrial Zone. The Case of Tolhuin, Tierra Del Fuego, Antártida E Islas Del Atlántico Sur, Argentina

Tolhuin has a population of 7.040 inhabitants, an area of 54 km² and 2.5 MWh of electricity available. The main economic activities are the exploitation of forests for timber production and the exploitation of peatlands for fuel extraction; both store carbon and thus retain CO₂ emissions. The government decided to install an industrial zone in the city, so there is a need to adjust this zone in a way that environmental impacts associated to climate change can be prevented due to the change in land use and energy consumption. Within the study GIS tools (Geographical Information System), environmental planning techniques, the German Green Building Standards and the “Energiewende” will be used and analyzed aiming to develop a municipal strategy for adaptation to climate change that include policies for the conservation of the natural resources, environmental planning policies for the installation of an industrial zone and policies for energy efficiency for the industrial activities

Rojas, María Florencia

Degree: Bachelor of Science | **Field:** Environmental Planning | **Affiliation at the time of application:** Senado da la Nacion Argentina, Buenos Aires, Argentina

Host Institution in Germany: Leibniz-Institut für ökologische Raumentwicklung (IÖR), Dresden | **Host:** Professor Dr. Dr. h.c. mult. Bernhard Müller



Improving Vehicle Fuel Economy in Peru: Exploring Opportunities for “Nationally Appropriate Mitigations Actions” (NAMAs)

Measures like improved fuel economy standards, labelling systems, emissions control technologies and fiscal policies have enormous potential for reducing fuel consumption in the transport and energy sectors and, by doing so, limiting greenhouse gas emissions. The research project will identify existing, innovative possibilities in Peru for exploiting emerging forms of climate finance and reducing greenhouse gas emissions. Measures such as Nationally Appropriate Mitigation Actions (NAMAs) and their influence on the development of new policies, investments and awareness programmes aimed at effectively improving fuel consumption will also be examined. This will be accomplished by analysing case studies from industrialised and developing countries. The anticipated results will provide the basis for developing fuel economy measures in Peru and additionally help promote capacity building in the private and public sectors in Peru.



Rosales Aragon, Karin Sarita

Degree: Master of Science | **Field:** Environmental Policy and Management | **Affiliation at the time of application:** Capital University of Economics and Business (CUEB), Beijing, China

Host Institution in Germany: International Council on Clean Transportation Europe, Berlin | **Host:** Dr. Peter Mock

Business Cooperation Platform for Accelerating the Transition to a Low Carbon Economy

There is limited and disperse information regarding the actions taken by Latin American companies to reduce GHG emissions. Therefore, the project's main objective is to establish a platform to collect information, promote the sharing of best practices and lessons learned about experiences and projects implemented to reduce GHG, in order to motivate companies to develop similar actions, contributing to the effort of climate change mitigation. The platform will foster and facilitate dialogue between international initiatives on how to assess, reduce and communicate the impact of goods and services on the climate and the environment. This initiative is considered as an expansion of the late Product Carbon Footprint Pilot Project and its global outreach platform, the Product Environmental Footprinting (PEF) World Forum developed by Thema1 in Germany. The project is a pilot project for Honduras, with the potential to be expanded to other countries in the region

Samayoa, Svetlana

Degree: Master of Finance | **Field:** Climate Change Mitigation, Finance | **Affiliation at the time of application:** CICOMER, Tegucigalpa, Honduras

Host Institution in Germany: Thema1 GmbH, Berlin | **Host:** Guido Axmann



Improving the Effectiveness of Biogas Usage through Monitoring and Evaluation of Decentralized Wastewater Treatment System (DEWATS) in Indonesia

The management of sanitation and effluent in developing countries is increasingly challenging due to high rates of urbanization and increasingly dense, low-income urban and suburban areas. Decentralized sanitation systems serving multiple households are emerging as a feasible and cost-effective alternative to centralized systems. Their success at the pilot stage for many developing countries has led to rapidly increasing interest and rates of implementation, particularly in Indonesia. Yet ensuring the sustainable delivery of decentralized sanitation services over the long term remains a gap in critical knowledge and practice. One way to achieve better sanitation in Indonesia is to implement Decentralized Wastewater Treatment System (DEWATS) achieving sustainability of wastewater management systems. But referring to the data related to biogas usage of DEWATS Fiber, more than 80% of the biogas installation is not used properly, effectively and efficiently. Therefore the project tries to improve the effectiveness of biogas usage through monitoring, evaluation, the analyses of the current situation, and the development of core concepts and guidance materials for stakeholders and implementors so that the community around DEWATS plant could replace the use of firewood and Liquefied Petroleum Gas (LPG) to Biogas and hence reduce CO₂ in atmosphere.



Setiawan, Anang Bagus

Degree: Master of Science | **Field:** Wastewater Management | **Affiliation at the time of application:** BORDA Indonesia, Yogyakarta, Indonesia

Host Institution in Germany: Atmosfair, Berlin | **Host:** Dr. Robert Müller

Public Participation and Citizen Leadership in the German Solar Success Story: Lessons for Other countries

India's solar energy strategy is ambitious. The National Action Plan on Climate Change places the country's solar energy target at 20GW capacity by 2020 and 200GW by 2050. This target, --according to experts- remains a pipe dream as the country continues to grant approvals to coal-fired thermal power plants. India's position at the climate change negotiations has been that climate change is taking place due to historical greenhouse gas emissions and to consistently refuse to accept any binding emission reduction targets. This is partly because climate change and renewable energy are not issues that make or break an election; there has never been any political will pushing renewable energy goals. Further, renewable energy initiatives have been successful in India - in the form of small, micro-electrification projects in rural areas that have not been connected to the national grid. Yet, uptake in cities remains comparatively low even though urban populations could more easily afford to install solar PV panels. Germany is a leader in solar energy deployment and therefore provides a fascinating study for a country that went from fragmented political sphere where growth and development were seen as paramount to a country that could respond so strongly after the Fukushima disaster. Most important, Germany's renewable energy continues to be citizen owned and citizen driven. Analyzing the factors behind the exponential growth in Germany will provide a useful comparison to India where solar remains underutilised. Successful factors such as public participation, transparency, funding mechanisms used by cooperatives and

access to information could be replicated in India.

Sridhar, Srilekha

Degree: Master of Public Policy | **Field:** Social Sciences, Law and Policy | **Affiliation at the time of application:** Blavatnik School of Government, University of Oxford, Oxford, United Kingdom

Host Institution in Germany: Unabhängiges Institut für Umweltfragen e.V. (UfU), Berlin | **Host:** Dr. Michael Zschiesche



Restoration Planning in Mexico Considering Landscape Connectivity and Climate Change

Ecological restoration (ER) is widely recognized and essential for biodiversity conservation, especially considering the negative impact of human activities on ecosystems that is exacerbated by climate change. As suitable habitat has been reduced and fragmented by human activities, and species distributions are expected to shift in future climate, ER offers the opportunity to increase habitat and improve landscape connectivity enhancing the possibilities for species to move and disperse through the matrix of natural vegetation and other land uses. Thus, a fundamental question is where to focus the restoration efforts in order to support species and ecosystem persistence in the long term considering climate change. The study will address this problem for Mexico, a megadiverse country where large conservation gaps have been detected and biodiversity is strongly threatened by anthropogenic activities. The goal is to identify priority sites for ER at national level by a spatial multi-criteria analysis that incorporates biological and threat factors, particularly considering natural connected areas and climate change scenarios. It is expected to provide the results of this innovative approach to governmental and non-governmental institutions as a spatial guide to consolidate conservation and restoration goals for climate change adaptation and mitigation strategies.



Tobón Niedfeldt, Wolke

Degree: Master of Science | **Field:** Environmental Science | **Affiliation at the time of application:** National Commission for Knowledge and Use of Biodiversity (Conabio), Mexico

Host Institution in Germany: Helmholtz-Zentrum für Umweltforschung – UFZ, German Centre for Integrative Biodiversity Research (iDiv), Leipzig | **Host:** Professor Dr. Aletta Bonn
