

Curriculum Vitae
Yitzhak Pilpel
(updated: september 2019)

Personal Details

Date of birth: September 12th 1968

Citizenship: Israeli

Mailing Address:

Dept. of Molecular Genetics
Weizmann Institute of Science
Rehovot 76100, Israel

Contact Information:

Phone: 972 8 934 6058

Fax: 972 8 934 4108

E-mail: pilpel@weizmann.ac.il

Lab home page: <http://longitude.weizmann.ac.il>

Employment History

- 2015 - **Full Professor** Department of Molecular Genetics, Weizmann Institute of Science. Group leader.
- 2008 – 2015: **Associate Professor** Department of Molecular Genetics, Weizmann Institute of Science. Group leader.
- 2010 - *Incumbent of the Ben-May Professorial Chair*
- 2008 – 2009: **Visiting Professor**, Department of Systems Biology, Harvard Medical School.
- 2003 – 2008: **Senior Scientist**, Department of Molecular Genetics, Weizmann Institute of Science. Group leader.

Academic Administration

- 2019-present: **Head**, Department of Molecular Genetics, Weizmann Institute of Science
- 2018-present: **Director**, Azrieli Institute of Systems Biology, Weizmann Institute of Science
- 2015-2018: **Head**, Committee on Appointment of Senior Scientists (tenure track faculty entry rank), Life Sciences Faculties, Weizmann Institute of Science.
- 2010-2013: **Member** of Committee on Appointment of Senior Scientists (tenure track faculty entry rank), Weizmann Institute of Science.
- 2009-2012: **Member** of Committee on Appointment of Senior Scientists (tenure track faculty entry rank), Life Sciences Faculties, Weizmann Institute of Science.

- 2007 - 2008 **Member** of the Board of Studies, Life Sciences Feinberg Graduate School, Weizmann Institute of Science, Rehovot, Israel..
- 2004 - 2008 **Head** of the Graduate Program in Bioinformatics Feinberg Graduate School,. Weizmann Institute of Science.

International Appointments

• Positions in academia and membership on committees

- 2018-present **Chair** The European Research Council (ERC): Review panel ERC *Advanced grant*, on Genetics, Genomics, Bioinformatics and Systems Biology.
- 2015-2018 **Member** EMBO Young Investigator Program: of the selection committee
- 2012 – 2018: **Member** The European Research Council (ERC): review panel ERC Advanced grant, on Genetics, Genomics, Bioinformatics and Systems Biology.
- 2010: **Member** of the International Advisory Board, Centre for Integrative Systems Biology at Imperial College, London.

• Teaching experience - courses taught

- 2012-present **Lecturer** Advanced Seminar of Regulatory Genomics, Feinberg Graduate School, Weizmann Institute of Science
- 2014 – present: **Lecturer** “Regulatory Genomics”, Feinberg Graduate School, Weizmann Institute of Science.
- 2014 – 2017: **Lecturer** “Medical Genomics, Genetics” Harvard Summer School.
- 2011 – 2014: **Lecturer** “Systems and Genome Biology” Harvard Summer School.
- 2003 – 2006: **Lecturer** "Computational Functional Genomics." Feinberg Graduate School, Weizmann Institute of Science.
- 1998: **Teaching Assistant** for the course, "Programming for Bioinformatics and Internet." Feinberg Graduate School, Weizmann Institute of Science.
- 1997: **Lecturer** "Computational Genomic and Bioinformatics." Feinberg Graduate School, Weizmann Institute of Science.
- 1994: **Teaching Assistant** "Receptors and Recognition." Feinberg Graduate School, Weizmann Institute of Science.
- 1992: **Teaching Assistant** “Calculus.” Tel Aviv University.

• Membership on scientific advisory boards, consulting activities

- 2009 – 2011: Consultant for [Evogene](#), Rehovot, Israel.
- 2005: Member of the Program Committee, RECOMB 2005, (San Diego CA, USA).
- 2004 – 2006: Member of the Program Committee, RECOMB Regulatory Genomics 2004, (San Diego CA, USA).

- 2001-2002: Consultant for Pfizer, Cambridge MA, on G-Protein Coupled Receptor structure and function.

• Membership on editorial boards

- Associate Editor: [PLoS Computational Biology](#) (term ended)
- Associate Editor: [Biology Direct](#)
- Editorial Board Member [Current Opinion in Genetics and Development](#)

Education

- 2000 - 2002 Postdoctoral Fellow, Department of Genetics, Harvard Medical School, Boston, MA, USA. Advisor: Prof. George M. Church.
- 1995 - 1999 Ph.D. degree. Department of Molecular Genetics, Weizmann Institute of Science, Rehovot, Israel. Thesis title: Structural and evolutionary genomics of molecular recognition repertoires. Advisors: Prof. Doron Lancet, Prof. Ephraim Katchalski-Katzir.
- 1994 - 1995 Studies toward M.Sc. degree followed by transferring to direct Ph.D. track. Department of Membrane Research and Biophysics, Weizmann Institute of Science, Rehovot, Israel. Advisors: Prof. Doron Lancet, Prof. Ephraim Katchalski-Katzir.
- 1990 - 1993 B.Sc. degree. Major: Biology. Tel-Aviv University, Tel-Aviv, Israel.

International Recognition

• Prizes, awards, and competitive scholarships

- 2018 ERC PoC Grant
- 2014 [ERC Consolidator Grant](#)
- 2013 [IBM Faculty Award](#)
- 2012 [Michael Bruno Memorial Award](#)
- 2011 [EMBO member](#)
- 2010 [Hestrin Prize. The Israeli Society for Biochemistry and Molecular Biology](#)
- 2008 [European Research Council grant award](#)
- 2007 [Levinson Prize in Biology, awarded by the Scientific Council, Weizmann Institute of Science](#)
- 2006 [James Heineman Research Award, \(awarded by Minerva Stiftung\).](#)
- 2005 [EMBO Young Investigator Award, awarded by the European Molecular Biology Organization.](#)
- 2003 Fellowship from the Center for Complexity Sciences – a merit-based fellowship for young principal investigators (awarded by the Horowitz Foundation).
- 2000 Fulbright Postdoctoral Award, awarded by the United States - Israel Educational Foundation.

- 1999 Prize of Distinction for outstanding Ph.D. studies. Awarded by the Feinberg Graduate School, Weizmann Institute of Science.
- 1998 First Prize in the National Competition for Multidisciplinary Ph.D. Studies. Awarded by the Faculty of Mathematics and Natural Sciences, Hebrew University of Jerusalem.
- 1997 Fellowship of Distinction for outstanding achievement in studies and research. Awarded by the Dean of the Feinberg Graduate School, Weizmann Institute of Science.

• **International organizing committees, Membership in juries, Review boards**

- 2020 Language of Evolution and Evolution of the Language, an international conference at the Weizmann Institute
- 2019 Co-started The First Conference of the Israeli Evolution Society
- Started [Evolthon the Lab Evolution challenge](#)
- 2016 [Genome Evolution 2016](#), an international conference at the Weizmann Institute
- 2014 Member on the [Pan-Cancer Genome Atlas project](#)
- 2014 Initiated and co-organized the first [Workshop on the Economy of a Cell](#), ICTP, Trieste
- 2013, 2015 review panel member, Israel Science Foundation, Bioinformatics, Systems and computational Biology committee
- 2011-present Initiated and directed [Harvard-Weizmann partnership in Systems Biology](#)
- 2009-2010 USA-Israel Bi-national Foundation (BSF) review panel member, Computational Biology

• **Invited talks at international meetings**

1. FEBS Meeting - Ljubljana, 2020
2. Third Annual Symposium on Protein Folding on the Ribosome. Berlin, 2019
3. Gordon Research Conference on Molecular Mechanisms in Evolution. Stonehill MA, 2019
4. Translating Translation, the RNA society. Hamburg 2018
5. Invited Speaker, 4th EMBO conference on Experimental Approaches to Evolution and Ecology using Yeast and Other Systems 2016
6. Invited Speaker, [Winter School on Quantitative Systems Biology, The International Centre for Theoretical Science \(ICTS\) Bangalore, India 2015](#)
7. Invited Speaker, Cancer Symposium at the Nobel Forum, Karolinska Institute, Stockholm, Sweden, 2015.
8. Invited Speaker, the Netherlands Cancer Institute (NKI), as part of the international seminar series, Amsterdam 2015.
9. Plenary Lecture [The Joseph Braverman Annual Lecture, Biotechnology Engineering Faculty Day, Technion, Haifa 2014](#) .

10. [Invited Speaker at EMBO Experimental Approaches to Evolution and Ecology using Yeast and other Model Systems, Heidelberg, 2014.](#)
11. Organizer, and speaker, [Workshop on Cellular Economy the International Centre for Theoretical Physics \(ICTP\), Trieste, 2014](#)
12. [Invited speaker at EMBO Cancer Genomics Meeting November 2013, Heidelberg.](#)
13. [Invited speaker at 108th ITC Causes and consequences of aneuploidy, October Titisee 2013.](#)
14. Plenary Lecture New EMBO member lecture at the [EMBO Members Meeting 2012.](#)
15. Invited Speaker EMBO Conference series: [Experimental Approaches to Evolution and Ecology using Yeast, Heidelberg 2012.](#)
16. Invited Speaker EMBO Conference series: [From Functional Genomics to Systems Biology, Heidelberg, 2012.](#)
17. [Keynote International conference on information processing in cells and tissues Cambridge UK, 2012.](#)
18. [Talk at the Distinguished Lecture Series at McGill University, 2011.](#)
19. Plenary Speaker [The International Conference on Systems Biology \(ICSB\) Heidelberg 2011.](#)
20. Invites Speaker EMBO meeting title: Controlling the ribosome on the genetic highway, Barcelona, 2012.
21. Keynote speaker [Imperial College London 2010 An open day on computational systems biology.](#)
22. Keynote speaker [RECOMB Bioinformatics-education San-Diego 2010.](#)
23. Whitehead Institute Lecture Series, Invited talk "Post-transcription regulatory networks, Cambridge, MA 2010.
24. Keynote speaker [Keystone meeting on Biomolecular Interaction Networks: Function and Disease 2010 Quebec City 2010 .](#)
25. Keynote speaker [The 24th International Conference on Yeast Genetics and Molecular Biology Manchester UK, 2009](#)
26. Invited Speaker Whistler Meeting on yeast genetics 2009.
27. Invited guest, Pasteur-Weizmann Program, Institute Pasteur, Paris 2009.
28. EMBO Young Investigator meeting, Heidelberg Germany, 2008.
29. Invited Speaker Batsheva Seminar on Information Processing in Living Cells (International meeting), Ein Gedi Israel. 2008.
30. Invited Speaker The Human Genome Meeting (HUGO), India. (declined) 2008.
31. Invited Speaker EMBO workshop on Evolutionary and Environmental Genomics of Yeast, 2008.
32. Plenary Speaker The German Bioinformatics Conference, Potsdam, Germany, 2007.
33. Invited Speaker The 9th International Northern European Bioinformatics Conference, Umeå, Sweden, 2007.

34. Invited Speaker International course on "Global interrogations of biological processes" ISREC, Lausanne, Switzerland, 2006.
35. Invited Speaker Systems Biology and Evolution Workshop, Imperial College, London, UK, 2006.
36. Speaker at the Baure Center for Genomics Research, Harvard University, Cambridge 2006.
37. Speaker at The 6th EMBO Young Investigator Meeting, Vienna 2006.
38. Guest lecturer in the seminar series of the Rockefeller Center for Studies in Physics and Biology, New York, 2006.
39. Invited Speaker The Yeast Systems Biology Network, Gotenburg, Sweden, 2005.
40. Invited Speaker The 3rd Bertinoro Computational Biology Meeting, Bertinoro, Italy, 2005.
41. Invited Speaker EMBO Practical Course on Functional Genomics, Milan, Italy, 2005.
42. Speaker (selected by peer review) The First Annual RECOMB Meeting on Regulatory Genomics. University of California at San Diego, San Diego, CA, USA, 2004.
43. Invited Speaker The 5th International Northern European Bioinformatics Conference, Helsinki, Finland, 2003.
44. Invited Speaker The 2nd Annual McGill Workshop on Computational Biology, Barbados, 2003.
45. Invited Speaker, DIMACS Workshop on Integration of Diverse Biological Data, Rutgers University, Piscataway, NJ, USA, 2003.

• **Invited talks at national meetings**

1. 2015 Landscapes of Collectivity in the Life Sciences, Tel-Aviv, Jerusalem.
2. 2015 NYU-Tel Aviv Symposium on Individuality and Cooperation: Cells, Organisms and Populations, Tel-Aviv.
3. 2014 "Genomic and systems perspectives on protein translation" Anat Krauskopf memorial lecture, Tel-Aviv University.
4. 2014 "Prospects of realizing Lamarckian evolution in the lab" Gene to Genome Workshop, Ben-Gurion University
5. 2014 A dual translation efficiency program in proliferation and differentiation" Cancer Research Club, Weizmann Institute of Science
6. 2014 A dual translation efficiency program in proliferation and differentiation" Cancer Research Club, Weizmann Institute of Science
7. 2008 "Coping with genetic and non-genetic stress." ILANIT, Eilat, Israel.
8. 2004 "Promoter analysis of gene duplications reveals the architecture of genetic backup circuits." The Annual Meeting of the Israel Society of Genetics, (Haifa, Israel).
9. 2003 "Computational dissections of genetics regulatory networks." The 6th Israeli Bioinformatics Conference, Haifa, Israel.

• **Refereed international conference talks**

1. 2007 “Comparative genomics of translation regulation in yeast,” a “Highlight Track” ISMB, Vienna.
2. 2005 “Genome-wide transcription regulatory circuits controlling cellular malignant transformation.” (One of 50 talks selected for oral presentation from 500 submissions. (Lecture delivered by my student) Best Poster Award. ISMB, Detroit.
3. 2005 “Transcriptional reprogramming in genetic backup circuits.” (One of 50 talks selected for oral presentation from 500 submissions. (Lecture delivered by my student) ISMB, Detroit.
4. 2005 “Characterization of the effects of TF binding site variations on gene expression: Towards predicting the functional outcomes of regulatory SNPs.” (Lecture delivered by my student.) RECOMB Regulatory Genomics and Systems Biology, San Diego.
5. 2005 “Backup by paralogs decouples genes lethality from centrality: evidence for preferential backup of hubs.” RECOMB Regulatory Genomics and Systems Biology, San Diego.
6. 2005 “Phenotypic divergence correlates with translational control signals in protein coding sequences in yeast species.” (Lecture delivered by my student.) RECOMB Regulatory Genomics and Systems Biology, San Diego.

Scientific Productivity

• **Competitive national and international grants** (latest grant first)

1. 2020-2026 **Minerva Center** on “Live emulation of genome evolution in the lab” (a Center under my initiation and directorship, with 7 additional groups) € **900,000** (pending renewal)
2. 2019-2024 **Israel Science Foundation** Protein secretion as a basis of social life in microbes (NIS 1,500,000)
3. 2018-2020 **The European Research Council (ERC)** Proof of Concept grant, Enhancing biological drug production through protein secretion (SECRete), Euro 150,000
4. 2018-2020 **Israel Cancer Research Foundation**: Characterizing the spectrum and mechanisms of phenotypic errors in cancer, \$100,000
5. 2015-2018 **Minerva Foundation** tRNA sequencing in cancer 150,000 Euro
6. 2014-2019 **Israel Science Foundation** The proteome in cancer and normal cells **NIS 1,500,000**

7. 2014-2020 **Minerva Center** on “Live emulation of genome evolution in the lab” (a Center under my initiation and directorship, with 7 additional groups) € **900,000**
8. 2014-2019 “Translation in proliferating and differentiated cells” **The European Research Council (ERC)** Consolidator grant, € **1,650,000**
9. 2013 **IBM** Faculty Award, **\$10,000**
10. 2013-2014 “Evolution of the Hebrew language” The **Braginski** Center for the interface of science and humanities at the Weizmann Institute of Science, **\$40,000**
11. 2011-2016 “Functional genomics and systems-level analysis of septicemic E. coli pathogens” German-Israeli Project Cooperation (**DIP**), € **250,000** (lab’s portion in a consortium of 6 labs)
12. 2010-2013 “Adaptive conditioning and anticipation of environmental perturbations in microbial systems”, **Minerva** Foundation, € **150,000**
13. 2008-2011 “Pavlovian genetics in microorganisms”, Israel Science Foundation (**ISF**), *FIRST* grant, **\$180,000**
14. 2008 - 2012 “Expression regulatory networks: Beyond promoters and transcription control.” European Research Foundation (**ERC**) “Ideas Grant,” a personal competitive grant awarded by the EU. € **1,300,000**
15. 2004-2009 A non-competitive grant from the Ben May Foundation. \$105,000
16. 2007 - 2009 “Systems biology of regulatory networks.” **Minerva** Foundation. € **150,000**
17. 2007 – 2008 “A potential role for non-coding RNA in regulating gene expression noise: a mathematical approach”, **Clore** Center for Biological Physics, Weizmann Institute of Science. **\$20,000**
18. 2006 - 2010 “Evolutionary Conditioning,” a non-competitive grant from the **Tauber** Foundation (with N. Eshel Ben-Jacob, et al.). **\$200,000**
19. 2006 - 2010 James Heineman Research Award, (**Minerva** Stiftung) € **60,000**
20. 2006 – 2009 **EMBO** Young Investigator Program (YIP). European Molecular Biology Organization. € **45,000**
21. 2005 – 2010 “The effect of mutations on transcription regulation.” **European Union** Network of Excellence in Bioinformatics. € **300,000** (with 20 additional groups)
22. 2005 Grant from the Center for Systems Biology, Weizmann Institute of Science. **\$10,000**
23. 2004 - 2007 “Deciphering the structure and logic of genetic regulatory networks and signaling pathways in multi-cellular organisms.” Israel Science Foundation (**ISF**). **\$240,000**
24. 2004 - 2006 “Computational dissections of transcription factor-promoter interactions.” **Minerva** Foundation. € **75,000**

25. 2003 - 2004 A lab-grant from the **Horowitz Foundation** Center for Complexity Sciences. **\$88,000**

• **Students, Postdoctoral and Research Fellows**

Five former lab members, below, have an independent academic appointment

Research fellows, senior lab workers and programmers

Name	Years	Capacity	Background	Comments
Dr. Shai Kaplan	2003-2004	Lab programmer	Computer Science	Founder and CEO, Robiotech
Dr. Itay Furman	2006-2009	Algorithm designer	Physics	
Dr. Orna Dahan	2009-present	Research Associate	Biology	Tenured (2015)
Dr. Ruth Towers	2010-present	Lab manager	Biology	
Dvir Dahary	2009-2013	Bioinformatics expert		Founder and CEO, Toldot Genetics
Tammy Menasherov	2014-	Bioinformatics programmer	Computational biology	

Postdoctoral Fellows

Name	Years	Background	Current
Dr. Orna Dahan	2006-2009	Biology	Currently: Research associate in the lab
Dr. Naomi Siew	2006-2007	Chemistry	Currently: Intellectual Property Director, Life Sciences BGN Technologies
Dr. Maria Rodriguez Martinez	2007-2009	Physics	Currently: Group Leader, IBM Research, Systems Biology, Zurich
Dr. Naaman Kam	2008-2010	Computational Biology, computer science	Currently: Post-doc Berkley University
Dr. Bella Groisman	2008-2010	Biology	Currently: Post-doc University of Toronto
Yishay Shoval	2009-2011	Biology	Currently: Researcher, Institute of Medical Genetics, Western Galilee
Dr. Tamir Tuller	2009-2010	Electrical engineering	Currently: Assistant Professor, Engineering Tel-Aviv University; Koshland post-doc Fellowship
Dr. Nir Fluman	2012-2014	Biology	Currently: Post-doc Karolinska Institute EMBO postdoc fellowship
Dr. Martin Mikl	2014-	Biology	Shared with Eran segal

Ph.D. Students

Name	Years	Background	Honors	Comments
Dr. Ran Kafri	2003-2007	Chemistry	HFSP fellowship, Feinberg Graduate School, PhD Prize of Excellent	Currently: Assistant Professor, University of Toronto.
Dr. Shai Shen-Orr	2003-2004 Guest student in the lab, from Harvard	Information Systems		Currently: Assistant Professor, Technion
Dr. Michal Lapidot	2003-2007	Chemistry	Horowitz Foundation Center for Complexity Sciences Award	
Orna Man	2004-2007	Computer science, biology	Weizmann Institute of Science — National Postdoctoral Award Program for Advancing Women in Science The David Brenner Memorial Prize of excellence for PhD studies, Feinberg Graduate School, Weizmann Institute of Science	
Dr. Amir Mitchell	2005-2009	Biology	The Israeli Society for Biochemistry and Molecular Biology award of excellence for PhD research; The Haim Holtzman Memorial Prize for PhD research, Feinberg Graduate School, Weizmann Institute of Science; EMBO postdoctoral fellowship; Fulbright postdoctoral fellowship – declined	Currently: Post-doc UCSF
Dr. Reut Shalgi	2005-2009	Biology, computer science	Horowitz Foundation Center for Complexity Sciences Award; Lee Segal Award of Mathematical Biology Lee Segal Award; Alon Fellowship	Currently: Assistant Professor, Technion
Dr. Ophir Shalem	2007-2011	Computer science	Dan David Scholarship; EMBO postdoctoral fellowship; Klarman cell observatory	Currently: post-doc Broad Institute

			fellowship;	
Dr. Zohar Bloom	2007-2012	Biology		Currently: appointed postdoc, Washington U.
Dr. Sivan Navon	2008-2013	Physics, Math (Talpiot)		Currently: Engineer at Rafael
Dr. Hila Gingold	2008-2013	Computational Biology		Currently: Senior Interim in the lab
Dr. Avihu Yona	2009-2013	Biophysics	EMBO postdoctoral fellowship	Currently: postdoc MIT
Yonit Hofman	2011-	Biology, Computer science		Shared with Moshe Oren
Idan Frumkin	2012-	Biology	EMBO short term fellowship; Azrieli PhD fellowship; Wolf Foundation Fellowship	
Ernest Mordret	2013-	Biological engineering		Shared with Ariel Lindner, Paris Descartes University
Dorit Hizi	2013-	Physics, Math (Talpiot)		Shared with Oded Rechavi, TAU
Amit Alon	2014-	Physics, Computer science		Shared with Oded Rechavi, TAU
Lian Narunski	2014-	Biology		Shared with Ravid Strausman

M.Sc. students

Name	Years	Background	Comment
Ilana Lavie	2003-2004	Computer science	Shared with Ronen Basri
Reut Shalgi	2004-2005	Computer science, biology	Shared with Ron Shamir
Yael Garten	2004-2005	Computational biology	PhD at Stanford, currently at LinkIn
Arren Bar-Even	2005-2006	Biology	Currently: Junior Research Group Leader position Max-Plank Institute
Ilya Venger	2005-2006	Biology	With Asaph Aharoni
Avihu Yona	2007	Biophysics	Transfer to direct PhD
Asaf Carmi	2008-2009	Computer science	
Yanir Manor	2011-2012	Biology	Currently: PhD student at WIS
Nitai Steinberg	2011-2012	Biology	Currently: PhD student at WIS
Idan Frumkin	2011-2012	Biology	Prize of Distinction, Feinberg Graduate School
Aviv Rotman	2014-	Computational Biology	
Itamar Francoise	2014-	Biology	
Asaf Blumental	2014	Biology	Shared with Ido Amit
Noa Haefetz	2014-	Biology	

Patents

Provisionary patent application: “A universal adaptive translation efficiency profile of proteins designed accordingly” In preparation by Yeda Research and Development Co., Ltd.

Provisionary patent application: “Global and local architecture of the mammalian microRNA-transcription factor regulatory network.” In preparation by Yeda Research and Development Co., Ltd.

I. Languages

Hebrew: Reading: 3, Writing: 3, Speaking: 3

English: Reading: 3, Writing: 3, Speaking: 3

Scale: 1 (basic) to 3 (fluent)