MAX PLANCK INSTITUTE
FOR PLANT BREEDING RESEARCH

DEPARTMENT OF PLANT MICROBE INTERACTIONS

Multiple PhD and Postdoctoral positions to work on the Microbiota-Root-Shoot Axis

Job offer from March 21st, 2023

The Max Planck Institute for Plant Breeding Research (MPIPZ, www.mpipz.mpg.de) in Cologne, Germany invites applications for several ERC-funded positions in the field of microbiology, molecular plant-microbiota interactions, functional ecology and computational biology. The positions are available in the Multitrophic Plant-Microbe Interactions group headed by Dr. Stéphane Hacquard for an initial period of three years, with the possibility of extension.

Background / Objectives

The Multitrophic Plant-Microbe Interactions group aims at understanding the fundamental mechanisms that underlie the structure and the functions of multi-kingdom microbial consortia colonizing plant roots (see group website). The ERC-funded project MICROBIOSIS will focus on the fascinating, yet overlooked circuits that connect root microbiota composition belowground with aboveground leaf development (see project). The objective is to identify conserved strategies used by distantly related plant species for long-distance communication with root microbes and to design synthetic microbial communities that promote resistance to multiple aboveground stresses. The project will involve the use of tractable microbial communities, cutting-edge metabolome, microbiome and grafting techniques, as well as genetic engineering methods and advanced gnotobiotic plant growth systems to mechanistically understand and engineer these circuits.

Skills required

The ideal candidates will have the ability to work at the interface between multiple research fields and will have expertise in one or more of the following: plant/microbial genetics, large-scale multi-omics, advanced statistical genetics, root or microbial metabolic engineering, grafting, root-shoot functional interplay, synthetic microbial communities and ecosystem engineering. Having inter-disciplinary proficiency among molecular biology, ecology, and bioinformatics is advantageous. Very good organizational and communication skills (i.e., English) are essential.

Payment Position

The positions must be filled this year. Selected candidates will be invited for interview. Salary and working hours are in accordance with the funding guidelines of the Max Planck Society for junior scientists. Working hours are fulltime; Payment and benefits are according to German TVöD-Bund.

Your application

Your application must include a letter (2 pages max) stating why you are interested to join the MICROBIOSIS research team, your CV, a list of publications or similar achievements, and names of three referees and should be send as **a single pdf document** through the online system, by latest **May 9th, 2023**.

For further information on this position please feel free to contact Dr. Stéphane Hacquard hacquard@mpipz.mpg.de.

Zertifikat seit 2006 audit berufundfamilie

The Max Planck Society is one of the leading research organizations in Europe. We offer challenging tasks with a high degree of personal responsibility and creative freedom in research laboratories, workshops, libraries and administration.

The Max Planck Institute for Plant Breeding Research conducts basic research on plants using a wide variety of methods, in particular molecular genetics, genomics, imaging processes, computational biology and biochemistry. Our goal is the deep and detailed understanding of plant biology in order to improve conventional breeding methods and to develop environmentally friendly crop protection strategies for crops. We focus primarily on the evolution of plants, their genetic blueprint, their development and their interactions with the environment and microorganisms. How does the plant immune system react to plant pests, for example? How does flowering timing depend on seasonally changing day lengths? How does the genetic variability of crop plants influence adaptation to certain environmental influences? Plant biologists search for the molecular basis of natural diversity of forms in the laboratory, on the computer, in the greenhouse or in the natural environment and thus make innovative contributions to plant breeding.

The Max Planck Society strives to employ more severely disabled people. Applications from severely disabled people are expressly encouraged.

Furthermore, the Max Planck Society wants to increase the proportion of women in areas where they are underrepresented. Women are therefore expressly encouraged to apply.

The Little Pumpkins Parents' Association offers childcare for children under the age of 3 at the MPIPZ.

It is possible to buy an attractively priced VRS bulk customer ticket and apply for a subsidy from the MPI.