Ph.D.-positions in Biodiversity Research

The Deutsche Forschungsgemeinschaft (DFG) funds a large-scale grassland project “The Jena Experiment” (www.the-jena-experiment.de) on the relationship between Biodiversity and Ecosystem Functioning (Grant FOR 1451). On a 10ha field site in Jena, more than 470 grassland plots have been established where plant diversity is manipulated to measure the effect of diversity on multi-trophic interactions and nutrient cycling. The following Ph.D.-positions (TVL E13 65%) are available to work in the Jena Experiment:

- **2 PhD positions in Plant Population Ecology in Halle/Saale (Germany) and Bern (Switzerland)**
- **2 PhD positions in Soil Animal Ecology (Göttingen, Jena)**
- **1 PhD position in Community Ecology (Oldenburg)**
- **1 Ph.D.-position in Vegetation Science and Digital Image Analysis (Leipzig)**
- **1 Ph.D.-position in Pollination Ecology (Freiburg)**
- **1 PhD position in Plant-Insect Interactions (Munich)**
- **2 Ph.D.-positions in Plant Root Ecology**

A short description of the positions is given below and on the website of the Jena Experiment (www.the-jena-experiment.de).

The project is an international collaborative research effort of 11 universities and research institutes in Germany, three universities in Switzerland, two in The Netherlands as well as universities and research institutes in Austria, France and Canada. All Ph.D.-students will benefit from an already existing experimental set up and the interaction with other PhDs and researchers in an international research team. The ability to speak and write German will be appreciated but is not indispensable for candidates fluent in English. Ph.D.-students will be based at the university advertising the position but all field work will be conducted in Jena, Germany. A full description of the project and more details about the positions can be found under: www.the-jena-experiment.de

Selection of applicants starts **10. April 2013** and continues until positions are filled. Applications (motivation letter, CV including publication list if applicable, addresses of 2 references and/or reference letters), preferably by email as single PDF attachment with the subject “PhD in the Jena Experiment”, should be submitted to the contact person given below.

**2 PhD positions in Plant Population Ecology in Halle/Saale (Germany) and Bern (Switzerland)**

The Department of Community Ecology at the Helmholtz Centre for Environmental Research in Halle and the Plant Ecology Division of the University of Bern offer two PhD positions to work on the project “Diversity effects on plant life-cycle characteristics and population structure as a base for understanding community assembly and stability”. The project addresses the effects of community diversity and composition on population dynamics of the 60 experimental grassland species of the Jena Experiment. Both PhD students will closely collaborate in characterising the vital rates of populations...
in the experimental plots (density-size distributions, seed set and quality, small-scale spatial dynamics), but each PhD project has a special additional focus.

The task of one PhD student (located in Halle) is the quantification of characteristics related to the persistence of plant populations (plant age determination with anatomical and morphological methods, seed bank and seed survival). The special task of the second PhD student (located in Bern) will be additional common garden experiments focusing on diversity-mediated genetic differentiation of plant populations. A sound background in population biology and in community ecology, as well as field-botanical species knowledge are required to perform the project.

The successful candidates should be highly motivated for research in experimental field ecology and statistical data analyses. Please indicate your preference for the position in Halle or the one in Bern and your earliest possible starting date. Applications will be reviewed from 15 May until the positions are filled. Foreseen project start is 1 July 2013. Applications for both positions should be send as one pdf file per email to application@ufz.de, markus.fischer@ips.unibe.ch and christiane.roscher@ufz.de; please mention code 34/2013 in the subject line.

2 PhD positions in Soil Animal Ecology

The Animal Ecology Group of the Georg August University Göttingen and the Aboveground–Belowground Interactions Group of the Friedrich Schiller University Jena offer two PhD positions to work on the project “Interactions between plant diversity and soil invertebrates”. The project explores the role of soil invertebrates for ecosystem functioning in grassland systems of different diversity. One PhD student (located in Göttingen) will investigate the long-term effects of plant diversity on soil organisms as well as the relevance of the bacterial and fungal decomposition channels in structuring soil food webs via fatty acid analyses. The second PhD (located in Jena) will study effects of plant trait diversity on soil microbial biomass, meso- and macrofauna. 13C pulse labeling and the analysis of root exudates in a complementary greenhouse experiment target at studying C flow in soil food webs and plant traits mediating underlying effects.

The applicants should be trained in animal ecology and experimental ecology. Knowledge on soil ecology and soil invertebrates is advantageous. For more information on the working groups visit http://www.uni-goettingen.de/en/107728.html (Göttingen) and http://www.ecology.uni-jena.de/en/Multitrophic_Interactions_Info.html (Jena).

1 PhD position in Community Ecology

At the Institute for Chemistry and Biology of the Marine Environment (ICBM) at the Carl-von-Ossietzky University Oldenburg, a PhD Student will work on the chemical composition of plants along the diversity gradient and the ecological stoichiometry of interactions between herbivores, pollinators and plants. The PhD student is expected to sample, measure and analyse plant and insect chemical composition and lead the scientific dissemination of the results. The collaborative project requires active participation in the establishment, conduction and sampling of the main experiment as well as in the common scientific activities, which requires recurring stays in Jena. We are searching for highly motivated candidates having an excellent diploma or master degree in biology, ecology, or environmental science. We expect a strong interest in general ecological questions and great enthusiasm for scientific work.
1 PhD-position in vegetation science and digital image analysis

A PhD based at the department of Botany and Functional Biodiversity Research of the Institute of Biology at the University of Leipzig will focus on elucidating the role of phenological and architectural diversity and identity of plant species for ecosystem functioning in grasslands. The project will use a combination of fine-scale canopy inventories and digital photography (time-lapse and close range) to acquire high temporal and spatial resolution datasets in the trait-based experiment (TBE). The selected candidate should have an excellent Master’s degree (or an equivalent) in a relevant field such as botany, ecology, biogeochemistry, geosciences or computer sciences. Experience in one or several of the fields of vegetation analysis, statistics, and image analysis is necessary. Good programming skills are indispensable. Good use of spoken and written English, ambition to publish in international journals as well as creativity, enthusiasm and endurance is expected. The project will be carried out in close collaboration with the groups of Prof. Nina Buchmann from ETH Zurich and Prof. Raphael Proulx from UQTR Troix-Rivieres, Canada. Geographical mobility is necessary and a driving license will be a plus.

Contact: Prof. Christian Wirth, Universität Leipzig, Institut für Biologie, AG Spezielle Botanik und Funktionelle Biodiversität, Johannisallee 21-23, 04103 Leipzig. E-mail: cwirth@uni-leipzig.de

1 PhD-position in Pollination Ecology

The new Chair of Nature Conservation and Landscape Ecology at the University of Freiburg invites applications for a PhD research position as part of the subproject “Aboveground plant-insect interaction webs and associated processes along a plant diversity gradient” lead by Prof. Dr. Alexandra-Maria Klein (University of Lüneburg until June 2013, afterwards University of Freiburg) and Dr. Christoph Scherber (University of Göttingen). The overall aim of the thesis is to better understand how plant species loss affects aboveground plant-insect interactions and the functioning of pollinators in grasslands. The methodological approaches will include pollination experiments, observations of flower-visiting insects to analyze plant-pollinator interactions networks and to link the pollinator networks to interaction networks of other aboveground and belowground organisms. Stoichiometric mismatches of pollinators when plant functional groups and species get lost will be studied by conducting chemical analyses to determine the quantity and ratios of different elements and of sugars and amino-acids in nectar and pollen. The experiments will be carried out in strong collaboration with other members and students of the research group. The position will be based at the University in Freiburg in the new Faculty of Environment and Natural Resources. For more information on the Nature Conservation and Landscape Ecology group (currently Ecosystem functioning group) visit http://www.leuphana.de/en/professorships/ecosystem-functions.html.

Contact: Prof. Dr. Alexandra-Maria Klein, Institute of Ecology, Leuphana University of Lüneburg, Scharnhorststraße 1, 21335 Lüneburg Germany, phone: 0049-(0)4131-677-2960, fax: 0049-(0)4131-677-2949.
1 PhD position in plant-insect interactions (Munich)

The Terrestrial Ecology Research Group of the Technische Universität München offers one PhD position to work on plant-insect interactions and the role of insects for ecosystem processes within the framework of The Jena-Experiment. The project explores how plant diversity affects communities of aboveground arthropods, in particular insects, and studies a number of processes affected by insects, e.g. herbivory. The student will be able to conduct long-term analyses based on own data and data collected in the previous years. Applicants should be trained in animal ecology and experimental ecology. Plant identification skills and experience in working with insects are desirable. Experience in field work and statistical analysis (e.g. R, mixed effect models, structural equation modeling) is a strong plus. It is expected that the student will spent most of the summer time in Jena (April to September) and the winter at TUM. Information on the research group of Wolfgang W. Weisser can be found under www.toek.wzw.tum.de.

Contact: Prof. Dr. Wolfgang W. Weisser, Terrestrial Ecology Research Group, Department of Ecology and Ecosystem Management, Center for Food and Life Sciences Weihenstephan, Technische Universität München, Phone: 0049 8161 71 3495, Fax 0049 8161 71 4427. Applications and pre-application enquiries should be sent to wolfgang.weisser@tum.de

2 PhD-positions in Plant Root Ecology

Two PhD-positions in The Jena Experiment will work together on belowground root turnover and root traits. One position will be at the University of Leipzig (Dr. A. Weigelt) and one position at the University of Wageningen (Dr. L. Mommer). The research focuses on understanding root biomass dynamics, disentangling the pathways of root turnover – production, mortality and decomposition – along a plant species richness gradient. In contrast to aboveground biomass, standing root biomass is not a measure of annual productivity. Rather, it is determined by the balance between annual productivity and turnover, but data on these processes are both scarce and controversial. Still, both are key processes to understand root biomass dynamics and ultimately, ecosystem services such as nutrient availability and carbon sequestration. We are looking for PhD candidates with a strong background in plant ecology. Good expertise in statistics, image analysis and/or (molecular) lab skills are a prerequisite. He/she should be an excellent communicator, both orally and written.

Contact: Dr. Alexandra Weigelt, Institute of Biology, University of Leipzig, Johannisallee 21-23, 04103 Leipzig, Email: alexandra.weigelt@uni-leipzig.de; Dr. Liesje Mommer, Nature Conservation and Plant Ecology, Wageningen University, Droevendaalsesteeg 3a, 6700 AA Wageningen, Email: liesje.mommer@wur.nl.