

Name Uri Gophna, ProfessorGeorge S. Wise Faculty of Life Sciences, Shmunis School of Biomedicine and Cancer ResearchHome Address 2 Levitan street, Tel Aviv, IsraelPhone No. 077-4249087 (home) 03-6409988 (office)Date and place of birth 18.9.1970 Tel- Aviv, IsraelMarital Status MarriedNo. of children 3A. EDUCATION

<u>Period of study</u> <u>(dates)</u>	<u>Name of University</u>	<u>Subject</u>	<u>Degree</u>	<u>Date of Award</u>
1992 - 1996	The Technion, Faculty of Biotechnology and Food Engineering, Haifa, Israel	Biotechnology Engineering	B.Sc. (<i>magna cum laude</i>)	1996
1996 - 1998	Tel Aviv University, Faculty of Life Sciences, Tel Aviv, Israel	Biotechnology	M.Sc. (<i>magna Cum Laude</i>)	1998
1998 - 2003	Tel Aviv University, Faculty of Life Sciences, Tel Aviv, Israel	Microbiology	Ph.D. (<i>with distinction</i>)	2003

Title of Doctoral Dissertation: "Virulence Factors of Septicemic *Escherichia coli* Strains"**Name of Supervisor:** Prof. Eliora Z. Ron**Title of Master's thesis:** "Molecular and physiological characterization of an invasion-promoting gene cluster from an avian pathogenic *Escherichia coli*"**Names of Supervisor:** Prof. Eliora Z. RonB. FURTHER STUDIES N/A

C. ACADEMIC AND PROFESSIONAL EXPERIENCE

<u>Period (dates)</u> <u>Rank/Function</u>	<u>Name of Institution</u> <u>(city, country)</u> <u>Department</u>	
1996-1998 Teaching Assistant	The George S. Wise Faculty of Life Sciences, Tel-Aviv University, Israel	Molecular Microbiology and Biotechnology
1998-2002 Instructor	The George S. Wise Faculty of Life Sciences, Tel-Aviv University, Israel	Molecular Microbiology and Biotechnology
2001–2003 Treasurer	Tel Aviv University	Junior faculty organization
2000-2002 Deputy-chairman	Tel Aviv University	Junior faculty organization
2003-2005 Postdoctoral Research fellow	Faculty of Medicine, Dalhousie University, Halifax, Canada	Biochemistry
2005-2006 Postdoctoral Research fellow	The George S. Wise Faculty of Life Sciences, Tel-Aviv University, Israel	Molecular Microbiology and Biotechnology
2006-2007 Ph.D. level instructor	The George S. Wise Faculty of Life Sciences, Tel-Aviv University, Israel	Molecular Microbiology and Biotechnology
2007- 2012 Senior Lecturer	The George S. Wise Faculty of Life Sciences, Tel-Aviv University, Israel	Molecular Microbiology and Biotechnology
2012 - 2017 Associate Professor	The George S. Wise Faculty of Life Sciences, Tel-Aviv University, Israel	Molecular Microbiology and Biotechnology
2017 - Present Full Professor	The George S. Wise Faculty of Life Sciences, Tel-Aviv University, Israel	Molecular Cell Biology and Biotechnology
2013-2014 Sabbatical Scholar	National Center for Evolutionary Synthesis, Durham, NC, USA	

D. ACTIVE PARTICIPATION IN SCIENTIFIC MEETINGS

<u>No.</u>	<u>Year</u>	<u>Name of Meeting (city, country)</u>	<u>Role</u>
1	1998	6th Annual Meeting of the Laura Schwarz-Kipp Institute for Biotechnology, Nof-Ginosar, Israel	Contributing speaker
2	1998	The 2nd Congress of the Federation of the Israel Societies for Experimental Biology (FISEB), Eilat, Israel	Contributing speaker
3	1999	7th Annual Meeting of the Laura Schwarz-Kipp Institute for Biotechnology, Kfar-Blum, Israel	Contributing speaker
4	1999	Israel Society for Microbiology annual meeting, Rehovoth, Israel	Contributing speaker
5	2000	International Conference on Bacterial and Viral Virulence Factors, Smolenice, Slovakia	Contributing speaker
6	2001	9th Annual Meeting of the Laura Schwarz-Kipp Institute for Biotechnology, Ein-Gedi, Israel	Poster
7	2002	The 3rd Congress of the Federation of the Israel Societies for Experimental Biology (FISEB), Eilat, Israel	Poster
8	2002	ESF Bacterial Neural Networks, Obernai, France	Contributing speaker
9	2004	Israeli Society of Microbiology annual meeting, Haifa, Israel	Poster
10	2004	Integrating Metabolism and Genomics (ASM conference) (poster)	Poster presentation
11	2004	Origin and Evolution of Human Pathogens, Baeza, Spain	Contributing speaker
12	2005	Canadian Society for Microbiology meeting, Halifax, Canada	Session co-chair
13	2006	Israeli Society of Microbiology annual meeting, Beer-Sheva, Israel	Invited speaker
14	2006	International Society for Microbial Ecology meeting, Vienna, Austria	Contributing speaker
15	2007	Society for Molecular Biology and Evolution meeting, Halifax, Canada	Poster
16	2007	Israeli Society of Microbiology annual meeting, Ramat Gan University, Israel	Invited speaker
17	2007	Molecular Processes in Health and Diseases, Microbiology and Microbial Bioinformatics, Tel Aviv, Israel.	Invited speaker
18	2007	15th Annual Meeting of the Laura Schwarz-Kipp Institute for Biotechnology, Hagoshrim, Israel.	Invited speaker + 4 posters
19	2007	Signal Transduction in Host-Bacterial Interactions, Jerusalem, Israel	Invited speaker
20	2007	Israel Bioinformatics Society meeting, Ramat Gan, Israel	Poster
21	2008	The 5th Congress of the Federation of the Israel Societies for Experimental Biology, January 28-31, 2008, Eilat, Israel	Session chair and speaker + 3 posters
22	2008	16th Annual Meeting of the Laura Schwarz-Kipp Institute for Biotechnology, Maalot, Israel.	4 posters
23	2008	Genomes 2008, Paris, France	Invited speaker + poster
24	2008	Israel Society for Microbiology annual meeting, Rehovoth, Israel	Invited speaker + 2 posters
25	2008	Israel Bioinformatics Society meeting, Tel Aviv, Israel	Invited speaker
26	2008	Society for Molecular Biology and Evolution meeting, Barcelona,	2 Posters

		Spain	
27	2008	Workshop on phylogeny and its applications, Technion, Haifa, Israel	Invited speaker
28	2008	<i>Micrococcus luteus</i> genome annotation workshop, Jerusalem, Israel	Invited speaker
29	2009	FEMS-ERA-Net Pathogenomics meeting, Ein Gedi, Israel	Invited speaker
30	2009	American Society for Microbiology general meeting, Philadelphia, USA	Invited speaker
31	2009	Israel Society for Microbiology annual meeting, Ramat-Gan, Israel	3 posters
32	2009	3rd FEMS Congress of European Microbiologists, Gothenburg, Sweden	Session chair and speaker + poster (student won best poster prize)
33	2009	Israel Gastroenterological Association meeting, Tel Aviv, Israel	Invited speaker
34	2010	Annual Nutrition Research Day, Tel Aviv, Israel	Invited speaker
35	2010	EU-COST Training School -Advances in Symbiosis Research, Rehovoth, Israel	Invited speaker
36	2010	Israel Bioinformatics Society meeting, Haifa, Israel	Poster
37	2010	Israel Society for Microbiology annual meeting, Ramat-Gan, Israel	2 posters
38	2010	Host-pathogen interactions in bacterial infections, Greifswald, Germany	Invited speaker + poster
39	2010	18th Annual Meeting of the Laura Schwarz-Kipp Institute for Biotechnology, Maalot, Israel.	4 Posters
40	2010	Molecular Biology of Archaea II, Cambridge, UK.	Contributing speaker+2 posters
41	2011	The Batsheva workshop on the role of microorganisms in the adaptation and evolution of animals (including man) and plants., Ein Gedi, Israel.	Convener, speaker+2 posters
42	2011	FEMS-Leopoldina symposium on emerging topics in microbial pathogenesis, Wuerzburg, Germany.	Invited speaker
43	2011	19th Annual Meeting of the Laura Schwarz-Kipp Institute for Biotechnology, Kibutz Lavi, Israel.	3 Posters
44	2011	Gordon Research Conference: Archaea - Ecology, Metabolism & Molecular Biology. Waterville valley, NH, USA.	Poster
45	2011	International Union of Microbiology Societies (IUMS), Sapporo, Japan	Session chair and speaker
46	2011	Leopoldina workshop on personalized medicine, Berlin, Germany	Keynote speaker
47	2012	Israel Society for Microbiology annual meeting, Ramat-Gan, Israel	Meeting chair + 4 posters
48	2012	Keystone symposium - The Microbiome, Keystone, CO, USA	Poster
49	2012	Wellcome trust conference - Exploring Human Host-Microbiome Interactions in Health and Disease, Hinxton, UK.	Poster
50	2012	Molecular biology of archaea 3. Marburg, Germany.	Poster (student won best poster prize)
51	2012	Microbial Genomics: Bioinformatics and	Invited speaker

		Computational Approaches, Technion, Haifa, Israel	
52	2012	Interactions of microbial communities with their environment (ISM), Ein Gedi, Israel	Contributing speaker, chair of prize committee
53	2013	Israel Society for Microbiology annual meeting, Ramat-Gan, Israel	Session chair
54	2013	Keystone symposium - The Gut Microbiome, the effector immune network Taos, NM, USA	Poster
55	2013	Halophiles 2013, Storrs, CT, USA	Invited Speaker
56	2013	Gordon Research Conference: Archaea - Ecology, Metabolism, and Molecular Biology. Lucca (Barga), Italy	Session chair + posters
57	2014	Catalysis meeting - Evolution and Community Ecology of Host-Associated Microbiota. Durham, NC, USA	Invited Speaker
58	2014	Targeting Microbiota - toward a clinical revolution. Paris, France	Contributing Speaker
59	2015	13th UK workshop on archaea, Nottingham, UK	Best lecture prize judge
60	2015	Alcoholic liver disease in Israel: the new challenge. Rehovot, Israel	Invited speaker
61	2015	Kavli Frontiers of Science Israeli-American Symposium (joint NAS and IAS meeting for outstanding scientists under the age of 45)	Invited speaker
62	2015	Keystone symposium - Gut Microbiota Modulation of Host Physiology: The Search for Mechanism, Keystone, CO, USA	Poster
63	2015	Microbiology 2015 - health and environment. Hagoshrim, Israel.	Invited Speaker
64	2015	Microbial Ecogenomics in Agriculture - Gut, Soil and Plant Microbiomes. Hagoshrim, Israel.	Invited Speaker
65	2015	Catalonia-Israel Symposium on inflammatory bowel diseases and the microbiome, Girona, Spain	Invited Speaker
66	2015	CRISPR 2015, NY, USA	Contributing speaker
67	2015	Society for Molecular Biology and Evolution, Vienna, Austria	Invited Speaker
68	2015	Gordon Conference Archaea: Molecular Biology, Ecology and Evolution, Newry, USA.	Invited Speaker
69	2015	Prokagenomics 2015, Goettingen, Germany	Poster
70	2015	The microbiota in and around us. ISM Workshop, Kfar-Giladi, Israel	Session Chair
71	2016	Israel Society for Microbiology annual meeting, Ramat-Gan, Israel	Session Chair
72	2016	Kaplan Medical Center research day, Rehovoth, Israel	Keynote Speaker
73	2016	Molecular Biology of Archaea V, London, UK	Poster
74	2016	Innovations in IBD research, San Francisco, USA	Poster
75	2016	General meeting of the New Zealand Society for Microbiology and the New Zealand Society for Biochemistry and Molecular Biology	Keynote Speaker
76	2017	Gut Microbiome in Health and Disease, Keystone, USA	Poster
77	2017	ILANIT, Eilat, Israel	Invited Speaker
78	2017	Gordon Conference Archaea: Molecular Biology, Ecology and Evolution, Waterville Valley, USA	Invited Speaker

79	2017	Microbiomes and Metagenomes, Atlanta, GA, USA	Invited Speaker
80	2017	Molecular Pathogenesis: Encoding the Mechanisms of Infectious Diseases, Ginosar, Israel	Invited Speaker
81	2017	DFG workshop on CRISPR-Cas systems 2017, Berlin, Germany	Invited Speaker
82	2017	GDR Archaea workshop, Lyon, France	Keynote Speaker
83	2018	Keystone Microbiome Symposium , Banff, Canada	Poster
84	2018	Molecular Biology of Archaea 6, Vienna, Austria	Organizer, chair
85	2018	Berkeley-TAU workshop in bioinformatics, Berkeley, USA	Invited Speaker
86	2019	Keystone symposium – environment and host in IBD	Contributing speaker
87	2019	CRISPR Ecology and Evolution – Scientific discussion meeting Royal Society, London, UK	Invited Speaker
88	2019	Israel Society for Microbiology, Prize lecture	Keynote Speaker
89	2019	<i>E. coli</i> Pathogenesis workshop, Sao Paulo, Brazil	Invited Speaker
90	2019	CRISPR 2019, Quebec, Canada	Poster
91	2019	Halophiles 2019, Cluj, Romania	Contributing speaker
92	2019	GRC archaea 2019, Les Diablerets, Switzerland	Session Chair
93	2019	Genome Editing and CRISPR, Berlin, Germany	Invited Speaker
94	2019	German Archaea meeting, Schmitten, Germany	Keynote Speaker
95	2019	UEG Barcelona, Spain	Invited Speaker, session chair
96	2019	Volkswagen foundation Experiment! symposium	Invited Speaker
97	2020	World of Microbiome (virtual due to COVID)	Invited Speaker, and chair
98	2020	IUMS (International Union of Microbiological Societies), Korea and Virtual	Invited Speaker
99	2022	IUMS (International Union of Microbiological Societies) Virtual	Invited Speaker
100	2022	Molecular Biology of Archaea, Frankfurt, Germany	Invited Speaker
101	2022	World of Microbiome, Vienna, Austria	Invited Speaker
102	2022	Blavatnik Scientific Forum on Strategies and Technologies to Combat Antibiotic Resistance, Washington DC, USA	Invited Speaker
103	2022	Halophiles, 2022, Alicante, Spain	Invited Speaker

E. ACADEMIC AND PROFESSIONAL AWARDS (Scholarships, prizes, awards)

E. 1. 2. External grants

YEAR	Foundation	Title	Collaborators	Sum	PI
2004-2007	Crohn's and Colitis Foundation of Canada	The Archaeal Microbiota in inflammatory bowel disease.	W. Ford Doolittle, Sander van Zanten, and Paul S. Hoffman	\$C 100,000	PI

			(Dalhousie University, Halifax, Canada).		
2006-2008	Research Networks Program in Bioinformatic (MOST)	Phylogenomics of human pathogens.	Philippe Glaser and Carmen Buchrieser (Institut Pasteur, Paris, France).	₪213,150 (Israeli PI share)	PI
2008-2009	The German-Israeli Foundation for Scientific Research and Development (GIF), young scientist grant.	Molecular fingerprinting of the microbiota as a biomarker for inflammatory bowel disease.		38,400 E	PI
2008-2010	BSF start-up grant	Mechanisms of gene exchange in halophilic archaea.	R. Thane Papke (UConn., Storrs, USA)	\$ 60,000 (Israeli PI share)	PI
2009-2012	The Israeli Ministry of Health	Bacterial signatures as a diagnostic tool for inflammatory bowel disease.	Prof. Yehuda Chowers (Rambam Medical Center, Israel).	₪300,000 (PI share)	PI
2009-2011	Kurt Lion Foundation.	Cultivation-independent identification of CEACAM-binding bacteria in the human intestinal microbiota.	Christof Hauck (University of Konstanz, Konstanz, Germany)	\$ 10,000 (7000\$ Israeli PI share)	PI
2009-2012	McDonnell Foundation	Community modeling of bacterial metabolic interactions.	Shiri Freilich, Eytan Ruppim, Roded Sharan and Martin Kupiec (TAU).	\$ 440,000 (my PI share \$ 110,000)	PI
2011-2016	DIP	Functional Genomics and system-Level analysis of septicemic <i>Escherichia coli</i>	Eliona Z. Ron (TAU), Yitzhak Pilpel and Rotem Sorek (Weizmann)	E 1,200,000 (my PI share E 235,000)	PI
2012-2015	Israel Science Foundation (ISF)	Lateral Gene Transfer In Halophilic Archaea		₪ 522,000	PI
Since last appointment					
2013-2015	Israel Cancer Association	Gastric composition of bile acids and microbiota in patients with esophagitis or Barrett's esophagus, with and without proton pump inhibitor treatment	Fred M. Konikoff (TAU)	75,000 ₪	PI
2014-2018	Binational Science Foundation (BSF)	How selfish elements impact and reflect speciation and recombination in archaea	Peter Gogarten (UConn., Storrs, USA)	105,000\$ (Israeli PI share)	PI
2015-2019	Israel Science Foundation (ISF)	CRISPR and inter-species antagonism in halophilic archaea		₪1,200,000	PI
2016-2018	Israel Cancer Association	Bacterial biomarkers for pancreatic cancer	Elizabeth E. Half	75,000 ₪	PI
2016-2017	Sagol School of Neuroscience inter-disciplinary research grants	Role of the gut microbiome in a novel mouse model of multiple sclerosis	Dan Frenkel	5000\$x2 (share per PI)	PI

2016-2017	Raymond and Beverly Sackler Fund for Convergence Research.	Illuminating microbial dark matter with a pinch of salt - towards the first cultivation of Nanohaloarchaea	Jillian F Banfield	10000\$ x2 (share per PI)	PI
2016-2017	NOFAR - Israeli Innovation Authority	A novel electrode-assisted anaerobic digestion process for the production of high quality biogas.	Issam Sabah	305,000/625912 ₪ (my PI share)	PI
2017-2020	BSF-NSF	Rare genes and alleles in halophilic archaeal populations and communities	Lilach Hadany (TAU), Peter Gogarten and Thane Papke (UConn., Storrs, USA)	280000\$ (140000\$ my PI share)	PI
2017-2020	Ministry of Agriculture	Genomic epidemiology of <i>Mycoplasma bovis</i>	Inna Lysnianski, Nahum Shpigel, Ilya Borovok	190,000/400,000 ₪ (my PI share)	PI
2017-2019	VW Foundation	RNA Viruses of Archaea	Anita Marchfelder	70,000/120,000 E (my PI share)	PI
2018-2023	ERC	Evolutionary costs and benefits of CRISPR-Cas systems		2,450,000 E	PI
2019-2022	MOH	Development of New Diagnostic Options for enteroaggregative <i>Escherichia coli</i>	Ulrich Dobrindt,	480,000 NIS	
2018-2021	MOST	Impact of Mediterranean Diet, Inflammation and Microbiome on CVD patients	Miguel A. Martínez-González, Alex Mira, Dominique Charron, Edward Moore	450,000 NIS	PI
2018-2021	DFG	The impact of CRISPR-Cas systems on microbial genetic diversity	Anita Marchfelder	100,000E	PI
2021-2024	DFG	CRISPR vs. CRISPR - how mobile CRISPR-Cas systems interact with ancestral host systems	Anita Marchfelder	100,000E	PI

E.2 Fellowships

- 2001 The Wolf Doctoral Fellowship Award (The Wolf Foundation)
 2003 – 2005 The Killam Postdoctoral Fellowship (The Killam Trust)
 2005 – 2006 The George S. Wise Postdoctoral Fellowship (Tel Aviv University)

E.3 Scholarships

- 2015 Kavli Fellow (NAS, USA)

E.4 Prizes and Honors

- 1998 The Award for Research and Teaching Excellence in Medicine and Life Sciences (Tel Aviv University)
 2000 The Award for Research and Teaching Excellence in Medicine and Life Sciences (Tel Aviv University)

2008	The Nili Rubinovich-Grossman memorial award for outstanding young scientists (Israeli Society for Microbiology)
2018	Member elect, European Academy of Microbiology
2019	Sarov Prize for basic research (Israeli Society for Microbiology)
2020	Member elect, American Academy of Microbiology

F. MEMBERSHIP IN PROFESSIONAL SOCIETIES

Year	Society (country)
1998	The Israeli Society for Microbiology, Israel
2004	The American Society for Microbiology, USA
2007	The Society for Molecular Biology and Evolution
2007	The Israeli Bioinformatics Society, Israel
2010	The Biochemical Society, UK

H. OTHER SCIENTIFIC ACTIVITIES AND SERVICE

2007 – 2014	Editorial board member for "The Open Evolution Journal".
2009 – 2014	Advisory committee member – <i>Horizontal gene transfer and between phyla relationships</i> , part of the National Science Foundation (USA), " Assembling the Tree of Life " Program.
2011 - 2015	Board member Israeli Society for Microbiology
2011 - 2020	Associate editor – Frontiers in Genetics
2012 - 2020	Associate editor - BMC Evolutionary Biology
2015 - 2020	Editorial board member – Nature's Scientific Reports
2011 - date	Editorial board member – Gut Microbes
2015 - date	Volunteer - "Bashaar" - Answering questions in microbiology raised by high school teachers and their students
2016 - date	Volunteer Israel National Brain Gain Program - mentoring returning scientists and helping them find employment and reintegrate in Israeli academia and research community
2013 - date	Editorial board member – Biology Direct.
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2020 - date	Editorial board member – Trends in Microbiology
2020 - date	Editorial board member – Life
2020 - date	Associate editor – microLife

Reviewed manuscripts for the following scientific journals and meetings (for 83 different journals, over 20 manuscripts per year in recent years) where over four reviews were performed the number of reviews is provided in parenthesis)

Biology/ Biochemistry/ Science (5)	Medicine	Genetics / Genomics	Evolution	Microbiology
	BMC Medicine	Genome Research (6)	Molecular Biology and Evolution	Nature Microbiology

Cell	Gut	Nucleic Acids Research	Genome Biology and Evolution	Nature Reviews Microbiology
Nature	BMJ-Open	Trends in Genetics	Journal of Molecular Evolution	ISME Journal
Molecular Cell	Journal of Crohn's and Colitis	Genetics	Molecular Phylogenetics and Evolution	mBIO
PNAS	Inflammatory Bowel Diseases	PLoS Computational Biology	BMC Evolutionary Biology	Molecular Microbiology
Current Biology	Cellular and Molecular Gastroenterology and Hepatology	Bioinformatics	Infection Genetics and Evolution	Environmental Microbiology
Journal of Biological Chemistry	The Lancet Gastroenterology and Hepatology	Genomics		Journal of Bacteriology
Nature Communications	BMC Oral Health	RECOMB (refereed proceedings)		International Journal of Medical Microbiology (12)
eLIFE	Drug Development Research	Gene		Microbial Ecology
FASEB Journal	Clinical Nutrition	RNA Biology		Journal of Clinical Microbiology
FEBS letters	Nutrients	Molecular Genetics and Genomics		Journal of Medical Microbiology
Proteomics	Nature Reviews Gastroenterology and Hepatology	G3: Genes, Genomes and Genetics		BMC Microbiology
PLoS ONE (7)		Current Genetics		Frontiers in Microbiology
Biology Direct		Microbial Genomics		FEMS Microbiology Letters
Life		Genes		Pathogens and Disease
Biochemie				Archives of Microbiology
In Silico Biology				Current Microbiology
Scientific Reports				International Journal of Antimicrobial Agents
Journal of Proteome Research				Clinical Microbiology and Infection
Journal of Shellfish Research				Research in Microbiology
Methods and Protocols (MDPI)				Microbes and Environments
Emerging Topics in Life Sciences				Infection
Philosophical Transactions B				Archaea
Biochemical Society Transactions				Microbiology
Biology Direct				FEMS Microbiology Ecology

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Grant panelist for: The Israeli Science Foundation (ISF), Binational Science Foundation (BSF), The Israeli Ministry of Science and Technology, The Israeli Ministry of Health, European Union, Innovation call (Horizon 2020).

Reviewed grant applications for 22 funding agencies in 14 countries including: NASA Exobiology and Evolutionary Biology Program; NSF BIO division of Integrative Organismal Systems (IOS); DFG (Germany); French National Research Agency (ANR); The Portuguese Foundation for Science and Technology (FCT); Austrian Science Fund (FWF); Research Foundation Flanders (FWO), Belgium; The Netherlands Organization for Health Research and Development; The Hong Kong Health and Health Research Fund; The Medical Research Council of the UK (MRC); The Rosetrees Trust (UK); Health Research Board, Ireland; National Science Center, Poland; Croatian Science Foundation; IndiaAlliance (DBT_Wellcome trust), India; The Israeli ministry of agriculture; The Israeli Ministry of Science and Technology; The Israeli Ministry of Health; The Technion Research and Development Foundation; The Mallat Family Research Fund (Technion); The Elasoph Research Fund (Technion); The Hebrew University Applied Research Fund; The Joint Research Fund of the Hebrew University Faculty of Medicine, Hadassah University Hospital, Shaare Tzedek Medical Center, and Bikur Holim hospital; The Binational Agricultural Research and Development Fund (BARD); The Broad Medical Research Foundation, USA; The German Israeli Foundation for Research and Development (GIF); The Israeli Science Foundation (ISF); The Binational Science Foundation (BSF).

Conferences Organized:

2011 The Batsheva workshop on the role of microorganisms in the adaptation and evolution of animals (including man) and plants (organizer).

2011 The Safra bioinformatics retreat (organizer).

2012 Chair of the annual ISM meeting.

2013 - Scientific committee - Halophiles 2013, Storrs, CT, USA.

2016 - Scientific organizing committee - CRISPR 2016, Rehovot, Israel

2018 - Member of the scientific organizing committee, Molecular Biology of Archaea

G. GRADUATE STUDENTS SUPERVISEDG1. **DOCTORAL STUDENTS (all supervised at TAU)**

No.	Years	Name	Subject
1	2007- 2013	Amitai Or	Molecular Investigations of the microbial ecology of the Yarqon stream.
2	2007- 2013	Nirit Keren	The interaction of bile acids and intestinal microbiota and their possible role in functional gastrointestinal disorders (co-advisor Prof. Fred M. Konikoff, Sackler Faculty of Medicine, TAU)
3	2007- 2011	Dror Zurel	Investigating the ecology and microbiology of an invasive marine oyster (co-advisor Prof. Yehuda Benayahu, Zoology)
4	2009- 2013	Gidi Pelchovich	The advantages and drawbacks of <i>rpsL</i> mutations for bacteria
5	2008- 2013	Itay Amir	The gut microbiota in states of malignancy and health
6	2009- 2013	Adit Naor	Gene exchange in halophilic archaea
7	2009- 2013	Mor Lurie-Weinberger	Contribution of lateral gene transfer to host-microbe interaction
8	2010- 2015	Omer Eilam	Modeling of glycan degradation in the mammalian gut (co-advisors Martin Kupiec, Molecular Microbiology & Biotechnology, Eytan Rupp, school of Computer Science)
9	2012-2017	Keren Yanuka-Golub	Microbial fuel cells for municipal wastewater treatment: effect of biotic and abiotic parameters on the microbial community structure and voltage generation (co-advisor Judith Rishpon Molecular Microbiology & Biotechnology)
10	2013-2018	Alex Shulman	Secreted virulence factors in bacteremic <i>Escherichia coli</i> (co-advisor Eliora Z. Ron)
11	2014-2018	Israela Turgeman	The evolutionary forces that determine survival and gene exchange in haloarchaeal mating
12	2014-2019	Yahala Roterman	Ecological contribution of microbiota and physicochemical parameters to the ecology of invasive marine oysters (co-advisor Yehuda Benayahu, Zoology)
13	2017-2021	Vadim Dubinsky	Gut Microbiome and Resistome in Patients with Inflammatory Bowel Disease: Functional Imbalance and Effects of Antibiotics
14	2016-2021	Omer Lavy	Locust microbiota (co-advisors Amir Ayali, Zoology, Eran Geffen, U. of Haifa)
15	2017-ongoing	Itzhak Dangoor	The gut microbiome in mental illness
16	2017-2022	Moran Meir	RNA virus evolution using MS2 as a model (with Adi Stern, Molecular Cell Biology and Biotechnology)
17	2017-2022	Yael Yair	Regulatory mechanisms in septicemic <i>E. coli</i>
18	2018- ongoing	Nurit Harel	The skin microbiome and effects of sun exposure (co-advisor Eliora Z. Ron)
19	2017-ongoing	Yarden Shalev	Genetic and Environmental factors affecting

20	2020-ongoing	Deepak Choudhary	mating in haloarchaea CRISPR-Cas, recombination and gene exchange in haloarchaea
21	2020-ongoing	Doron Naki	CRISPR-Cas system conflicts in haloarchaea
22	2020-ongoing	Sharon Navok	<i>Escherichia coli</i> defenses against phages and phage counter defenses (co-advisor Eliora Z. Ron)

G2. POSTDOCTORAL FELLOWS

Years	Name	Subject
2009- 2010	Adi Doron	Selection on synonymous sites and its effects on laterally transferred genes
2011-2015	Faigenboim Matthew Oberhardt	Use of metabolic models of bacteria to predict growth conditions and growth rates (co-advisor Eytan Rupp, Computer Science)
2019-2020	Israella Turgeman-Grott	Virus-host interaction in <i>Haloferax</i>

G3. M.A. / M.Sc. STUDENTS

No.	Years	Name	Subject
1	2006- 2008	Alon Wellner	Bioinformatic and experimental analysis of barriers to lateral gene transfer (graduated <i>summa cum laude</i>)
2	2007- 2009	Amir Kovacs	Use of microbial ecology techniques in the study of inflammatory bowel diseases (graduated <i>magna cum laude</i>)
3	2007- 2009	Mor Lurie-Weinberger	The origins of eukaryotic-like genes in <i>Legionella pneumophila</i> (graduated <i>summa cum laude</i>)
4	2007- 2010	Eyal Chichianov	Antibiotic resistance in reclaimed water (co advisor Dror Avisar, Dpt. of Geography and Human Environment, TAU)
5	2008- 2010	Rona Lazary	Characterization of the homing endonuclease in the halophilic archaeon <i>Haloferax volcanii</i>
6	2010- 2013	Noam Mamet	Improving assembly by utilizing a novel method for sample preparation and data analysis (co-advisor Eran Halperin)
7	2011- 2013	Avital Brodt	Dissecting dynamic genetic variation controlling temporal gene response in yeast (co-advisor Irit Gat-Viks, Cell Biology, TAU)
8	2011- 2013	Adi Ulman	Antagonistic and synergistic interactions between antibacterial drugs and antifungal drugs on fungal pathogens (co-advisor Judith Berman)
9	2011- 2014	Yahala Roterman	Microbial populations of invasive and indigenous oysters in the Mediterranean sea. (co-advisor Yehuda Benayahu, Zoology, TAU)
10	2012 - 2014	Israella Turgeman	Factors affecting gene exchange between halophilic archaea species

11	2012 - 2014	Noga Perry	Involvement of Microbial populations in coral morphogenesis and settling (co-advisor Yehuda Benayahu, Zoology, TAU)
12	2013-2015	Yael Yair	Laterally transmissible resistance and virulence genes in septicemic <i>Escherichia coli</i> strains (co-advisor Eliora Z. Ron)
13	2013-2015	Alex Samosav	Serum resistance in septicemic <i>Escherichia coli</i> strains from different sources (co-advisor Eliora Z. Ron)
14	2014-2016	Moran Meir	The RNA phage MS2 as a model for coding sequence evolution
15	2014-2017	Michal Dayagi-Babakobi	The human milk microbiome and how it is affected by maternal nutrition (co-advisor Yoram Boyanover)
16	2015-2017	Yarden Shalev	Glycosylation and archaeal fusion
17	2015-2017	Shachar Robinzon	Homing inteins in halophilic archaea
18	2018-2020	Ayala Polikovsky	Comparative genomic analysis of CRISPR-Cas systems in pathogenic <i>Neisseria</i> spp.
19	2019-2021	Ron Ryvchin	Alteration in urease-producing bacteria in the gut microbiomes of patients with inflammatory bowel diseases
20	2019-2021	Noam Golan	Unraveling the Intriguing Interaction Between <i>H. volcanii</i> Strain - 48N and its Virus
21	2019-2021	Guy Mieznier	CRISPR-Cas and its role in genome stability in haloarchaea
22	2019-2021	Vanessa Abuhav	Comparative genomics of FNR regulation in commensal and pathogenic <i>E. coli</i> strains

In addition, 34 undergraduate research projects and 7 rotation research projects (Ph.D. students) were carried out under my supervision between 2006-2022.

I. LIST OF PUBLICATIONS [total citations >5300, current H-index: 42 (Google Scholar)]

1. Research Articles in Refereed Journals

1. Berdichevski Y, Lamed, R., Frenkel, D., **Gophna, U.**, Bayer, E.A., Yaron, S., Shoham, Y. and Benhar I. (1999). Matrix Assisted Refolding of Single-Chain Fv-Cellulose Binding Domain Fusion Proteins. Protein Expression and Purification. Nov;17(2): 249-59.
2. **Gophna, U.**, Oelschlaeger, T.A., Hacker, J. and Ron, E.Z. (2001). Yersinia HPI In Septicemic *Escherichia coli* Strains Isolated From Diverse Hosts. FEMS Microbiology Letters Mar;196(1): 57-60.
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4. **Gophna, U.**, Barlev, M., Hacker, J. and Ron. E.Z. (2001). Internalization of *Escherichia coli* serotype O78 by Eukaryotic Cells. The Infectious Disease Review. Supplement 3: 37-42.
5. **Gophna, U.**, Oelschlaeger, T.A., Hacker, J. and Ron, E.Z. (2002). Role of Fibronectin in Curli-Mediated Internalization. FEMS Microbiology Letters. Jun;212(1): 55-8.

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7. Adiri, R.S., Gophna U., and Ron, E.Z. (2003). Multilocus Sequence Typing (MLST) of *Escherichia coli* O78 Strains. *FEMS Microbiology Letters*. May; 222(2): 199-203. (joint first author)
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10. **Gophna, U.**, Charlebois, R.L., Doolittle, W.F. (2004) Have archaeal genes contributed to bacterial virulence? *Trends in Microbiology*. 12(5):213-219.
11. **Gophna, U.**, Ideses, D., Rosen, R., Grundland, A., and Ron, E.Z. (2004) OmpA of Septicemic *Escherichia coli* O78: Secretion and Convergent Evolution. *International Journal of Medical Microbiology*. 294(6): 373-381.
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13. Mokady, D., **Gophna, U.**, and Ron, E.Z. (2005) Extensive Gene Diversity in Septicemic *Escherichia coli* Strains. *Journal of Clinical Microbiology*. 43(1):66-73.
14. **Gophna, U.**, Bapteste, E., Doolittle W.F., Biran D., and Ron E.Z. (2005) Evolutionary Plasticity of Methionine Biosynthesis. *Gene*. 355:48-57.
15. Ideses, D, Biran, D., **Gophna, U.**, Levy-Nissenbaum, O., and Ron, E.Z. (2005) Identification and Characterization of the LPF operon of invasive *Escherichia coli*. *International Journal of Medical Microbiology*. 295: 227-236.
16. Cherny, I., Rockah, L., Levy-Nissenbaum, O., **Gophna, U.**, Ron, E.Z., and Gazit, E. (2005) The Formation of *Escherichia coli* Curli Amyloid Fibrils is Mediated by Prion-Like Peptide Repeats. *Journal of Molecular Biology*. 352(2):245-52.
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21. Wellner, A., Lurie, M.N., and **Gophna, U.** (2007). Complexity, connectivity, and duplicability as barriers to lateral gene transfer. *Genome Biology* 8:R156.
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23. Wellner A., and Gophna U. (2008) Neutrality of foreign subunits in an experimental model of lateral gene transfer. *Molecular Biology and Evolution* 25(9): 1835-1840.
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29. Freilich, S., Kreimer, A., Borenstein, E.A., **Gophna, U.**, Sharan, R., and Rupp, E. (2010). Decoupling environment-dependent and independent genetic robustness across bacterial species. *PLoS Computational Biology* 6(2): e1000690.
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NAR featured article. Featured Articles represent the top 5% of NAR papers in terms of originality, significance and scientific excellence.

43. Zhang, X., Kupiec, M., **Gophna, U.**, and Tuller, T. (2011) Analysis of Co-evolving Gene Families Using Evolutionarily Reciprocal Orthologous Modules. *Genome Biology and Evolution*. 3:413-23.
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51. Or, A., Shtrasler, L. and **Gophna, U.** Fine-Scale Temporal Dynamics of a fragmented microbial ecosystem. (2012). *Scientific Reports*. 2:207.
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53. Keren, N., Naftali, T., Kovacs, A., Konikoff, F.M. and **Gophna, U.** (2012) Can Colonoscopy Aspirates be a Substitute for Fecal Samples in Analyses of the Intestinal Microbiota? *Bioscience of Microbiota, Food and Health*. 31:71-76.
54. Naor, A., Lapierre, P., Mevarech, M., Papke, R.T., and **Gophna, U.** (2012) Low Species Barriers in Halophilic Archaea and the Formation of a Recombinant Hybrids. *Current Biology* 22:1444-1448. Featured in commentaries in *Current Biology's* "Dispatches" (a "News and Views" like feature) and *Nature Reviews Microbiology*. *Recommended by Faculty of 1000*
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66. Pelchovich, G., Omer-Bendori, S., and **Gophna, U.** (2013) Menaquinone and iron are essential for complex colony development in *Bacillus subtilis*. *PLoS ONE*. 8(11):e79488.
67. Wagner, A., Zarecki, R., Reshef, L., Gochev C., Sorek R., **Gophna U.**, and Rupp, E. (2013) Computational evaluation of cellular metabolic costs successfully predicts genes whose expression is deleterious. *PNAS*. 110(47):19166-71.
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2. Review Articles and Commentaries

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5. **Gophna, U.** (2011) The guts of dietary habits. Science 6052: 45-46.
6. **Gophna, U.** and Brodt, A. (2012) CRISPR/Cas systems in archaea: What array spacers can teach us about parasitism and gene exchange in the 3rd domain of life. Mobile Genetic Elements. 2(1): 63-64.
7. Naor A. and **Gophna, U.** (2013) Cell fusion and hybrids in Archaea: Prospects for genome shuffling and accelerated strain development for biotechnology. Bioengineered. 4(3):126-9
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9. Konikoff, T, and **Gophna, U.** Oscillospira: a Central, Enigmatic Component of the Human Gut Microbiota (2016). Trends in Microbiology 24(7):523-4.
10. **Gophna, U.**, Allers, T., and Marchfelder, A. (2017) Finally, Archaea Get Their CRISPR-Cas Toolbox Trends in Microbiology 25(6):430-432.
11. **Gophna U.** and Yair Y. (2018) Repeat modularity as a beneficial property of multiple CRISPR-Cas systems. RNA Biol. 10:1-3.
12. Maier L.K., Stachler A.E., Brendel J., Stoll B., Fischer S., Haas K.A., Schwarz T.S., Alkhnbashi O.S., Sharma K., Urlaub H., Backofen R., **Gophna U.**, and Marchfelder A. (2018) The nuts and bolts of the Haloferax CRISPR-Cas system I-B. RNA Biol. 21:1-12
13. **Gophna U.** (2018) The unbearable ease of expression-how avoidance of spurious transcription can shape G+C content in bacterial genomes. FEMS Microbiol Lett. 1;365(23).
14. (2018) Pandemic Bacteremic *Escherichia coli* Strains: Evolution and Emergence of Drug-Resistant Pathogens. Curr Top Microbiol Immunol. 416:163-180.
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16. **Gophna, U.** Et tu, *Vibrio cholerae*? Kin-cannibalism and a bacterial secretion system. Cell 185 (22), 4039-4040

3. Books

3.1 Books edited

- Rosenberg, E and **Gophna, U.** (2011) Beneficial Microorganisms in Multicellular Life Forms. Springer, Heidelberg.
- Gophna, U.** (2013). Lateral Gene Transfer in Evolution. Springer, NY.

3.2 Book Chapters

1. Pallen, M.J. and Gophna, U. (2007) Bacterial Flagella and Type III Secretion: Case Studies in the Evolution of Complexity, in Volff J.N. (ed): Genome Dynamics, Gene and Protein Evolution. Karger, Basel. vol 3, 30-47.
2. Keren, N. and Gophna, U. (2011) The intestinal microbiota and intestinal disease: irritable bowel syndrome, in Rosenberg, E.& Gophna U. eds: Beneficial Microorganisms in Multicellular Life Forms. Springer, Heidelberg. p: 211-222.
3. Kovacs, A. and Gophna, U. (2011) The intestinal microbiota and intestinal disease: inflammatory bowel disease in Rosenberg, E.& Gophna U. eds.: Beneficial Microorganisms in Multicellular Life Forms. Springer, Heidelberg. p: 223-230.
4. Cohen, O., Gophna, U., and Pupko, T. (2013) The Complexity Hypothesis and Other Connectivity Barriers to Lateral Gene Transfer, in Gophna U. ed. Lateral Gene Transfer in Evolution, Springer, NY. p:137-145.
5. Levin, I. Giladi, M. and Gophna, U., (2013). Lateral Gene Transfer and the Synthesis of Thymidine, in Gophna U. ed. Lateral Gene Transfer in Evolution, Springer, NY. p: 3-14.

6. Papke, R.T., Naor, A., and Gophna, U., (2013). Speciation in the Shadow of Recombination and Lateral Gene Transfer, in Gophna U. ed. Lateral Gene Transfer in Evolution, Springer, NY. p: 275-289

7. Gophna, U. (2022) CRISPR-Cas, Horizontal Gene Transfer, and the Flexible(Pan) Genome. ASM Press.

4. Patents

1. Barzel, A., Privman, E., Burstein, D., **Gophna, U.**, Kupiec, M., and Pupko, T. (2013) Method for Searching for Homing Endonucleases, their Genes and their Targets. US patent no. 8,566,040.

5. Peer-reviewed abstracts in conference proceedings

1. Half, E., Amir, I., Naftali, T., **Gophna, U.**, and Konikoff F.M. (2012) Gastric Microbiota is Altered in Esophagitis and Barrett's Esophagus and Further Modified by Proton Pump Inhibitors. Gastroenterology. 142: S-442

2. Kovacs, A., Meirovitz, E., Ofer, A., Zion. T., Yahav, L., Tulchinsky, H., **Gophna, U.**, Dotan, I. (2012) Pouch inflammation is associated with crohn's disease-like dysbiosis and may be predicted by microbiota analysis and follow up. Gastroenterology. 142: S-46.

3. Naftali, T., Porat-Yankelson, R., Reshef, L., Kovacs, A., Amir, I., **Gophna, U.**, Konikoff, F.M. (2014) Intestinal Microbiota Is Different in Crohn's Ileitis Compared to Crohn's Colitis and Ulcerative Colitis. Gastroenterology 146: S-839.

4. Rabinowitz, K.M., Reshef, L., **Gophna, U.**, Elad, H., and Dotan, I. (2015) DUOX2, A Novel Player in IBD: Expression and Functional Implications. Gastroenterology 148 (4), S-708

5. Maharshak, N., Reshef, L., Davidov, O., Tulchinsky, H., **Gophna, U.**, and Dotan, I. Enteric Microbiota Alterations in Patients With a Normal Ileal Pouch May Be Predictive of Pouchitis. Gastroenterology 148 (4), S-60-61

6. Godny, L., . Maharshak, N., Yahav, L., Fliss-Isakov, N., **Gophna, U.**, Tulchinsky, H., and Dotan, I. Fruit Consumption May Protect Against the Development of Intestinal Inflammation via Modification of Microbial Composition. Gastroenterology 150 (4), S-21.

J. ADMINISTRATIVE DUTIES

National committees

2014-Present Committee member - National Drinking Water Quality committee (microbial quality sub-committee).

Prize committees

Committee member – Dan David fellowship committee (evolution) 2011

Committee member – Landau prize committee (evolution) 2011

University committees

2009 Committee member - University branding and positioning committee

2008-2010 Committee member - Safra Bioinformatics Program fellowship committee

2018-2020 – Committee member - University student admissions committee

Departmental committees

2011-2012 Head – departmental Ph.D. student committee.

2014 - 2016 – chair of departmental Ph.D. student committee.

2016 - present - Department representative in faculty Ph.D. student committee.

2014 - 2016 - co-chair of the bi-faculty undergraduate program Life Sciences-Medicine

2016 - present - Life Sciences representative to the university admission committee

Other duties

Board member – TAU Senior Faculty Organization – since 2010

Secretary - TAU Faculty Organization – 2012-2013

Secretary - TAU Faculty Organization – 2018-2021

Chair - TAU Faculty Organization –2021-present

K. TEACHING ACTIVITIES

Current

2008 - present "Microbial Ecology" – A graduate course, Faculty of Life Sciences, Tel Aviv University – course coordinator and lecturer.

2009 – present "Microbial Genetics" A 3rd year undergraduate course, Faculty of Life Sciences, Tel Aviv University – co-lecturer.

2016 - present Graduate seminar for MSc students in the department of Molecular Microbiology and Biotechnology - course coordinator and lecturer

Past

2006 - 2016 "Introduction to Molecular Biology", a 2nd year core lab course for all biology students, Faculty of Life Sciences, Tel Aviv University. - co-lecturer

1996 - 2001 "Introduction to Molecular Biology", a 2nd year core lab course for all biology students, Faculty of Life Sciences, Tel Aviv University– teaching assistant/ instructor.

- 2005 - 2007 "Experimental analysis" - A 2nd year elective for biology students, Faculty of Life Sciences, Tel Aviv University - lecturer.
- 2006 – 2007 "General Microbiology" - A 2nd year core course for all students of the joint, The Medicine-Life Sciences bi-faculty program, Tel Aviv University – co-lecturer.
- 2006 – 2007 From DNA to population, Tel Aviv University, Israel (co- Lecturer)
- 2011 – 2013 "Microbiology", a 2nd year core course for all biology students, Faculty of Life Sciences, Tel Aviv University - course coordinator and lecturer.