



Alexander von Humboldt
Stiftung/Foundation

Stipendiatinnen und Stipendiaten 2010/2011

Internationales Klimaschutzstipendium



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Internationales Klimaschutzstipendium

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Preface

The Alexander von Humboldt Foundation has granted International Climate Protection Fellowships for the first time in 2010. The programme initiative for prospective leaders from non-European emerging economies and developing countries complements the Alexander von Humboldt Foundation's existing programmes with the aim of establishing and maintaining a network in which German and foreign experts work on a long-term basis to meet the challenges of climate change and its consequences.

This brochure introduces the first group of International Climate Protection Fellows. The group comprises fifteen Fellows from Egypt, Ethiopia, Kenya, India, Mexico, Mongolia, Nigeria, Peru, the Philippines and the People's Republic of China. They represent fields as diverse as foreign policy and international relations, geodesy, biotechnological methods, forestry, economics, public law, wastewater chemistry, ecology and climatology. They are hosted by universities, political organisations and associations.

I wish all Fellows and their hosts success in their cooperation and thank everyone supporting them in building academic and personal networks.



Professor Dr. Helmut Schwarz
President of the Alexander von Humboldt Foundation



Vorwort

Die Alexander von Humboldt-Stiftung hat im Jahr 2010 erstmals Internationale Klimaschutzstipendien vergeben. Die Programminitiative für Nachwuchsführungskräfte aus außereuropäischen Schwellen- und Entwicklungsländern ergänzt die bestehenden Förderprogramme der Alexander von Humboldt-Stiftung mit dem Ziel, den Aufbau und die Pflege eines Netzwerks zu unterstützen, in dem deutsche und ausländische Experten langfristig zusammenarbeiten, um den Herausforderungen des Klimawandels und seinen Folgen zu begegnen.

In dieser Broschüre wird Ihnen der erste Jahrgang der Internationalen Klimaschutzstipendiaten vorgestellt. Die Gruppe umfasst fünfzehn Stipendiatinnen und Stipendiaten aus Ägypten, Äthiopien, Kenia, Indien, Mexiko, der Mongolei, Nigeria, Peru, den Philippinen und der Volksrepublik China. Sie repräsentieren so vielfältige Fachbereiche wie Außenpolitik und Internationale Beziehungen, Geodäsie, Biotechnologische Verfahren, Forstwissenschaft, Ökonomie, Öffentliches Recht, Abwasserchemie, Ökologie und Klimatologie. Sie verwirklichen ihre Projektvorhaben an Universitäten, bei politischen Organisationen und in Vereinen.

Ich wünsche allen Stipendiatinnen und Stipendiaten und ihren Gastgebern eine erfolgreiche Zusammenarbeit und danke allen, die sie beim Aufbau fachlicher und persönlicher Netzwerke unterstützen.



Professor Dr. Helmut Schwarz
Präsident der Alexander von Humboldt-Stiftung

„Auf das Zusammenwirken der Kräfte, den Einfluss der unbelebten Schöpfung auf die belebte Thier- und Pflanzenwelt, auf die Harmonie sollen stets meine Augen gerichtet sein.“

Alexander von Humboldt (1769–1859)



Das Internationale Klimaschutzstipendienprogramm

Der globalen Herausforderung des Klimawandels kann nur im Rahmen grenzüberschreitender internationaler Kooperation begegnet werden. Hierzu leistet die Alexander von Humboldt-Stiftung mit der Vergabe von jährlich bis zu 20 Internationalen Klimaschutzstipendien einen Beitrag. Gefördert werden Nachwuchsführungskräfte aus außereuropäischen Schwellen- und Entwicklungsländern im Bereich Klima- und Ressourcenschutz. Finanziert werden die Stipendien aus Mitteln der Internationalen Klimaschutzinitiative des Bundesministeriums für Umwelt, Naturschutz und Reaktorsicherheit.

Die Stipendiatinnen und Stipendiaten verfügen zum Zeitpunkt der Bewerbung bereits über erste praktische Erfahrungen im Bereich des Klimaschutzes und zeichnen sich durch außergewöhnliches Führungspotenzial aus. Im Rahmen eines einjährigen Aufenthaltes in Deutschland führen sie in Kooperation mit Fachkollegen an einer deutschen Gastinstitution ein selbst gewähltes forschungsnahes Projektvorhaben durch.

Die Alexander von Humboldt-Stiftung

Die Alexander von Humboldt-Stiftung fördert seit 1953 Wissenschaftskooperationen zwischen ausländischen und deutschen Forscherinnen und Forschern aller Fachgebiete. Nach dem Vorbild Alexander von Humboldts fördert sie den Aufbau eines internationalen Netzwerks der Kooperation und des Vertrauens, in dem hoch qualifizierte Wissenschaftler und Entscheidungsträger aus aller Welt gemeinsam mit deutschen Fachkollegen Antworten auf aktuelle Fragen an den Grenzen des Wissens suchen. Dem Netzwerk der Alexander von Humboldt-Stiftung gehören mehr als 24.000 Geförderte aus über 130 Ländern an – unter ihnen 43 Nobelpreisträger.



Im Sinne Alexander von Humboldts wird durch wechselseitigen Austausch von Wissen, Methoden und Techniken der Grundstein für ein internationales Netzwerk gelegt, in dem Experten aus verschiedenen Bereichen des Klimaschutzes langfristig international zusammenarbeiten, um dem Klimawandel und seinen globalen Folgen zu begegnen.

Programmveranstaltungen und Kooperationspartner

Ein zentraler Bestandteil des Internationalen Klimaschutzstipendienprogramms sind Veranstaltungen, die die Stipendiaten mit den aktuellen sozialen, politischen, kulturellen, wirtschaftlichen und historischen Dimensionen des Klima- und Ressourcenschutzes in Deutschland vertraut machen und die Vernetzung in der Gruppe sowie mit Multiplikatoren in Deutschland fördern.

Das Einführungsseminar findet im September in verschiedenen Orten in Deutschland statt, das Abschlusstreffen im Sommer des Folgejahres in Berlin. Beide Veranstaltungen werden in Kooperation mit dem Zentrum für Umweltkommunikation der Deutschen Bundesstiftung Umwelt (DBU) durchgeführt.

Im Frühjahr kommen die Stipendiaten zu einer Fortbildungsveranstaltung zusammen. Diese wird durchgeführt in Kooperation mit dem Centre for Environmental Postgraduate Studies of Environmental Management (CIPSEM) an der Technischen Universität Dresden.

Weitere Kooperationspartner sind der Bundesverband der Deutschen Industrie (BDI), der Deutsche Akademische Austauschdienst (DAAD), die Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) und die Renewables Academy AG (RENAC).

Förderleistungen

Zusätzlich zur finanziellen Förderung des einjährigen Deutschlandaufenthaltes gewährt die Alexander von Humboldt-Stiftung Sprachstipendien, die die Geförderten bereits vor Beginn der Arbeiten zur Durchführung des Projektvorhabens beim Erwerb der deutschen Sprache unterstützen.

Weitere Informationen

Sie möchten sich um ein Stipendium bewerben, Gastgeber werden oder sich umfassender über das Programm informieren?

Weiterführende Informationen finden Sie unter:
www.humboldt-foundation.de/IKS

The Programme

“I will observe the interaction of forces and the influence of the inanimate environment on plant and animal life. My eyes will constantly focus on this harmony.”

Alexander von Humboldt (1769–1859)



The International Climate Protection Fellowship Programme

Climate change poses global challenges that can only be met by cross-border international cooperation. The Alexander von Humboldt Foundation contributes to the establishment of international collaborative networks by granting up to 20 International Climate Protection Fellowships annually. The programme targets prospective leaders in the fields of climate protection and resource conservation from non-European emerging economies and developing countries. The fellowships are funded under the International Climate Protection Initiative by the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety.

All fellows have practical experiences in the field of climate protection and have demonstrated exceptional leadership potential in their applications. During a 12-month stay in Germany, they conduct a research-related project of their own choice in cooperation with specialist colleagues at a German host institution.



In the spirit of Alexander von Humboldt, the sharing of knowledge, methods and techniques helps lay the foundations for an international network in which experts from different areas of climate protection can pursue long-term international collaboration to meet the challenges of climate change and its global consequences.

Fellowship Events and Cooperation Partners

Activities that familiarise the fellows with the current social, political, cultural, economic, and historical dimensions of climate protection and resource conservation in Germany are one of the essential elements of the International Climate Protection Fellowship Programme. They are also designed to promote networking amongst the group as well as with multipliers in Germany.

The introductory seminar takes place in various places in Germany in September; the final meeting during the summer of the following year in Berlin. Both events are organised in cooperation with the Zentrum für Umweltkommunikation at the Deutsche Bundesstiftung Umwelt (DBU).

In spring, the fellows meet for a training course organised in cooperation with the Centre for International Postgraduate Studies of Environmental Management (CIPSEM) at the Technische Universität Dresden.

Further partners involved in this programme are the Federation of German Industries (BDI), the German Academic Exchange Service (DAAD), the Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) and the Renewables Academy AG (RENAC).

Sponsorship Provisions

In addition to the financial support of the year-long stay in Germany, the Alexander von Humboldt Foundation awards language fellowships to help fellows acquire German language skills before they begin pursuing their projects.

Additional Information

Are you interested in becoming a fellow or host, or would you like to learn more about the programme?

For further information please visit:
www.humboldt-foundation.de/ICF

The Alexander von Humboldt Foundation

The Alexander von Humboldt Foundation has been promoting academic cooperation between foreign and German researchers of all disciplines since 1953. In the spirit of Alexander von Humboldt, the Foundation promotes an international network of academic cooperation and trust in which highly-qualified academics and decision-makers from around the world work together with specialist colleagues from Germany to seek the answers to the questions at the very frontiers of our knowledge. The Alexander von Humboldt Foundation's network embraces over 24,000 alumni from more than 130 countries – among them 43 Nobel Prize Winners.

Abdel-Hamid, Ayman

Hochschulabschluss/Degree: Master of Science | **Fachgebiet/Field:** Environmental Sciences, Remote Sensing and Geographic Information Systems (GIS) | **Anbindung/Affiliation:** Egyptian Society for Environmental Sciences, Suez Canal University, Ismailia, Egypt

Derzeitige Position/Current Position: Environmental Researcher | **Deutsche Gastinstitution/Host Institution in Germany:** Technische Universität Berlin, Institut für Ökologie | **Gastgeber/Host:** Privatdozent Dr. Harald Kehl



Projektdarstellung/Project Summary

The new generation of fine spatial resolution satellite sensors provides an opportunity for detailed and accurate ecological studies, reducing the need for expensive ground survey. In this project, digital image processing will be implemented on remote sensing data to produce parameters which control the dynamics of Acacia trees in South Sinai. Geographic Information Systems (GIS) will be used to integrate various spatial parameters, particularly environmental factors including climatic conditions and human land use. They will help to establish a sustainable use strategy and effective conservation program for Acacia trees. The project will bring Ayman Abdel-Hamid together with a research team with international expertise in climate change, remote sensing, and ecological studies at Technische Universität Berlin. This will considerably broaden his research capabilities and increase his scientific knowledge and management experience.

Monitoring Long-Term Vegetation Dynamics and Conservation Mapping of *Acacia tortilis* Populations in South Sinai by Using Remote Sensing and GIS

Agvaandorjiin, Saruul

Hochschulabschluss/Degree: Dr. phil. | **Fachgebiet/Field:** Politikwissenschaft | **Anbindung/Affiliation:** Mongolische Grüne Bewegung, Ulaanbaatar, Mongolei

Derzeitige Position/Current Position: Vorsitzende, Mongolische Grüne Bewegung | **Berufserfahrung/Professional Experience:** Lektorin, Mongolische Universität für Wissenschaft und Technologie, Ulaanbaatar, Mongolei (seit 2000); Lektorin, Mongolische Staatsuniversität, Ulaanbaatar, Mongolei (1994–2000) | **Deutsche Gastinstitution/Host Institution in Germany:** Bundestagsfraktion Bündnis 90/Die Grünen, Berlin | **Gastgeber/Host:** Andrea Schwarzkopf

Umwelt-Wissenstransfer-Umsetzung

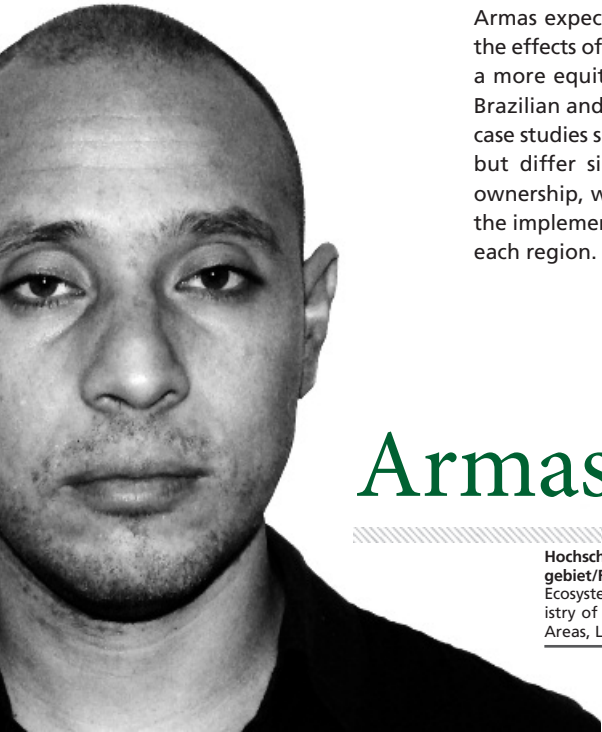
Projektdarstellung/ Project Summary

In allen 34 Umweltgesetzen in der Mongolei fehlt der Aspekt Verantwortung; zum großen Teil halten diese mit den heutigen insbesondere durch den intensiven Bergbauboom verursachten aktuellen Bedingungen in der Mongolei nicht mehr Schritt.

Der Schwerpunkt des UWU-Projektes (Umwelt-Wissenstransfer-Umsetzung) liegt auf der Ergänzung der mongolischen Umweltgesetze bezüglich der Verantwortung der Bergbaufirmen, der Bürger sowie der Entscheidungsträger, der Einführung von modernsten umweltfreundlichen Technologien und neuesten gesetzlichen Bestimmungen im Bergbau, insbesondere im Bereich der Goldgewinnung, der erneuerbaren Energien sowie im Wasserverbrauch. Außerdem sollen Möglichkeiten des Ausbaus von Mitspracherechten der Bürger und der Umwelterziehung untersucht werden. Das Projekt zielt darauf ab, flächendeckende Kooperationen zwischen den entsprechenden Institutionen in Deutschland und der Mongolei herzustellen. Im Rahmen des UWU-Projektes werden Hospitationen in entsprechenden Institutionen durchgeführt und auch Vorträge zum Thema Umweltprobleme in der Mongolei gehalten.



Options and Impact of Forest-Based Climate Change Mitigation: Assessing Cost-Effectiveness and Equity Implications of Reducing Emissions from Deforestation and Degradation of Forests (REDD) in the Amazon



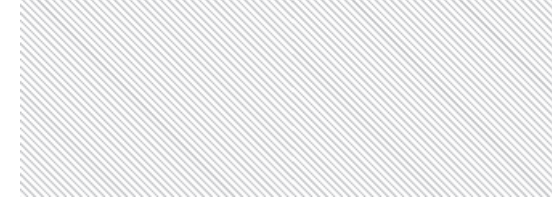
Armas, Angel

Hochschulabschluss/Degree: Master of Science | **Fachgebiet/Field:** Environmental Management of Tropical Ecosystems and Forests | **Anbindung/Affiliation:** Ministry of Environment, National Service of Protected Areas, Lima, Peru

Derzeitige Position/Current Position: Main Consultant | **Berufserfahrung/Professional Experience:** Regional and National Coordinator, National Institute of Natural Resources, Lima, Peru (2005–2007) | **Deutsche Gastinstitution/Host Institution in Germany:** Zentrum für Entwicklungsforschung (ZEF), Bonn | **Gastgeber/Host:** Dr. Tobias Wünscher

Projektdarstellung/Project Summary

Reducing Emissions from Deforestation and Degradation of Forests (REDD) is a low-cost option to mitigate climate change, attempting to reduce the economic burden of conservation borne by those involved in land and forest use. Most REDD cost assessments focus on opportunity costs and few have evaluated the impact of associated costs. This assessment of REDD considers both opportunity costs and transaction costs, while evaluating the best combination of policies such as payment for environmental services (PES) and command and control (C&C). The use of scenarios will provide spatial and numerical models that would allow targeting of REDD programs in terms of cost-effectiveness and identification of the scheme or combination of schemes to be applied. Angel Armas expects that his research will provide a prognosis of the effects of REDD programs on land users in order to enable a more equitable distribution of impacts and benefits. The Brazilian and Peruvian Amazon regions have been chosen as case studies since they share similar biophysical characteristics but differ significantly in terms of land distribution and ownership, which would mean that different approaches to the implementation of REDD programs would be needed for each region.



El-Sayed Ali, Hamada

Hochschulabschluss/Degree: Master of Science | **Fachgebiet/Field:** Environmental Sciences | **Anbindung/Affiliation:** Suez Canal University, Department of Botany, Ismailia, Egypt

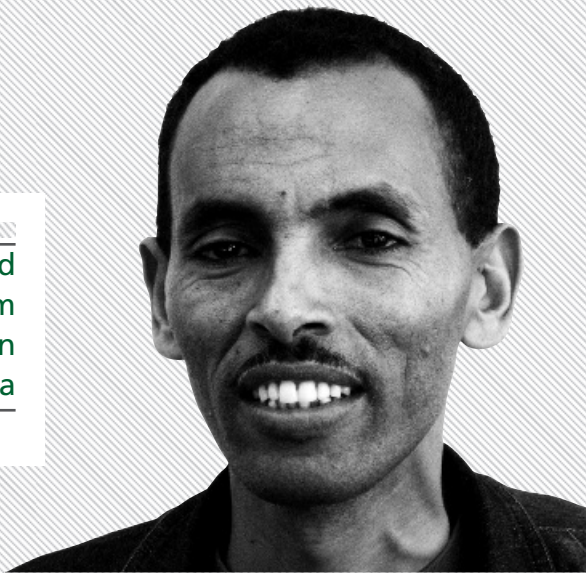
Derzeitige Position/Current Position: Environmental Researcher
Deutsche Gastinstitution/Host Institution in Germany: Universität Bayreuth, Lehrstuhl für Pflanzenökologie | **Gastgeber/Host:** Privatdozent Dr. Gian-Reto Walther und Professor Dr. John D. Terhunen



Projektdarstellung/Project Summary

Climate change and its impacts on natural systems is a long-term issue. Although we are only at an early stage in the projected trends of global warming, ecological responses to recent climate change are already clearly visible. Hamada El-Sayed Ali follows a two-step approach in his research plan. First, the recent climate impacts on vegetation are analyzed based on a survey of the recent past in the southern Sinai Mountains. The aim of this approach is to detect recent changes in the abundance and distribution of plants in an area and climatic region that so far is not represented in international compilations of climate change impacts. The second approach establishes a baseline for the monitoring of future changes using a sophisticated and internationally recognized monitoring scheme. The perspective of a young scientist facing a career over the coming decades allows monitoring and supervising research activities with a long-term perspective. Long-term approaches are highly needed in ecological research in general and climate impact research in particular.

Climate Change Impacts on Natural Vegetation in the Southern Sinai Mountains



Impact of Climate Variability and Landuse Change on Ecosystem Productivity of Northwestern Drylands of Ethiopia

Gebrehiwot, Worku Zewdie

Hochschulabschluss/Degree: Master of Science | **Fachgebiet/Field:** Forestry and Remote Sensing | **Anbindung/Affiliation:** Ethiopian Institute of Agricultural Research, Forestry Research Center, Addis Ababa, Ethiopia

Derzeitige Position/Current Position: Coordinator, Natural Forest Research | **Berufserfahrung/Professional Experience:** Assistant Researcher, Ethiopian Institute of Agricultural Research, Forestry Research Center, Addis Ababa, Ethiopia (2001–2003 and 2005–2008) | **Deutsche Gastinstitution/Host Institution in Germany:** Technische Universität Dresden, Institut für Photogrammetrie und Fernerkundung | **Gastgeber/Host:** Professor Dr. Elmar Csaplovics

Projektdarstellung/ Project Summary

Drylands are home to millions of pastoral and agro-pastoral communities who depend on livestock rearing. The degradation of these resources has economic, social, ecological, political, and institutional dimensions. Due to degradation of woodlands, there is an indication of dust movement over the northwestern parts of the country which in the long range may result in land degradation and desertification. However, little attempt is made up to now to assess the landuse changes, climatic variability and vegetation productivity in relation to current climate change. In Germany there is a huge experience of environmental management, biodiversity conservation, and sustainable planning. The collaboration of Worku Zewdie Gebrehiwot with these professionals will help him to gain experience, knowledge, and insight. He plans to assess the changes occurring in dryland areas for exploring their implications for sustainable development. He will learn how environmental assessment will be done for the sustainable utilization of the existing natural resources.

German Climate Policy and Sichuan Low Carbon Reconstruction – A Case Study of Direct Sino-German Carbon Market Based on Biogas-Linked Low Carbon Building



Jiang, Wei

Hochschulabschluss/Degree: Doctor of Economics | **Fachgebiet/Field:** Climate Change and Sustainable Development | **Anbindung/Affiliation:** Institute of World Economy and Politics, Chinese Academy of Social Sciences, Beijing, China

Derzeitige Position/Current Position: Assistant Researcher | **Berufserfahrung/Professional Experience:** Chief Director of Guangyuan Municipal low-carbon development Group (2009–now); Deputy Secretary-General of Guangyuan Municipal Government and Vice Mayor of Lizhou District (2008–now); Editor of Social Sciences Management and Review, Chinese Academy of Social Sciences (2001–2008) | **Deutsche Gastinstitution/Host Institution in Germany:** Deutsches Institut für Entwicklungspolitik, Bonn | **Gastgeber/Host:** Dr. Imme Scholz

Projektdarstellung/Project Summary

Accounting for both direct and indirect emission from the perspective of the entire production supply chain, CO₂ emission led by economic activities could be primarily driven by building. So there is an urgent need to implement low carbon building (LCB) in reconstruction. Dr. Jiang adopts Guangyuan Municipality as a case study to analyze the feasibility, barriers and solutions for the Chinese earthquake-disaster areas to meet the target of LCB. Cooperating with the host institute, Dr. Wei Jiang will study German climate policies, especially the measures of implementation of biogas-linked LCB, and introduce them to Sichuan earthquake-disaster areas. Dr. Wei Jiang will explore a cooperation mechanism of bilateral direct carbon trade between China and Germany based on LCB as an effective way beyond Clean Development Mechanism (CDM). The ultimate goal of this project is to find effective paths and measures of LCB and to popularize them in other regions in China's Western rural areas.



The Constitutional Duty of Environmental Protection

Li, Yong

Hochschulabschluss/Degree: Doctor of Law | Fachgebiet/Field: Constitutional Law | Anbindung/Affiliation: Institute of Procuratorial Theory, Supreme Peoples Procuratorate, Beijing, China

Derzeitige Position/Current Position: Associate Professor | Berufserfahrung/Professional Experience: Visiting Scholar, Utrecht University, Netherlands (2008) | Deutsche Gastinstitution/Host Institution in Germany: Freie Universität Berlin, Fachbereich Rechtswissenschaft | Gastgeber/Host: Professor Dr. Philip Kunig

Projektdarstellung/Project Summary

It is necessary to form the citizens' consciousness of environmental protection in China. The constitutional duty of environmental protection is not only a starting point for legislations of environmental protection, but also the starting point of awareness of environmental protection. Legislations of environmental protection being made in Germany provide good conditions to research this problem. Dr. Yong Li's subject of research is to explore the necessity and feasibility for the constitutional duty of environmental protection and specific approaches prescribed. He will work together with leading experts in this field and collect the most cutting-edge information, also in other European countries. The results can be used in China to encourage efforts in training citizens' environmental consciousness and forming the constitutional duty of environmental protection.



Lou, Ziyang

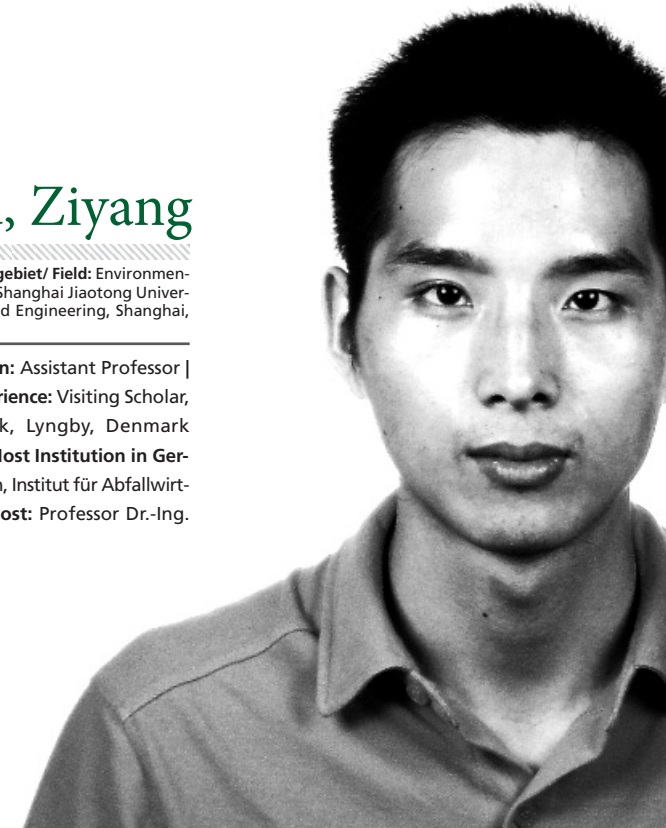
Hochschulabschluss/Degree: Ph.D. | Fachgebiet/Field: Environmental Engineering | Anbindung/Affiliation: Shanghai Jiaotong University, School of Environmental Science and Engineering, Shanghai, China

Derzeitige Position/Current Position: Assistant Professor | Berufserfahrung/Professional Experience: Visiting Scholar, Technical University of Denmark, Lyngby, Denmark (2007) | Deutsche Gastinstitution/Host Institution in Germany: Technische Universität Dresden, Institut für Abfallwirtschaft und Altlasten | Gastgeber/Host: Professor Dr.-Ing. Bernd Bilitewski

Projektdarstellung/Project Summary

Climate change is one of the major environmental concerns in the world. The waste sector contributes to greenhouse gas (GHG) emissions directly and indirectly, while it is also in a unique position from being a source of global GHG emissions to becoming a major saver of GHG at a global scale. Thus, it is important to look at the climate impact and benefit of the full range of waste practices. Dr. Ziyang Lou's work will focus on a comparative investigation on the climate impacts and benefits of different waste management activities in developing and developed countries. Shanghai in China and Dresden in Germany are chosen as city case examples. Working on this project will allow Dr. Lou to understand the overall relationship between waste and climate, and improve waste practices in his and other developing countries.

Climate Impact and Benefit from Waste Management Practices in Developing Countries

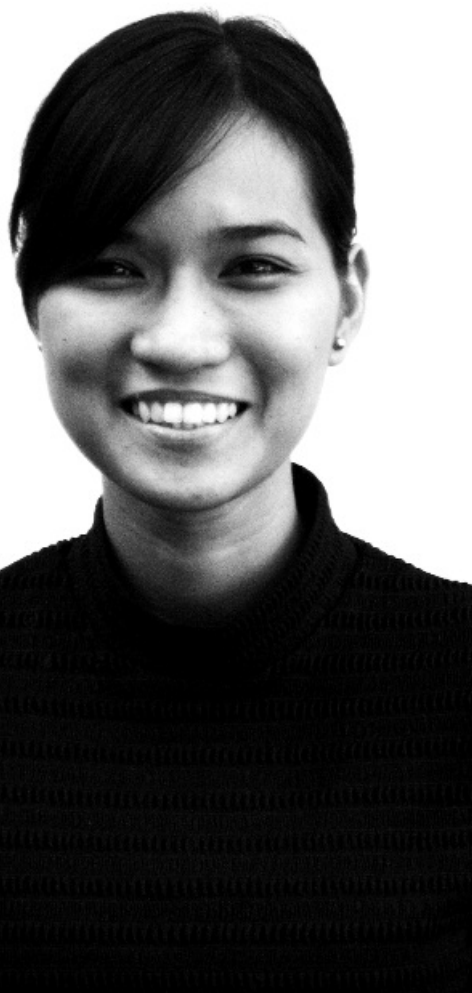


Matias, Denise Margaret Santos

Hochschulabschluss/Degree: Postgraduate Diploma | **Fachgebiet/Field:** Environmental Science | **Anbindung/Affiliation:** University of the Philippines Diliman, Quezon City, Philippines

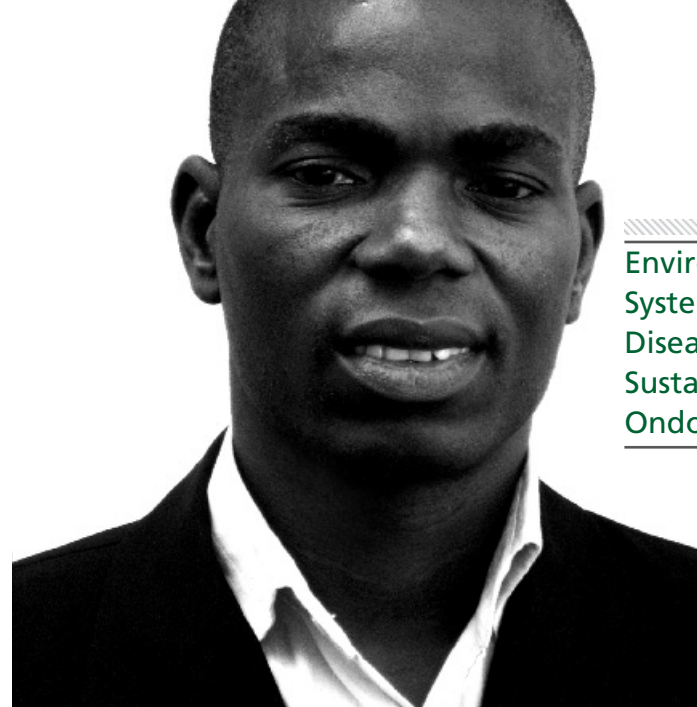
Derzeitige Position/Current Position: Master of Science Candidate | **Berufserfahrung/Professional Experience:** Solid Waste Project Officer, Handicap International Emergency Response, Antipolo City, Philippines (2010); University Research Associate II, Marine Science Institute, University of the Philippines Diliman, Quezon City, Philippines (2008–2009); Coordinator, SolarGeneration, Manila, Philippines (2006–2008); Direct Dialogue Campaigner and Climate Campaign Assistant, Greenpeace Southeast Asia, Quezon City, Philippines (2006); Teaching Assistant, Ateneo de Manila University, Quezon City, Philippines (2005) | **Deutsche Gastinstitution/ Host Institution in Germany:** Germanwatch e.V., Bonn | **Gastgeber/Host:** Christoph Bals

Climate Change in Developing Asia: Energy and Development Perspectives



Projektdarstellung/Project Summary

Denise Matias has encountered climate change personally through typhoon Ketsana in 2009 when her household was submerged in floodwater for three days. As climate change impacts are progressing faster than expected, Ms. Matias will carry out research with Germanwatch e.V. on climate change and development in Asia, which will consolidate projected impacts and the current impacts happening. Experts say that a shift in the usage of energy can help avert the worst impacts of climate change. Ms. Matias will also explore climate change solutions in renewable energy and energy efficiency. Germany, a leader in renewable energy, can assist in identifying renewable energy policy mechanisms (such as the feed-in law) that can fit developing countries. A review of existing renewable energy laws in Asia will assist in formulating policy recommendations that will help Asian countries attract markets for renewable energy and boost local knowledge on alternative forms of energy other than the conventional.



Environmental Early Warning System (EWS) for Communicable Diseases Preparedness and Sustainable Intervention in Ondo State, Nigeria

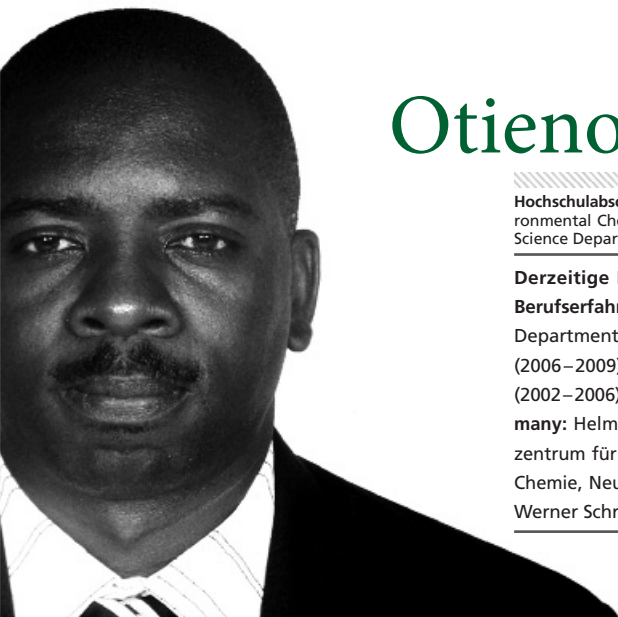
Omonijo, Akinyemi Gabriel

Hochschulabschluss/Degree: Master of Environmental Management and Protection | **Fachgebiet/Field:** Environmental Sciences (Atmospheric Science Option) | **Anbindung/Affiliation:** Department of Agricultural Technology, Rufus Giwa Polytechnic, Owo, Ondo State, Nigeria.

Derzeitige Position/Current Position: Lecturer III & Officer in Charge of Meteorological Station | **Berufserfahrung/Professional Experience:** Assistant Lecturer & Officer in Charge of Meteorological Station, Department of Agricultural Engineering, Rufus Giwa Polytechnic, Owo, Ondo State, Nigeria (2003–2006); Trainee, Department of Meteorological Services, Federal Ministry of Aviation, Lagos, Nigeria (1998) | **Deutsche Gastinstitution/Host Institution in Germany:** Universität Freiburg, Meteorologisches Institut | **Gastgeber/Host:** Professor Dr. Andreas Matzarakis

Projektdarstellung/Project Summary

Akinyemi Gabriel Omonijo's study will focus on the Environmental Early Warning Systems (EWS) for Communicable Diseases Preparedness and Sustainable Intervention in Ondo State, Nigeria. The study will attempt to examine the influence of weather parameters, El Nino Southern Oscillation (ENSO) and vegetation patterns on the morbidity pattern of each communicable disease selected in the study area. The current research is aimed among other things at identifying the season with the highest prevalence of common communicable diseases, the key environmental variables of interest and strength of their sensitivity. Akinyemi Gabriel Omonijo will develop an environmentally-based early warning system model to predict future common communicable diseases with the ultimate goal of reducing morbidity and mortality among the human population in Ondo State. Furthermore, he seeks to transfer the knowledge and experience gained in the area of human biometeorology in Germany to the study area in Nigeria in order to foster sustainable health management systems.



Otieno, Peter

Hochschulabschluss/Degree: Master of Science | **Fachgebiet/Field:** Environmental Chemistry | **Anbindung/Affiliation:** Nyakakana High School, Science Department, Kenya

Derzeitige Position/Current Position: Chemistry Teacher | **Berufserfahrung/Professional Experience:** Research Assistant, Department of Chemistry, Maseno University, Maseno, Kenya (2006–2009); Deputy Principal, Nyatindo High School, Kenya (2002–2006) | **Deutsche Gastinstitution/ Host Institution in Germany:** Helmholtz Zentrum München – Deutsches Forschungszentrum für Gesundheit und Umwelt, Institut für Ökologische Chemie, Neuherberg | **Gastgeber/Host:** Professor Dr. Dr. Karl-Werner Schramm

Developing Analytical Techniques for Forensic Analysis of Wildlife Poisoning and Environmental Contamination by Carbamate and Organophosphate Pesticides with Special Focus on Lake Naivasha in Kenya

Projektdarstellung / Project Summary

The use of acutely toxic pesticides like carbamates and organophosphates in flower farms as well as their use as poison to kill predator animals and other wildlife is currently a matter of concern to the conservation of wildlife. The presence of these pesticides and their toxic residues in the environment, especially surface water, has presented serious risks to humans and wildlife being exposed to it. It is, therefore, imperative that the levels of pesticides are determined by an appropriate analytical tool that has high precision and accuracy. The technique will help generate accurate data for ecological risk assessment and the formulation of an appropriate legal framework that safeguards the environment and contributes to resource conservation. In collaboration with the German Centre for Environmental Health, Peter Otieno intends to develop the analytical tool during his research study that will be used to investigate the levels of carbamates and organophosphates in Lake Naivasha as well as the level of wildlife poisoning. Toxic pesticide residues from flower farms are suspected to have caused massive deaths of fish in this lake. The research project in Germany is expected to provide advanced analytical skills from their equipped laboratories, which will help Peter Otieno in investigating the levels of the pesticides' residues.

Peña Muñoz, Kristy

Hochschulabschluss/Degree: Master of Science | **Fachgebiet/Field:** Waste and Wastewater Treatment | **Anbindung/Affiliation:** Ingeniería y Equipos Ambientales, Mexico City, Mexico

Derzeitige Position/Current Position: Freelance Engineer | **Berufserfahrung/Professional Experience:** Environmental Engineer and Occupational Health, SERVINTESP, Monterrey, Mexico (2009–2010); Environmental Engineer, Daimler Tractocamiones, Saltillo, Mexico (2008–2009); Master Thesis and Practical Training, Daimler AG, Sindelfingen, Germany (2007–2008); Environmental Engineer, Ingeniería y Equipos Ambientales, Mexico City, Mexico (2003–2005); English and Spanish Teacher, Mexico City, Mexico (2002); Research Assistant, Centro de Investigación y de Estudios Avanzados del Instituto Politécnico Nacional CINVESTAV-UIPI, Mexico City, Mexico (2001–2002) | **Deutsche Gastinstitution/Host Institution in Germany:** Universität Stuttgart, Institut für Siedlungswasserbau, Wassergüte- und Abfallwirtschaft | **Gastgeber/Host:** Professor Dr.-Ing. Heidrun Steinmetz

Feasibility of Using a Bio-Hydrogen and Biogas as a Renewable Energy Source in Wastewater Treatment Plants, through Bio-Waste and Anaerobic Digestion Processes

Projektdarstellung / Project Summary

Nowadays, in developing and transition countries, there is a big potential in the use of sludge as main source for biogas production through anaerobic digestion avoiding greenhouse gas emissions coming from landfills and/or open dumps. On the other hand, new sustainable sources of energy, such as Hydrogen (H₂), offer the advantages of being well storable and transportable. An example is the use of H₂ through multi-fuel cells, which is completely emission-free since only water vapour develops as exhaust gas. In 2008, Mexico City implemented the Green Plan whose objective is to offer solutions to the environmental problems in the city, concerning wastewater, waste and air quality management. Kristy Peña Muñoz' twelve-month research is part of a long-term project related to the Green Plan. She focuses on studying the feasibility of using bio-waste to produce H₂ and biogas through a two-stage anaerobic-aerobic digestion process. While defining the metabolic pathway on the anaerobic digestion and the main control parameters, the H₂ production will be highly efficiently increased. Characterized facultative bacteria like E. coli (H₂ production) and methanogenic bacteria (CH₄ production) will be used. The study will set the basis for further research on H₂ production from biosolids in Mexico, offer alternatives for sludge from wastewater treatment plants and, finally, encourage investment on Clean Development Mechanism projects in the country.



Projektdarstellung/Project Summary

The UNFCCC process with the best of its intentions might not be able to come up with a strong post-2012 climate change regime. It is of utmost importance that signals are provided to policymakers to reflect the ground reality and preparedness or lack of it in different countries. Emission Trading Schemes (ETS) are now also being discussed in developing countries as a means to mitigate climate change. Linking them with ETS already in existence or emerging in industrialised countries offers an additional vehicle and platform for bilateral and multilateral cooperation, complementing the UN-driven climate negotiation process. Not only could such cooperation potentially increase mutual goodwill and align domestic interests, thereby supporting the UN negotiations. But it may also promote eventual convergence of domestic policies and administrative capacities in participating jurisdictions – which is by itself a condition for ambitious global cooperation. It is of importance, therefore, to explore whether such schemes can be linked to existing ETS to provide cost effectiveness and improve implementation.

Linking Prospective Developing Country Emissions Trading Schemes (ETS) with Existing ETS

Upadhyaya, Prabhat

Hochschulabschluss/Degree: Post Graduate Diploma in Forest Management (PGDFM) | **Fachgebiet/Field:** Climate Change | **Anbindung/Affiliation:** The Energy and Resources Institute (TERI), New Delhi, India

Derzeitige Position/Current Position: Associate Fellow | **Berufserfahrung/Professional Experience:** Research Associate, The Energy and Resources Institute (TERI), New Delhi, India (2007–2010); Business Development Manager, EcoSecurities, Jaipur, India (2006–2007); Officer Raw Materials, ITC Limited, Paperboards and Specialty Papers Division, Bhadrachalam, India (2007) | **Deutsche Gastinstitution/ Host Institution in Germany:** Ecologic Institute for International and European Environmental Policy, Berlin | **Gastgeber/Host:** Benjamin Görlach



Wei, Chu

Hochschulabschluss/Degree: Ph.D. | **Fachgebiet/Field:** Energy and Environmental Economics | **Anbindung/Affiliation:** College of Economics and Management, Zhejiang Sci-Tech University, Hangzhou, China

Derzeitige Position/Current Position: Assistant Professor | **Berufserfahrung/Professional Experience:** Visiting Scholar, University of Nebraska at Omaha, Omaha, USA (2009–2010); Visiting Ph.D. Student, Toulouse School of Economics, Toulouse, France (2007–2008); Research Assistant, College of Economics and Management, Zhejiang Sci-Tech University, Hangzhou, China (2003–2008); Network Engineer, Great-Wise Consultant Ltd, Shanghai, China (2001–2002) | **Deutsche Gastinstitution/Host Institution in Germany:** Zentrum für Europäische Wirtschaftsforschung, Mannheim | **Gastgeber/Host:** Privatdozent Dr. Andreas Löschel



Projektdarstellung/Project Summary

At the United Nations Climate Change Conference 2009 in Copenhagen (COP15), China committed a CO₂ intensity cut goal. In the context of CO₂ intensity constrains, what is the role energy efficiency will play? What are the economy loss and the environmental benefit? All these questions motivate Dr. Chu Wei to explore the linkage between energy efficiency and CO₂, as well as the energy policy's effect. To achieve this goal, Dr. Wei will collaborate with the Centre for European Economic Research (ZEW), an outstanding think tank on EU climate policy, to examine the impact of energy efficiency on CO₂ emission, and evaluate China's energy and climate policy. During his stay in Germany, Dr. Wei will study the Computable General Equilibrium (CGE) model, access the world input-output database and work on related projects with leading researchers in these fields. He expects to promote the spillover of knowledge and skill, to facilitate the international cooperation on climate change as well as to provide consultation for China's policy-makers.

Energy Efficiency and Carbon Dioxide in China

Zou, Xiuping

Hochschulabschluss/Degree: Ph.D. | Fachgebiet/Field: Renewable Energies and Climate Policy | Anbindung/Affiliation: Institute of Policy and Management, Chinese Academy of Sciences, Beijing, China

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Projektdarstellung/Project Summary

The Fourth Assessment Report of the United Nations' Intergovernmental Panel on Climate Change confirmed that the Earth's climate is changing as a result of human activities, particularly from fossil energy use. The climate-friendly technologies, especially renewable energy technologies, are receiving high interest as backbone of a sustainable energy system. Governments around the world are placing considerable faith in these technologies as important technologies for reducing energy-related environmental problems, particularly CO₂ emissions. Dr. Xiuping Zou will focus on spatial clusters and trade flows of renewable energy technology in Germany, and analyze the factors for establishing a lead market in renewable energy technology. The objective of the study is to look at the German policy and experience and to transfer and implement this knowledge in China.

Study on the Pattern of Knowledge Spillovers and Trade of Climate-Friendly Technologies in Germany and Conclusions for China

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