

Yoav Ram — CV

School of Computer Science, IDC Herzliya

yoav.ram@idc.ac.il www.yoavram.com +972 (545) 383136

Education

2010-2016	Ph.D. , Direct Ph.D. track, Tel-Aviv University Thesis title: <i>The Evolution of Stress-Induced Mutagenesis: Causes and Consequences</i>
2010-2012	M.Sc. , Direct Ph.D. track, Tel-Aviv University Theoretical and Computational Biology
2007-2010	B.Sc. , Biology and Mathematics <i>magna cum lauda</i> , Tel-Aviv University

Employment

2018-	Senior lecturer , Efi Arazi School of Computer Science, Interdisciplinary Center, Herzliya
2016-2018	Postdoctoral fellow , Center for Computational, Evolutionary, and Human Genomics, Stanford University Mentor — Prof. Marcus W. Feldman, Department of Biology
2016	Postdoctoral fellow , Hadany Lab, Tel-Aviv University Mentor — Prof. Lilach Hadany, Department of Plant Sciences
2016	Data scientist , Neura
2010-2016	Ph.D. student , Hadany Lab, Tel-Aviv University Mentor — Prof. Lilach Hadany, Department of Plant Sciences
2008-2010	Research assistant , Hadany Lab, Tel-Aviv University Mentor — Prof. Lilach Hadany, Department of Plant Sciences
2008-2009	Software developer , NetAlign
2006-2008	Software developer , XLNet
2002-2006	Communications researcher , IDF Intelligence Corps

Awards

2016-17	Postdoctoral fellowship from the Stanford Center for Computational, Evolutionary, and Human Genomics
2015-16	Dean's Award for Excellence in Teaching , Faculty of Engineering, Tel-Aviv University
2015	The Israel Society for Microbiology travel award
*	The Anat Karuskopf Fund travel award
*	The Manna Institute for Plants BioSciences travel award
2014	The Israeli Ministry of Science and Technology International Education Scholarship
2013-2014	Research achievements scholarship, Life Sciences faculty, Tel-Aviv University.
*	Fellowship from the Manna Program in Food Safety and Security
2013	The Manna Institute for Plants BioSciences travel award
2012	Registration & accommodation waiver for PopGroup45 in Nottingham, UK
*	Crowd-funded travel expenses for PopGroup45 via The #SciFund Challenge
2011-2012	Research achievements scholarship, Life Sciences faculty, Tel-Aviv University
2011	Society for the Study of Evolution International travel award
2010-2015	Direct Ph.D. scholarship , Department of Plant Sciences, Tel-Aviv University
2010	Society for Molecular Biology & Evolution Undergraduate Diversity Mentoring Program award
*	Best poster award at Mathematical Methods in Systems Biology workshop, Tel-Aviv, Israel
2009	Amos de-Shalit Ulpana for excellent students in Life Sciences, Weizmann Institute.

Publications *equal contribution | citation counts from Scholar

Published & Accepted

Ram, Y., Hadany, L. (2019) *Evolution of stress-induced mutagenesis in the presence of horizontal gene transfer*. The American Naturalist, Accepted. DOI: [10.1086/703457](https://doi.org/10.1086/703457)

Zinger, E., Guiejman, A., Obolski, U., **Ram, Y.**, Ruby, E., Binder, M., Yechieli, N., Ohad, N., Hadany L. (2019) *Less fit Lamium amplexicaule plants produce more dispersible seeds*. Scientific Reports, Accepted. DOI: [10.1038/s41598-019-42158-1](https://doi.org/10.1038/s41598-019-42158-1)

Ram, Y., Liberman, U., Feldman, M.W. (2019) *Vertical and oblique cultural transmission fluctuating in time and in space*. Theoretical Population Biology, 125:11-19. DOI: [10.1016/j.tpb.2018.11.001](https://doi.org/10.1016/j.tpb.2018.11.001).

Ram, Y., Liberman, U., Feldman, M.W. (2018) *Evolution of vertical and oblique transmission under fluctuating selection*. Proceedings of the National Academy of Sciences USA, 201719171. DOI: [10.1073/pnas.1719171115](https://doi.org/10.1073/pnas.1719171115).

Ram, Y., Altenberg, L., Liberman, U., Feldman, M.W. (2018) *Generation of variation and a modified mean fitness principle: Necessity is the mother of genetic invention*. Theoretical Population Biology, 123:1-8. DOI: [10.1016/j.tpb.2018.02.004](https://doi.org/10.1016/j.tpb.2018.02.004).

Harari, Y., **Ram, Y.**, Rappoport, N., Hadany, L., Kupiec, M. (2018) *Spontaneous changes in ploidy are common in yeast*. Current Biology, 28:111. DOI: [j.cub.2018.01.062](https://doi.org/10.1016/j.cub.2018.01.062). 4 citations

Harari, Y., **Ram, Y.**, Kupiec, M. (2018) *Frequent ploidy changes in growing yeast cultures*. Current Genetics, 0:14.. DOI: [10.1007/s00294-018-0823-y](https://doi.org/10.1007/s00294-018-0823-y). 1 citation

Obolski, U.* , **Ram, Y.***, Hadany, L. (2018) *Evolution on rugged adaptive landscapes*. Reports on Progress in Physics, 81: 12602. DOI: [10.1088/1361-6633/aa94d4](https://doi.org/10.1088/1361-6633/aa94d4). 2 citations

Dellus-Gur, E., **Ram, Y.**, Hadany, L. (2017) *Errors in mutagenesis and the benefit of cell-to-cell signalling in the evolution of stress-induced mutagenesis*. Royal Society Open Science, 4:170529. DOI: [10.1098/rsos.170529](https://doi.org/10.1098/rsos.170529). 1 citation

Obolski, U., Lewin-Epstein, O., Even-Tov, E., **Ram, Y.**, Hadany, L. (2017) *With a little help from my friends: cooperation can accelerate the rate of adaptive valley crossing*. BMC Evolutionary Biology, 17:143. DOI: [10.1186/s12862-017-0983-2](https://doi.org/10.1186/s12862-017-0983-2). 2 citations

Rougier, N.P., ... , **Ram, Y.**, et al. (2017) *Sustainable computational science: the ReScience initiative*. PeerJ Computer Science, 3: e142. DOI:[10.7717/peerj-cs.142](https://doi.org/10.7717/peerj-cs.142). 11 citations

Ram, Y., Hadany, L. (2016) *Condition-dependent sex: who does it, when, and why?*. Philosophical Transactions of the Royal Society B, 371: 20150539. DOI: [10.1098/rstb.2015.0539](https://doi.org/10.1098/rstb.2015.0539). 14 citations

Ram, Y., 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). 5 citations

Ram, Y., Hadany, L. (2014) *Stress-induced mutagenesis and complex adaptation*. Proceedings of the Royal Society B. 281: 20141025. DOI: [10.1098/rspb.2014.1025](https://doi.org/10.1098/rspb.2014.1025). 33 citations

Gueijman, A., Ayali, A., **Ram, Y.**, Hadany, L. (2013) *Dispersing away from bad environments: The evolution of fitness-associated dispersal (FAD) in homogeneous environments*. BMC Evolutionary Biology, 13:125. DOI: [10.1186/1471-2148-13-125](https://doi.org/10.1186/1471-2148-13-125). 15 citations

**Datasets
& Software**

Ram, Y., 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). 55 citations

Ram, Y., Hadany, L. (2019) *Data from: Evolution of Stress-Induced Mutagenesis in the Presence of Horizontal Gene Transfer*. Dryad Digital Repository. DOI:[10.5061/dryad.5t9211b](https://doi.org/10.5061/dryad.5t9211b).

Ram, Y., Hadany, L. (2019) *Mamba: Version Baptiste*. Zenodo. [10.5281/zenodo.2563549](https://doi.org/10.5281/zenodo.2563549).

Ram, Y., Zinger, E., Hadany, L. (2017) *Sid: Image processing for seed images*. Zenodo. DOI: [10.5281/zenodo.344898](https://doi.org/10.5281/zenodo.344898).

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., Guiejman, A. and Hadany L. (2014) *proevolution simulation: Version Dobzhansky*. ZENODO. DOI: [10.5281/zenodo.11400](https://doi.org/10.5281/zenodo.11400).

Ram, Y., Hadany, L. (2014) *proevolution simulation: Version Charles*. ZENODO. DOI: [10.5281/zenodo.11401](https://doi.org/10.5281/zenodo.11401).

Teaching & Mentoring Experience

- | | |
|------------|---|
| 2016– | Technical Instructor , Private training for Industry
Designed and developed multiple scientific programming workshops
Taught 1-5 day workshops in Israel and in California
python.yoavram.com |
| 2015 | Lecturer , Python Programming for Biologists, Tel-Aviv University
Developed and taught a new & successful course for postgraduate Biology students
py4life.github.io |
| 2014-2015 | Lecturer , Python Programming for Engineers, Tel-Aviv University
Lead 9 staff members, together teaching 600 1st year Engineering students.
Received the <i>Dean's Award for Excellence in Teaching</i> |
| 2014 | Teaching Assistant , Extended Introduction to Computer Science, Tel-Aviv University |
| 2013-2016 | Mentoring of undergraduate and graduate students at Hadany Lab
Supervised five undergraduate students doing research projects
Participated in mentoring of three postgraduate students |
| 2013-2014 | Lecturer , Gentle Introduction to Programming, Tel-Aviv University
Preparation course for 1st year Computer Science students |
| 2013-2014 | Lecturer , Introduction to Programming for Engineers, Tel-Aviv University
Preparation course for 1st year Engineering students |
| 2012, 2015 | Teaching Assistant , Evolution, Tel-Aviv University |
| 2011-2013 | Teaching Assistant , Python Programming for Engineers, Tel-Aviv University
Developed with two other postgraduate students a new course for 1st year Engineering students |

- 2005 | **Course Commander**, IDF Intelligence Corps
Responsible for intensive 3-month training of 8 recruits with B.Sc. in Exact Sciences

Selected Presentations

- 2019 | Oral presentation at *Israel Society for Microbiology* Annual Meeting.
- 2018 | Invited speaker at the *Genome Evolution Conference*, Weizmann Institute
- 2017 | Oral presentation at the *Evolgenome* seminar, Stanford University
* Poster at the *Gordon Research Conference* on Biological Mechanisms in Evolution, Stonehill College, Easton, MA, USA
* Oral presentation at *Israel Society for Microbiology* Annual Meeting.
* Oral presentation at *FISEB / ILANIT*, Eilat.
- 2016 | Seminar at the Instituto Gulbenkian de Ciência, Portugal.
- 2015 | **Oral presentation at the Gordon Research Conference on Biological Mechanisms in Evolution**, Stonehill College, Easton, MA, USA
* Poster at the "Forecasting Evolution?" SFB 680 conference in Lisbon, Portugal
* Seminar at the Institute of Science and Technology, Austria
* Short oral presentation at the *Two2Many* Systems Biology Conference, Weizmann Institute
- 2013 | Poster at *ESEB 2013* in Lisbon, Portugal
* Poster at the *Gordon Research Conference* on Biological Mechanisms in Evolution, Stonehill College, Easton, MA, USA
* Oral presentation at the 5th Annual *SIDEER Graduate Symposium*, Ben-Gurion University of the Negev, Sede-Boqer Campus
- 2012 | Oral presentation at the 1st Graduate Students Conference in *Genetics, Genomics and Evolution*, Ben-Gurion University of the Negev. DOI: [10.6084/m9.figshare.96049](https://doi.org/10.6084/m9.figshare.96049).
* **Oral presentation at PopGroup 45 in Nottingham, UK.** DOI: [10.6084/m9.figshare.95939](https://doi.org/10.6084/m9.figshare.95939).
- 2011 | Poster at *ESEB 2011* in Tübingen, Germany. F1000 Posters 2011, 2: 1484.
- 2010 | Poster at *SMBE 2010* in Lyon, France.
as undergrad | Poster at *MMSB* in Tel-Aviv, Israel, 2010 – **Best poster award**

Other Academic Activities

- Reviewer**
2011– | PLOS Genetics
Proceeding of the Royal Society B
Evolution
Journal of Evolutionary Biology
PLOS ONE
Theoretical Population Biology
Integrative Zoology
Quarterly Review of Biology
ReScience
Israel Journal of Ecology & Evolution

Co-organizer 2011-2014	BioMath Student Journal Club , Tel Aviv University
Popular Media	Even-Tov, E., Obolski, U., Gueijman, A., Ram, Y. , Hadany, L. (2010) <i>The Evolutionary Riddle of Sexual Reproduction</i> . Galileo, an Israeli journal for popular science: June, 32-41
Outreach	<i>Dive into Scientific Python</i> — Oral presentation, DataTalks meetup, Herzeliya, March 15, 2017 — YouTube
*	<i>How to study evolution using Scientific Python</i> — Oral presentation, PyCon Israel 2016, Tel Aviv, May 2 - 3, 2016 — YouTube
*	<i>Evolution and mutation in stressful times</i> — Oral presentation, The Evolution Series, Tel Aviv University Botanical Gardens, May 16, 2013 — PDF