

The Robert H. Smith Faculty of Agriculture, Food and Environment's hub in:

# NEXT GENERATION AGRICULTURE

Rapid and drastic environmental, demographic and economic changes are putting an increasing burden on agriculture worldwide, threatening food security. The Hebrew University's Robert H. Smith Faculty of Agriculture, Food and Environment in Rehovot takes part in the search for solutions for tomorrow's agriculture. The interdisciplinary hub for Next Generation Agriculture allies theoretical, complex systems, and big data integration approaches from single cells to agricultural ecosystems to create innovative developments and applications. Join us in the quest.

The following research groups are currently recruiting students and postdoctoral fellows who have excellent quantitative / engineering / computational backgrounds to join us in this important and exciting journey. Please contact the Principal Investigators directly for further information.



## Prof. Ido Braslavsky

<http://www.agri.huji.ac.il/~braslav/>

Cryopreservation, ice-binding proteins, ice physics, pattern formation, food biophysics and food 3D printing are subjects of my lab research which uses fluorescence microscopy with image analysis, motorized thermal controlled microscope stages with microfluidic devices, thermal analysis with Comsol, and atomic force microscopy to investigate these subjects.



## Dr. Lior David

[http://departments.agri.huji.ac.il/animal/staff/faculty\\_staff/lior\\_david/](http://departments.agri.huji.ac.il/animal/staff/faculty_staff/lior_david/)

Genetic improvement incorporates next-gen technologies and computational analyses and we apply these methods to study animal genetics.



## Dr. Idan Efroni

<http://idanef.wixsite.com/efronilab>

We study how plants make new organs and repair damaged ones. My lab combines biological data collection and introduction of novel bioinformatic tools in order to translate genomic and single-cell transcriptomic data into developmental insights.



## Dr. Oren Forkosh

[oren.forkosh@mail.huji.ac.il](mailto:oren.forkosh@mail.huji.ac.il)

Theory of happiness and well-being - using machine learning methods to develop the experimental and mathematical tools for a friendly study of positive psychology in both people and animals.



## Dr. Tamar Friedlander

[http://departments.agri.huji.ac.il/plantscience/people/Tamar\\_Friedlander/](http://departments.agri.huji.ac.il/plantscience/people/Tamar_Friedlander/)

We are a theory group, studying how biological networks evolve and self-organize, focusing on a plant reproductive system. We use mathematical models, computer simulations and genomic data analysis.



## Dr. Yonatan Friedman

<https://www.friedmanlab.net/>

Engineering microbial communities to suppress plant pathogens using modeling, genomics, and high-throughput experiments in synthetic microbial communities.



## Dr. Ido Goldstein

[www.ido-goldstein-lab.com](http://www.ido-goldstein-lab.com)

Our lab investigates how gene expression and chromatin is regulated in the liver. We use transcriptomics and genomics tools to assay liver transcriptional networks and get insights into liver biology.



## Dr. Ittai Herrmann

[http://departments.agri.huji.ac.il/plantscience/people/Ittai\\_Herrmann/](http://departments.agri.huji.ac.il/plantscience/people/Ittai_Herrmann/)

The Plant Sensing Lab is using remote and proximal sensing for non-destructive phenotyping and precision agriculture.



## Prof. Edouard Jurkevitch

<https://edouardjlab.wixsite.com/edouardj-lab>

Research interests: predatory interactions between bacteria, bacterial-insect symbioses, and soil identification using microbial fingerprints.



## Dr. Nadav Kashtan

[www.nadavkashtan.com](http://www.nadavkashtan.com)

We are studying the amazing life of bacteria on plant leaf surfaces based on advanced microscopy and image processing, modeling and computer simulations.



## Dr. Asaf Levy

<http://departments.agri.huji.ac.il/plantpath/alevy/>

We combine computational and experimental biology to improve agriculture and to develop technologies to fight infectious human and plant diseases. We analyze large-scale genome data to study how microbes adapt to the plant environment and combat against other microbes.



## Dr. Yair Mau

<http://yairmau.com/>

Environmental modeling of desertification & soil degradation.



## Prof. Masha Niv

<http://departments.agri.huji.ac.il/niv/>

Want to computationally design novel sweeteners, drugs and bioactive peptides? Explore the relation between toxicity, taste and smell? Join the Niv lab!



## Dr. Sharon Schlesinger

[http://departments.agri.huji.ac.il/animal/staff/faculty\\_staff/schlesinger\\_sharon](http://departments.agri.huji.ac.il/animal/staff/faculty_staff/schlesinger_sharon)

Transposable elements (TEs) have rewired the transcriptional network of embryonic development, but how? The Shlez lab is looking for a qualified, motivated and nice student to analyze data of RRBS, ChIPseq and RNAseq aiming to answer fundamental questions of gene regulation and development.

