

# Curriculum Vitae

Yoav Ram

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## Personal Information

### Name

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## Education

- **Starting Fall 2016:** Postdoctoral fellow, Feldman lab, Stanford University
- **Postdoctoral fellow**, Hadany lab, Tel-Aviv University
- **Ph.D.** 2010 - 2016
  - *Institution:* Tel-Aviv University
  - *Advisor:* Prof. Lilach Hadany
  - *Ph.D. title:* The Evolution of Stress-Induced Mutagenesis: Causes and Consequences
  - Submitted February 2016
- **M.Sc.** 2010-2012 (direct Ph.D. track)

Theoretical and Computational Biology, Tel-Aviv University
- **B.Sc.** 2007-2010

Biology and Mathematics *magna cum laude*, Tel-Aviv University

## Publications

- **Ram, Y.** and Hadany, L. (2015) The probability of improvement in Fisher's geometric model: a probabilistic approach. *Theoretical Population Biology*, 99: 1-6. DOI: [10.1016/j.tpb.2014.10.004](https://doi.org/10.1016/j.tpb.2014.10.004)
- **Ram, Y.** and Hadany, L. (2014) Stress-induced mutagenesis and complex adaptation. *Proceeding of the Royal Society B*. 281: 20141025. DOI: [10.1098/rspb.2014.1025](https://doi.org/10.1098/rspb.2014.1025)

- Gueijman, A., Ayali, A., **Ram, Y.**, and Hadany, L. (2013) Dispersing away from bad environments: The evolution of fitness-associated dispersal (FAD) in homogeneous environments. *BMC Evol. Biol.*, 13:125. DOI: [10.1186/1471-2148-13-125](https://doi.org/10.1186/1471-2148-13-125) (OA)
- **Ram, Y.** and Hadany, L. (2012) The evolution of stress-induced hypermutation in asexual populations. *Evolution*, 66: 2315-2328. DOI: [10.1111/j.1558-5646.2012.01576.x](https://doi.org/10.1111/j.1558-5646.2012.01576.x)

### In progress

- **Ram, Y.**, and Hadany, L. Condition-dependent sex: who does it, when, and why?. *In print*.
- Geffen, E., Hadany, L., **Ram, Y.**, and Gafny, S. Genetic diversity in edge populations: A complementary view. *Submitted*.
- **Ram, Y.**, Dellus-Gur, E., Bibi, M., Obolski, U., Berman, J., and Hadany, L. Predicting microbial relative growth in a mixed culture from growth curve data. *Submitted*. Preprint available, DOI: [10.1101/022640](https://doi.org/10.1101/022640).
- Obolski, U., Lewin-Epstein, O., Even-Tov, E., **Ram, Y.**, Hadany, L. With a little help from my friends: Cooperation can accelerate crossing of adaptive valleys. *Submitted*. Preprint available, DOI: [10.1101/062323](https://doi.org/10.1101/062323).

### Software & Datasets

- **Ram Y.**, Hadany L. (2014) Data from: Stress-induced mutagenesis and complex adaptation. *Dryad Digital Repository*. DOI: [10.5061/dryad.3066j](https://doi.org/10.5061/dryad.3066j).
- **Ram, Y.**, Hadany, L. (2014) proevolution simulation: Version Charles. *ZENODO*. DOI: [10.5281/zenodo.11401](https://doi.org/10.5281/zenodo.11401).
- **Ram, Y.**, Guiejman, A. and Hadany L. (2014). proevolution simulation: Version Dobzhansky. *ZENODO*. DOI: [10.5281/zenodo.11400](https://doi.org/10.5281/zenodo.11400).

### Presentations

#### 2016

*How to Study Evolution using Scientific Python* - [contributed talk](#) at the [first PyCon Israel](#) 2016, Tel-Aviv, Israel, May 2 - 3, 2016.

*The Evolution of Stress-Induced Mutagenesis* - [seminar](#) at the Department of Biology and the Environment, Faculty of Natural Sciences, University of Haifa-Oranim, May 22.

*The Evolution of Stress-Induced Mutagenesis: Causes and Consequences* - [PhD seminar](#) at the Department of Molecular Biology and Ecology of Plants, Tel-Aviv University, April 6.

*Microbial Growth in a Mixed Culture* - Poster at ISM (Israel Society for Microbiology) annual meeting in Bar-Ilan, February 17-18.

*The Population Genetics of Stress-Induced Mutation* - seminar at the IGC, Portugal, January 14.

## 2015

Poster at the *first Pearl Seiden International meeting in Life Sciences*, Technion, Haifa, Israel, December 9 - 10.

**Oral presentation** at the **Gordon Research Conference on Biological Mechanisms in Evolution**, Stonehill College, Easton, MA, USA, June 28 - July 3.

Poster at the *Forecasting Evolution?* SFB 680 conference in Lisbon, Portugal, July 8 - 11.

*The Population Genetics of Stress-Induced Mutation* - seminar at the IST, Austria, June 25.

*Stress-induced mutagenesis & complex adaptation* - **Short oral presentation** at the Two2Many Systems Biology Conference, Weizmann Institute, March.

Oral presentation at the Quantitative and Evolutionary Biology Seminar, Tel-Aviv University, March.

*On the role of stress-induced mutagenesis in evolution* - Poster at the Israeli Genetics Society annual meeting, Weizmann Institute, February.

## 2014

*On the role of stress-induced mutagenesis in evolution* - Poster at ISM (Israel Society for Microbiology) annual meeting, Haifa, April.

*Stress, mutation, evolution, and mathematical models* - Presentation at the Astrophysics student journal club at Tel-Aviv University, March.

*Modeling the evolution of the mutation rate* - Presentation at the Topics in Theoretical and Mathematical Biology Seminar at Tel-Aviv University, March.

*The rate of complex adaptation with and without stress-induced mutagenesis* - Poster at FISEB/ILANIT 2014, Eilat, February.

## 2013

Seminar presentation at the Pupko Lab at Tel-Aviv University, November.

Seminar presentation at the Philosophy of Biology Group at the Humanities Faculty, Tel-Aviv University, October.

*Adaptedness, Adaptability and Stress-Induced Mutagenesis* - Poster at *PDEs and Dynamical Systems in Biology* conference in Bar-Ilan University, October 1.

*Adaptedness, Adaptability and Stress-Induced Mutagenesis* - Poster at **ESEB 2013** in Lisbon, Portugal, August 19-24.

*Stress-induced Mutagenesis and the Evolution of Complex Traits* - Poster at the **Gordon Research Conference on Biological Mechanisms in Evolution**, Stonehill College, Easton, MA, USA, June 2-6.

*The Role of Stress-Induced Mutation in the Emergence of Complex Adaptations* - **Oral presentation** at the *5th Annual SIDEER Graduate Symposium*, Ben-Gurion University of the Negev, Sede-Boqer Campus, March 20.

## 2012

*Evolutionary Causes and Consequences of Stress-Induced Hypermutation* - **Oral presentation** at *The 1st Graduate Students' Conference in Genetics, Genomics and Evolution*, Ben-Gurion University of the Negev, September 23. DOI: [10.6084/m9.figshare.96049](https://doi.org/10.6084/m9.figshare.96049).

Seminar presentation at the Pilpel Lab at the Weizmann Institute of Science, June.

*The Evolution of Stress-Induced Mutagenesis in Finite and Infinite Populations* - **Oral presentation at PopGroup 45** in Nottingham, UK, January. DOI: [10.6084/m9.figshare.95939](https://doi.org/10.6084/m9.figshare.95939).

## 2011

Seminar presentation at the Eldar Lab at Tel-Aviv University, December.

Seminar presentation at the Department of Molecular Biology and Plants M.Sc. Seminar at Tel-Aviv University, November.

*Rise and Fall of Mutator Bacteria* - Seminar presentation at the *BioMath Student Journal Club*, Tel-Aviv University, May. DOI: [10.6084/m9.figshare.95940](https://doi.org/10.6084/m9.figshare.95940).

*The Evolution of Stress-Induced Hypermutation* - Poster at **ESEB 2011** in Tübingen, Germany, August. See: [F1000 Posters 2011](#), 2: 1484.

## 2010

*The Evolution of Stress-Induced Hypermutation* - Poster at **SMBE 2010** in Lyon, France, July.

*The Evolution of Stress-Induced Hypermutation* - Poster at *MMSB 2010* in Tel-Aviv, Israel – won the **Best poster award**.

## Awards

### 2017

Stanford Center for Computational, Evolutionary, and Human Genomics (CEHG) Postdoctoral Fellowship, Stanford University.

### 2016

Dean's Award for Excellence in Teaching at the Faculty of Engineering, Tel-Aviv University.

### 2015

The *Israel Society for Microbiology Travel Award to Forecasting Evolution?* in Lisbon, Portugal.

The *Anat Karuskopf Fund Travel Award to Forecasting Evolution?* in Lisbon, Portugal.

Travel award from the *Manna Institute for Plants BioSciences to Forecasting Evolution?* in Lisbon, Portugal.

#### **2014**

The Ministry of Science and Technology International Education Scholarship to travel to the 2015 **Gordon Research Conference** on *Biological Mechanisms in Evolution*.

Research achievements scholarship from the Life-Science faculty, Tel-Aviv University.

#### **2013**

Fellowship from the *Manna Program in Food Safety and Security* for 2013-14.

Travel award from the *Manna Institute for Plants BioSciences to ESEB 2013* in Lisbon, Portugal.

#### **2012**

Research achievements scholarship from the Life-Science faculty, Tel-Aviv University.

Registration and accommodation waiver (sponsored by Cambridge University Press) for *PopGroup45* in Nottingham, UK.

Crowd-funded travel expenses for *PopGroup 45* via *The #SciFund Challenge*.

#### **2011**

SSE International Travel Award to *ESEB 2011* in Tübingen, Germany.

#### **2010**

Direct Ph.D. scholarship from the Department of Molecular Biology and Ecology of Plants, Tel-Aviv University, 2010-2015.

Undergraduate Diversity Mentoring Program award at *SMBE 2010* in Lyon, France.

Best poster award at *MMSB 2010* in Tel-Aviv, Israel.

#### **2009**

The *Amos de-Shalit* Ulpana for excellent students in Life-Sciences at the Weizmann Institute of Science.

### **Peer-Reviews**

#### **2016**

ReScience

#### **2015**

Theoretical Population Biology

Evolution

#### **2014**

PLOS ONE

## **2012**

Proceeding of the Royal Society B

## **2011**

Integrative Zoology

## **Teaching**

### **Spring 2015**

Python Programming for Biologists (0411-3122, Teacher) - new graduate students course

Evolution (0455-2536, TA)

### **Fall 2014**

Python Programming for Engineers (0509-1820, Teacher) - received Dean's Award for Excellence in Teaching

### **Summer 2014**

Gentle Introduction to Programming (preparation course for 1st year CS students)

Introduction to Programming for Engineers (preparation course for 1st year eng. students)

### **Fall 2013**

Python Programming for Engineers (0509-1820, Teacher)

### **Summer 2013**

Gentle Introduction to Programming (preparation course for 1st year CS students)

Introduction to Programming for Engineers (preparation course for 1st year eng. students)

### **Spring 2013**

Extended Introduction to Computer Science (0368-1105, TA)

### **Fall 2012**

Python Programming for Engineers (0509-1820, TA)

### **Spring 2012**

Evolution (0455-2536, TA)

### **Fall 2011**

Python Programming for Engineers (0509-1821, TA)

### **2011-2014**

Co-organizing the *BioMath Student Journal Club* at Tel-Aviv University

## **Conferences**

### **2016**

PyCon Israel 2016, Tel Aviv, May.

Israeli Society for Microbiology (ISM) annual meeting in Bar-Ilan, February.

## **2015**

*The first Pearl Seiden International meeting in Life Sciences*, Technion, Haifa, Israel, December.

**Gordon Research Conference on Biological Mechanisms in Evolution** in Stonehill College, Easton, MA, USA, June.

*Forecasting Evolution?* SFB 680 conference in Lisbon, Portugal, July.

*Two2Many* Systems Biology Conference, Weizmann Institute, March.

Israeli Genetics Society annual meeting in Weizmann Institute, February.

Israeli Society for Microbiology (ISM) annual meeting in Bar-Ilan, February.

## **2014**

Israeli Society for Microbiology (ISM) annual meeting in Haifa, April.

*The Federeation of the Israeli Societies for Experimental Biology (ILANIT)* congress in Eilat, Israel, February.

## **2013**

*PDEs and Dynamical Systems in Biology* conference in Bar-Ilan University, October.

*The 14th Congress of the European Society for Evolutionary Biology (ESEB)* in Lisbon, Portugal, August.

**Gordon Research Conference on Biological Mechanisms in Evolution** in Stonehill College, Easton, MA, USA, June.

*The 5th Annual SIDEER Graduate Symposium - The Emergence of Design in Nature* in Ben-Gurion University of the Negev, Sede-Boqer Campus, March.

## **2012**

*The 1st Graduate Students' Conference in Genetics, Genomics and Evolution* in Ben-Gurion University of the Negev, September.

*The 45th Population Genetics Group* meeting in Nottingham, UK, January.

## **2011**

*The 13th Congress of the European Society for Evolutionary Biology (ESEB)* in Tübingen, Germany, August.

## **2010**

*Learning, Decision Making and Evolutionary Theory: Can We Bridge the Gap?* in Kfar-Blum, Israel, November.

*Theoretical Models in Ecology, Evolution and Behavior: Recent Advances and Conceptual Issues* at the Hebrew University in Jerusalem, Israel, October.

*The annual meeting of the Society for Molecular Biology and Evolution (SMBE) in Lyon, France, July.*

*Mathematical Methods in Systems Biology in Tel-Aviv University, Israel, January.*

## **2009**

*From Darwin to Evo-Devo Symposium in the Technion, Haifa, Israel, October.*

*Evolution in Jerusalem: A Workshop in Celebration of Darwin's 'The Origin of Species' in the Hebrew University, Jerusalem, Israel, October.*

## **Public Outreach**

### **Publications**

- Even-Tov, E., Obolski, U., Gueijman, A., **Ram, Y.**, Hadany, L. (2010) The Evolutionary Riddle of Sexual Reproduction. *Galileo, an Israeli journal for popular science*: June, 32-41

### **Presentations**

- **How to Study Evolution Using Scientific Python** - [contributed talk](#) at [PyCon Israel 2016](#), Tel Aviv, May 2 - 3, 2016
- **Evolution and mutation in stressful times** - the evolution series in Tel-Aviv University's Botanical Gardens, May 16, 2013.