

Postdoctoral Position in Systems Biology and Microbial Ecology

A postdoctoral position in Systems Biology and Microbial Ecology is open in the Department of Plant Pathology and Microbiology at The Hebrew University of Jerusalem (Israel, Rehovot) in the lab of Dr. Nadav Kashtan.

In the Kashtan lab we use systems biology approaches to study bacterial life on plant leaf surfaces (the phyllosphere). Plant leaves offer an excellent model ecosystem for studying microbial ecology and represent an extremely important habitat, as these microbial populations are essential to plant health, growth, and function. The phyllosphere is a huge habitat: Earth's total leaf surface area is about twice that of its land area, and is a home to 10^{26} bacterial cells with an impact on global biogeochemical cycles.

In our lab, we combine theory, models and simulations with experiments and field studies. On our experimental front we use advanced in vitro and in planta experimental approaches, building upon advanced fluorescence microscopy and next generation sequencing.

The successful applicant will conduct research aimed at understanding the basic underlying principles of microbial life on plant leaf surfaces. This is part of an ongoing project funded by the James S. McDonnell Foundation (Studying Complex Systems). The project aims to investigate (i) The mechanisms that allow the robust self-organization of bacterial communities on the leaf; (ii) Microbial interactions on the leaf surface at the microscale; and (iii) The ways the leaf surface microbiota affect plant function and health.

To answer these questions, we are developing novel methodologies that will enable high-resolution characterization of the spatiotemporal organization of bacterial populations on plant leaf surfaces based on advanced microscopy techniques (including live imaging) and next generation sequencing technologies.

We are seeking self-motivated candidates to lead aspects of the project. Candidates should have obtained his/her Ph.D. in molecular biology, microbiology, systems biology or a closely related field.

- Experience and background in microbiology and molecular biology are required.
- Experience and background in Computational biology is not required.
- Experience in Advanced Microscopy is a plus.

The position is available for two years with renewal contingent upon satisfactory performance. This full-time position can start immediately. Applicants should email Dr. Nadav Kashtan a short letter stating their interest and suitability for this position along with a CV and contact information for three references.

Email: nadav.kashtan@mail.huji.ac.il

Further information about the lab can be found at:
www.nadavkashtan.com