IMPRS Exploration of Ecological Interactions with Molecular and Chemical Techniques

4 PhD positions in Molecular and Chemical Ecology

International Max Planck Research School:

"The Exploration of Ecological Interactions with Molecular and Chemical Techniques"

The International Max Planck Research School (IMPRS) "The Exploration of Ecological Interactions with Molecular and Chemical Techniques" in Jena, Germany, invites applications for 4 PhD positions beginning in January 2017. The overarching research topic is the use of molecular, chemical and neuroethological techniques to experimentally explore ecological interactions under natural conditions. The main focus is on the relationship between plants, microbes and herbivores, and their environment, as well as the evolutionary and behavioral consequences of these interactions. We offer **6 exciting projects** focusing on different organisms and approaches. The complete list of projects offered including project descriptions is available on our website.

We are looking for enthusiastic PhD students with strong interests in the above-described central topic. Applicants should have a firm background in one of the following fields: ecology, bioinformatics, analytical chemistry, entomology, neurobiology, molecular biology, biochemistry, plant physiology and genetics. All our projects are highly integrative and require willingness to closely collaborate with researchers of different backgrounds.

The Research School is a joint initiative of the Max Planck Institute for Chemical Ecology, Friedrich Schiller University, and the Leibniz Institute for Natural Product Research and Infection Biology Jena. **We offer** state-of-the art equipment, an excellent research environment, supervision by a thesis committee and a structured training program including scientific courses, training in transferable skills and internal conferences. Successful candidates will receive a Max Planck support contract. There are no tuition fees and the working language is English.

Application deadline is August 19, 2016.

For detailed information on the IMPRS, projects offered and application requirements, please visit our website http://imprs.ice.mpg.de/.

Please apply online at https://imprs-reg.ice.mpg.de

Projects offered in 2016

Please find below a list of projects we offer for this year's recruitment. All projects are highly integrative and require the collaboration between different research groups. If you apply to the program, you should choose up to three projects you are interested in. If you are invited to Jena for the recruitment event, it is possible to change your preferences after talking to the supervisors.

Project 1: Experience-dependent plasticity of olfactory circuits
Supervisors: Prof. Dr. Rolf G. Beutel, Institute of Systematic Zoology and Evolutionary Biology, Friedrich Schiller University Jena; Dr. Silke Sachse, Department of Evolutionary Neuroethology, Max Planck Institute for Chemical Ecology

Project 2: Computational metabolomics
Supervisors: Prof. Dr. Sebastian Böcker, Chair of Bioinformatics, Friedrich Schiller University Jena; Dr. Aleš Svatoš, Research Group Mass Spectrometry, Max Planck Institute for Chemical Ecology

Project 3: Surfing the surface: hydrophobins on fungal hyphae
Supervisors: Prof. Dr. Erika Kothe, Institute for Microbiology, Friedrich Schiller University Jena; Prof. Dr. Wilhelm Boland, Department of Bioorganic Chemistry, Max Planck Institute for Chemical Ecology; Dr. Aleš Svatoš, Research Group Mass Spectrometry, Max Planck Institute for Chemical Ecology

Project 4: Isolation and characterization of Arabidopsis mutants impaired in systemic wound signaling
Supervisors: Prof. Dr. Ralf Oelmüller, Department of Plant Physiology, Friedrich Schiller University Jena; Dr. Axel Mithöfer, Department of Bioorganic Chemistry, Max Planck Institute for Chemical Ecology

Project 5: Zwitterionic metabolites – signals and resources
Supervisors: Prof. Dr. Georg Pohnert, Chair of Instrumental Analytics, Friedrich Schiller University Jena; Prof. Dr. Jonathan Gershenzon, Department of Biochemistry, Max Planck Institute for Chemical Ecology

Project 6: Modelling and computer simulations of *Bacillus subtilis* biofilms
Supervisors: Prof. Dr. Stefan Schuster, Department of Bioinformatics, Friedrich Schiller University Jena; Dr. Ákos Kovács, Junior Research Group Terrestrial Biofilms, Friedrich Schiller University Jena