

Sarit Avrani  
Curriculum Vitae

**Personal information**

Phone number: 04-8249025  
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**Employment**

2017- Lecturer, The Department of evolutionary and environmental biology, University of Haifa, Israel.  
2015-2017 Post-doctoral scholar, The Technion. Research subject: Evolution bacteria in long term stationary phase. Advisor: Dr. Ruth Hershberg.  
2012-2013 Post-doctoral scholar, The Technion. Research subject: Evolution of *Prochlorococcus* strains resistant to phage. Advisor: Prof. Debbie Lindell.

**Academic education**

2007-2012 Ph.D in Biology, The Technion. Thesis title: Resistance of marine cyanobacteria to cyanophage infection: An experimental evolution approach. Advisor: Prof. Debbie Lindell.  
2004-2007 M.Sc. in Biology at the Department of Evolutionary & Environmental Biology, the University of Haifa. Thesis title: Genetic diversity in *Pistacia atlantica* and in the gall-forming aphid *Slavum wertheimae* across an ecogeographical gradient in Israel. Advisors: Prof. Moshe Inbar and Dr. Rachel Ben-Shlomo. Graduated *cum laude*.  
1999-2002 B.A. in biology at the Faculty of Biology, Technion. Graduated *cum laude*. Research project in the field of yeast genetics. Advisor: Prof. Yona Kassir.

**Teaching Experience**

2008-2011 Teaching assistant, Genetics lab, Department of Biology, Technion.  
2007 Teaching assistant, Biochemistry lab, Department of Biology, Technion.  
2006 Teaching assistant, Genetics course and lab, University of Haifa at Oranim.

**Academic distinctions, awards, scholarships**

- Ali Kaufman postdoctoral fellowship, Technion, 2015
- Paper of the year prize, Faculty of Biology, Technion, 2011
- Prize for excellence in teaching, Technion, twice, 2009 and 2011
- The Katzir-Katchalsky Student Travel Fellowship, 2011
- Paper of the month prize, Faculty of Biology, Technion, July 2011
- 2<sup>nd</sup> prize for best poster, Biology Faculty Day, Haifa, Israel, 2010
- 4<sup>th</sup> prize for best poster, Darwin Symposium, Haifa, Israel, 2009
- Salim and Rachel Banin scholarship (The Jewish Agency), 2006

## Academic distinctions, awards, scholarships - continued

- The Wolf Foundation prize for M.Sc. students, 2006
- Prize for excellence, Dept. of Evolutionary and Environmental Biology, Haifa Univ., 2006
- Excellence Awards from the President of the Technion, twice, 1999 and 2000
- Dean's list of honors for scholarship achievements, Technion, twice, 2000 and 2001

## Published papers

1. **Avrani S.**, O. Wurtzel, I. Sharon, R. Sorek, and D. Lindell. 2011. Genomic island variability facilitates *Prochlorococcus*-virus coexistence. **Nature** 474: 604-608.  
This paper was highlighted in News and Views of this issue: Partensky F. & L. Garczarek. 2011. Arms race in a drop of sea water. *Nature* 474: 582-583.
2. **Avrani S.**, R. Ben-Shlomo and M. Inbar. 2012. Cryptic speciation along the fragmented Irano-Turanian distribution zone: Phylogeography of *Pistacia atlantica* and its galling aphids. **Tree Genetics & Genomes** 8(4): 811-820.
3. **Avrani\* S.**, D.A. Schwartz\*, and D. Lindell. 2012. Virus-host swinging party in the oceans: Incorporating biological complexity into paradigms of antagonistic coexistence. **Mobile Genetic Elements** 2(2): 88-95. \*equal contribution.
4. Dekel-Bird N.P., **S. Avrani**, G. Sabehi, I. Pekarsky, M.F. Marston, S. Kirzner, and D. Lindell. 2013. Diversity and evolutionary relationships of T7-like podoviruses infecting marine cyanobacteria. **Environmental Microbiology** 15(5): 1476-1491.
5. **Avrani S.** and D. Lindell. 2015. Convergent evolution towards an improved growth rate and a reduced resistance range in *Prochlorococcus* strains resistant to phage. **PNAS** 112: 2191–2200.
6. **Avrani s.**, E. Bolotin, S. Katz, and R. Hershberg. 2017. Rapid genetic adaptation during the first four months of survival under resource exhaustion. **Molecular Biology and Evolution** 34 (7): 1758-1769.

## Conference Presentations

### A. Lectures

1. Israel Society of Microbiology, Beit Dagan, Israel, 2017. "*Rapid genetic adaptation during the first four months of survival under resource exhaustion*".
2. Aquatic Virus Workshop, Plymouth, England, 2016. "*Convergent evolution towards an improved growth rate and a reduced resistance range in Prochlorococcus strains resistant to phage*".
3. Viruses of Microbes Conference, Liverpool, England, 2016. "*Convergent evolution towards an improved growth rate and a reduced resistance range in Prochlorococcus strains resistant to phage*".
4. Department of Biology and Environment, University of Haifa at Oranim, Israel, 2015. "*Sleeping with the Enemy: How do phages affect the evolution and ecology of their photosynthetic bacteria hosts?*". **Invited**.
5. International Symposium on Phototrophic Prokaryotes, Tübingen, Germany, 2015. "*Convergent evolution towards an improved growth rate and a reduced resistance range in Prochlorococcus strains resistant to phage*". **Longer selected talk**.

## A. Lectures - continued

6. Agricultural Research Organization, Volcani Center, Beit Dagan, Israel, 2013. *"Going a few phenotypic steps backwards by taking a few genotypic steps forward: Continuous evolution of Prochlorococcus strains resistant to phage"*. **Invited**.
7. Israel Society of Microbiology, Ramat-Gan, Israel, 2013. *"Going a few phenotypic steps backwards by taking a few genotypic steps forward: Continuous evolution of Prochlorococcus strains resistant to phage"*. **Invited**.
8. Israel Society of Microbiology, Ramat-Gan, Israel, 2012. *"Genomic island variability facilitates Prochlorococcus-virus coexistence"*.
9. Jacobs Showcase Lecture Series: "Plenty New under the Sun", Haifa, Israel, 2012. *"Sleeping with the enemy - how long-term coexistence is possible between photosynthetic bacteria and the viruses that infect them?"*.
10. Evergreen International Phage Biology Meeting, Olympia, USA, 2011. *"Genomic island variability facilitates Prochlorococcus-virus coexistence"*.
11. Scripps Institution of Oceanography, Marine Biology Research Division, Departmental seminar series, San Diego, USA, 2011. *"Genomic island variability facilitates Prochlorococcus-virus coexistence"*.
12. First Host-Pathogen Forum Meeting, Tel-Aviv University, 2009. *"Mutations in a Cluster of Genes of Unknown Function in a Marine Cyanobacterium Confer Resistance to Cyanophages"*.
13. The 25<sup>th</sup> annual meeting of the Entomological Soc. of Israel, 2006. *"Genetic diversity in the galling aphid *Slavum wertheimae* along a geo-climatic gradient in Israel: Speciation in fragmented populations?"*.
14. The 43<sup>rd</sup> meeting of the Zoological Soc. of Israel, 2006. *"Irano-Turanian fragmentation in Israel: Implications on the genetic structure of *Pistacia atlantica* and a gall aphid"*.

## B. Posters

1. Centennial Celebration of Bacteriophage Research, Paris, France, 2017. *"Convergent evolution towards an improved growth rate and a reduced resistance range in Prochlorococcus strains resistant to phage"*, S. Avrani and D. Lindell.
2. Genome Evolution conference, Rehovot, Israel, 2016. *"Convergent evolution towards an improved growth rate and a reduced resistance range in Prochlorococcus strains resistant to phage"*, S. Avrani and D. Lindell.
3. ISM Fall Workshop, Ein-Gedi, Israel, 2012. *"Prochlorococcus strains resistant to phage continue evolving toward an improved growth rate and reduced resistance range"*, S. Avrani, D.A. Schwartz, and D. Lindell.
4. International Society for Microbial Ecology, Copenhagen, Denmark, 2012. *"Prochlorococcus strains resistant to phage continue evolving toward an improved growth rate and reduced resistance range"*, S. Avrani, D.A. Schwartz, and D. Lindell.
5. Viruses of Microbes Conference, Brussels, Belgium, 2012. *"Prochlorococcus strains resistant to phage continue evolving toward an improved growth rate and reduced resistance range"*, S. Avrani, D.A. Schwartz, and D. Lindell.
6. Aquatic Virus Workshop, Texel, the Netherlands, 2011. *"Genomic island variability facilitates Prochlorococcus-virus coexistence"*, S. Avrani, O. Wurtzel, D.A. Schwartz, I. Sharon, R. Sorek, and D. Lindell.

## B. Posters - continued

7. International Society for Microbial Ecology, Seattle, USA, 2010. "*Mutations in Hypervariable Genomic Regions in Marine Cyanobacteria Confer Resistance to Cyanophages*". S. Avrani, O. Wurtzel, R. Sorek, and D. Lindell.
8. Biology Faculty Day, Haifa, Israel, 2010. "*Mutations in Hypervariable Genomic Regions in Marine Cyanobacteria Confer Resistance to Cyanophages*". S. Avrani, O. Wurtzel, R. Sorek, and D. Lindell. **Won 2<sup>nd</sup> prize.**
9. French-Israel Minisymposium IOLR, Haifa, Israel, 2010. "*Mutations in a Cluster of Genes of Unknown Function in a Marine Cyanobacterium Confer Resistance to Cyanophages*". S. Avrani, O. Wurtzel, R. Sorek, and D. Lindell.
10. Israel Society of Microbiology, Ramat-Gan, Israel, 2010. "*Mutations in a Cluster of Genes of Unknown Function in a Marine Cyanobacterium Confer Resistance to Cyanophages*". S. Avrani, O. Wurtzel, R. Sorek, and D. Lindell.
11. Darwin Symposium, Haifa, Israel, 2009. "*Mutations in a Cluster of Genes of Unknown Function in a Marine Cyanobacterium Confer Resistance to Cyanophages*". S. Avrani, O. Wurtzel, R. Sorek, and D. Lindell. **Won 4<sup>th</sup> prize.**
12. IUI 40<sup>th</sup> anniversary conf., Eilat, 2009, "*Mutations in a Cluster of Genes of Unknown Function in a Marine Cyanobacterium Confer Resistance to Cyanophages*", S. Avrani, O. Wurtzel, R. Sorek, and D. Lindell.
13. Gordon Research Conf. on Evolutionary and Ecological Functional Genomics, Salve Regina University, Newport, USA, 2007. "*Speciation along the fragmented Irano-Turanian distribution zone: Phylogeography of a gall aphid and its host plant*", S. Avrani, M. Inbar and R. Ben-Shlomo.
14. The 13<sup>th</sup> Symposium on Insect-Plant Relationships, Uppsala, Sweden, 2007. "*Phylogeography of a gall forming aphid and its host plant: Speciation along the fragmented Irano-Turanian distribution zone*", S. Avrani, R. Ben-Shlomo and M. Inbar.

## Community Service

- 2009 Researchers Night at Madatek, discussion with the public and poster presentation on evolution related principles in my research.
- 2009-2013 Volunteering at "Latet" organization.
- 1993-1994 Voluntary year of service at the boarding school AHAVA for children at risk.