



## ***6 PhD positions in Molecular and Chemical Ecology and Evolution***

### ***International Max Planck Research School “Chemical Communication in Ecological System”***

The International Max Planck Research School (IMPRS) "The Exploration of Ecological Interactions with Molecular and Chemical Techniques" in Jena, Germany, invites applications for **6 PhD positions** beginning in September 2022 – January 2023. The overarching research topic is the use of molecular, chemical and neurobiological 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 11 **exciting projects** focusing on different organisms and approaches. The complete list of projects offered including project descriptions is available on our website (<https://www.ice.mpg.de/296576/advertised-projects>).

We are looking for enthusiastic PhD students with strong interests in the above-described central topic. Applicants should have or be about to obtain a Masters or equivalent degree in one of the following fields: entomology, neurobiology, molecular biology, biochemistry, analytical chemistry, plant physiology, genetics, ecology, evolutionary biology, bioinformatics, and mathematics and computer science. 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 and the Friedrich Schiller University. 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 and outreach skills and participation in research symposia. Successful candidates will receive a Max Planck support contract. There are no tuition fees and the working language is English.

**Application deadline is May 6, 2022.**

For detailed information on the IMPRS, projects offered and application requirements, please visit our website: <https://www.ice.mpg.de/296548/current-call>

Please apply online from March 28, 2022, at:

<https://jobs.ice.mpg.de/en/jobposting/58e60aba7d78f6438c2d42a7c8877b1ace9143a54/apply>

## Projects offered in 2022

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. Applicants can identify up to three projects of interest.

[Project 1](#): *Parasitism and social behaviour in ants*

**Supervisors:** [Dr. Yuko Ulrich](#), [Dr. Markus Knaden](#)

[Project 2](#): *Bimodal processing of olfactory and auditory cues in the brain of Drosophila*

**Supervisors:** [Prof. Dr. Manuela Nowotny](#), [Dr. Silke Sachse](#)

[Project 3](#): *Evolution of natural products in plants*

**Supervisors:** [Prof. Dr. Sarah O'Connor](#), [Dr. Maricel Santoro](#)

[Project 4](#): *The role of sieve element occlusion for plant defense against aphids*

**Supervisors:** [PD Dr. Alexandra Furch](#), [Dr. Grit Kunert](#), [Prof. Dr. Jonathan Gershenzon](#)

[Project 5](#): *Evolution of host-symbiont molecular interactions in reed beetles*

**Supervisors:** [Prof. Dr. Martin Kaltenpoth](#), [Dr. Heiko Vogel](#)

[Project 6](#): *The interface of host-symbiont interaction*

**Supervisors:** [Dr. Tobias Engl](#), [Prof. Dr. Martin Kaltenpoth](#)

[Project 7](#): *The influence of Regiella insecticola on legume plant – pea aphid interactions*

**Supervisors:** [Dr. Grit Kunert](#), [Prof. Dr. Jonathan Gershenzon](#), [Prof. Dr. Martin Kaltenpoth](#), [PD Dr. Alexandra Furch](#)

[Project 8](#): *Alkaloid biosynthesis and evolution in medicinal plants*

**Supervisors:** [Dr. Maite Felicitas Colinas Martinez](#), [Prof. Dr. Sarah O'Connor](#)

[Project 9](#): *Fungal life in soil: attachment and microbial communication*

**Supervisors:** [Prof. Dr. Erika Kothe](#), [Dr. Katrin Krause](#), [Prof. Dr. Jonathan Gershenzon](#)

[Project 10](#): *Did plants twitter miRNA messages during the transition to land?*

**Supervisors:** [Prof. Dr. Günter Theißen](#), [Dr. Lydia Gramzow](#), [Dr. Axel Mithöfer](#), [Prof. Dr. Jonathan Gershenzon](#)

[Project 11](#): *Experience-dependent modulation of olfactory circuits in the brain of Drosophila*

**Supervisors:** [Dr. Silke Sachse](#), [Dr. Markus Knaden](#)