

Ariel Amir - Curriculum Vitae

CONTACT INFORMATION

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EDUCATION AND TRAINING

- ★ 2010, Ph.D., Department of Condensed Matter Physics, The Weizmann Institute of Science
 - Thesis Topic: *Dynamics of the Electron Glass*
 - Advisers: Prof. Yuval Oreg, Prof. Yoseph Imry
- ★ 2005, M.Sc., Department of Condensed Matter Physics, The Weizmann Institute of Science
 - Thesis Topic: *Effect of Junction Geometry on Tunneling*
 - Advisers: Prof. Yuval Oreg, Prof. Yoseph Imry
- ★ 2000, B.Sc. Hebrew University of Jerusalem
 - *Summa cum Laude*, in Physics and Mathematics

PROFESSIONAL APPOINTMENTS

- ★ September 2022 – present, Professor, The Weizmann Institute of Science,
- ★ July 2021-September 2022, Gordon McKay Professor of Applied Mathematics and Applied Physics, SEAS, Harvard University
- ★ July 2020-June 2021, Thomas D. Cabot Associate Professor of Applied Mathematics and Applied Physics, SEAS, Harvard University
- ★ 2019, Associate Professor of Applied Mathematics and Applied Physics, SEAS, Harvard University
- ★ 2014-2018, Assistant Professor of Applied Mathematics and Applied Physics, SEAS, Harvard University
- ★ 2011-2014, Junior Fellow, Harvard Society of Fellows

HONORS AND AWARDS

- 2019 Björkman-Strominger-Wiley Prize for Collaboration.
- 2019 SUPA (Scottish Universities Physics Alliance) distinguished visitor award.
- 2018 NSF CAREER award.
- 2017 Dean's Competitive Fund for Promising Scholarship.
- 2017 Award from the Volkswagen foundation program "Life? – A fresh scientific approach to the basic principles of life".
- 2014-2016 Scialog Fellow, "Molecules come to life".
- 2016 Student's Faculty Choice Colloquium, ETH Zurich.
- 2015 A. P. Sloan Fellow, physics.

- 2012 Milton grant awarded for the project “Memory and relaxation phenomena in materials science”.
- 2011-2014 Harvard Junior Fellow.
- 2011-2012 Rothschild Fellow (Yad Hanadiv Foundation).
- 2010 Recipient of the D. N. Chorafas International Award.
- 2010 Recipient of the Fulbright Fellowship.
- 2010 Recipient of the Bikura Fellowship.
- 2009 Menashe-Milo Memorial Prize, awarded by the Feinberg Graduate School of the Weizmann Institute of Science, for academic excellence and scientific accomplishment.
- 2008 Levi Eshkol Scholarship for Excellence, awarded by the Israeli Ministry of Science.
- 2005-2009 Weizmann Institute Ph.D. Scholarship.
- 2000 Rector’s prize, Hebrew University of Jerusalem.
- 2000 Amirim Scholarship for outstanding students, Hebrew University of Jerusalem.
- 1999 Gold medal in the International Physics Olympiad, Italy. First place in the Israeli National Physics Olympiad. First place in the Grossman Mathematics Olympiad.

TEACHING

Harvard University

- 2014-2019 Created new course, ‘Introduction to Disordered Systems and Stochastic Processes’ (graduate level) A book based on this course is now published with Cambridge University Press (January 2021).
- 2014-2020 Developed course on ‘Mathematical modeling’ (undergraduate level)
- 2011-2014 Mentor for supervised research courses at Harvard University.

The Weizmann Institute of Science

- 2011 Instructor for course ‘Fluctuations and Noise’ (graduate level)
- 2007 Instructor for course ‘Renormalization group’ (graduate level)
- 2006-2008 Instructor for course ‘Quantum Mechanics I’ (graduate level)
- 2006-2009 Instructor in Ulpana de Shalit for undergraduate students, The Weizmann Institute of Science.

VOLUNTARY, OUTREACH AND EDUCATIONAL ACTIVITY IN THE COMMUNITY

- 2015-2021 Creator and head of the Harvard Physics Circle, preparing high school students for the Physics Olympiad.
- 2019-2020 Member of team creating problems for the US Physics Olympiad exams.
- 2016-2019 K-12 outreach, through Harvard’s “Teach” project, and through mentoring in the Research Science Institute program.
- 2011-2019 Mentor for Harvard College Program for Research in Science and Engineering, advising Harvard undergraduates in physics research.

- 2015-2017 Support of the Association of Computational and Mathematical Modeling by creating problems and serving as judge.
- 2010-2011 Member of the Academic Committee for the 12th Asian Physics Olympiad, held in Israel in May 2011.
- 2009 Member of the International Board of the International Physics Olympiad.
- 2004-2009 Leader of Israeli team to the International Physics Olympiad, Mexico, and the Asian Physics Olympiad in Mongolia (2008), Kazakhstan (2006) and Vietnam (2004).
- 2000-2011 Senior Instructor in the Israeli National Physics Olympiad project. Composer of entrance exams and instructor in preparation camps.

SCIENTIFIC LEADERSHIP

- Co-organizer of EMBO conference on “Cell size and growth regulation” (virtual, June 2021).
- Organizer of Aspen winter conference on “New physical models for cell growth”, Aspen, Colorado (January, 2020).
- Organizer of March meeting Focus session on “Microbial and Viral Quantitative Evolution”, Boston (March, 2019).
- Co-organizer of Radcliffe Institute Exploratory Symposium on: “An Interdisciplinary Approach to the Bacterial Cell Cycle”, Boston (June, 2018).
- Organizer of March meeting Focus session on “Implications of single-cell variability: from cells to populations”, Los Angeles (March, 2018).
- Co-editor of special issue of *Frontiers in Microbiology*, “The Bacterial Cell: Coupling Between Growth and Major Cell Cycle Processes” (2018).
- Co-organizer of International Physics of Living Systems annual conference, Harvard (July, 2016).
- Co-organizer of Institute of Advance Studies workshop on “Stochastic Processes in the Cell-Cycle”, Institute of Advanced Studies, Jerusalem (June ,2016).

INVITED TALKS AND LECTURES

- Invited speaker to EMBO conference on “Bacterial Cell Biophysics” (Israel, December 2022).
- Invited speaker to ESI Program “Large Deviations, Extremes and Anomalous Transport in Non-equilibrium Systems” (Vienna, September 2022).
- Invited speaker to GRC conference on “Single Molecule Approaches to Biology” (Spain, July 2022).

- Invited speaker to APS March meeting session on “Optimal trade-offs” (Chicago, March 2022).
- Invited speaker to EMBL Symposium “Multiomics to Mechanisms - Challenges in Data Integration” (Heidelberg, September 2021).
- Keynote speaker in NORBIS Summer School (Norway, August 2021).
- Invited speaker to EMBO conference on “Cell Size and Growth” (Israel, June 2021).
- Invited speaker to workshop on “Random Matrix Theory and Networks” (Max Planck Institute for the Physics of Complex Systems, Dresden, June 2021)
- Invited speaker to APS March meeting session on “Noise and Correlations in Bacterial Growth and Division: molecular mechanisms, single-cell phenomenology, and population effects” (Denver, Colorado March 2020).
- Invited speaker to school on “Physics of Life” (Munich, October 2019).
- Invited speaker to school on “Physics of Bacteria” (Bonn, August 2019).
- Participant in workshop on “Information Processing in Single Cells” (Aspen, 2019).
- Distinguished Professor lectureship from Scottish Universities Physics Alliance (Edinburgh, June 2019).
- Invited speaker to NSF-Simons symposium “The future of quantitative biology” (Harvard, May 2019).
- Invited speaker to Berkeley “Statistical Mechanics Meeting” (Berkeley, January 2019).
- Invited speaker to conference on “Key Challenges in Biophysics” (Munich, 2018).
- Invited speaker to workshop on “Integrative Cell Models for Disease Intervention” (Banff, 2018).
- Invited speaker to American Society for Microbiology conference (Atlanta, 2018).
- Invited speaker to Greater Boston Statistical Mechanics Meeting (MIT, 2017).
- Invited speaker to CUNY symposium on “Physics of bacterial growth” (NY, 2017).
- Invited speaker to summer school “Stochastic Processes with Application to Physics and Biophysics” (Acre, 2017).
- Invited speaker to International Physics of Living Systems meeting (Paris, July 2017).
- Invited speaker to workshop on “Quantitative cell biology of bacteria” (Burghausen, Bavaria, 2017).

- Invited speaker to QCBnet workshop “Cells as Dynamical Systems: fluid mechanics, self-organization, and decision making in living cells” (San Francisco, 2017).
- Invited speaker to workshop: “Recent Advances on the Glass and Jamming Transitions” (Lousanne, 2017).
- Invited speaker to workshop: “Molecular and Physical Biology of Chromosomes” (Woods Hole, 2016).
- Invited speaker to conference: “Size and Scale in Biological Systems” (Berlin, 2016).
- Invited speaker to KITP workshop: “Geometry, Elasticity, Fluctuations, and Order in 2D Soft Matter” (Santa Barbara, 2016).
- Invited speaker to International Physics of Living Systems meeting (Virginia, 2015).
- Invited speaker to conference: “Stochastic Modeling of Anomalous Dynamics in Complex Physical and Biological Systems” (Wroclaw, 2015).
- Invited speaker to APS March meeting, session: “From bacteria to eukaryotes: the shapes of living matter” (San Antonio, 2015).
- Invited speaker to Scialog conference, “Molecules Come to Life” (Tucson, 2015).
- Invited speaker to American Society for Cell Biology (Philadelphia, 2014).
- Invited speaker to New England Complex Fluids workshop (Cabot, 2014).
- Participant in workshop on “Physics meets Bacteria” (Aspen, 2014).
- Invited speaker to TIDS conference (Transport in Interacting Disordered Systems) (Spain, 2013).
- Invited speaker to the First International Kavli Nanoscience Nexus Conference (Puerto Rico, 2013).
- Invited speaker to the APS March Meeting, session: “Nonequilibrium relaxation and aging in materials” (Baltimore, 2013).
- Invited speaker to Material Reseach Society meeting, symposium: “Geometry and Topology of Biomolecular and Functional Nanomaterials” (Boston, 2012).
- Invited speaker to workshop on “Modern Perspectives on Thin Sheets: Geometry, Elasticity, and Statistical Physics”, at Lorentz Center (Leiden, 2012).
- Invited speaker to ICTP workshop on “Complex quantum systems: Nonergodicity, glassiness and localization” (Italy, 2012).
- Talk at the American Physical Society meeting (Boston, 2012).

- Contributing speaker to conference on “Unifying concepts in glass physics” (Paris, 2011).
- Contributing speaker to TIDS conference (Transport in Interacting Disordered Systems) (Acre, 2011).
- Invited speaker to KITP conference “Out of Equilibrium Quantum Systems” (Santa Barbara, 2010).
- Invited participant to KITP workshop on electronic glasses (Santa Barbara, July and August 2010).
- Invited speaker to workshop on electronic glasses at the Hebrew University of Jerusalem (2010).
- Invited speaker to TIDS conference (Transport in Interacting Disordered Systems) (Hungary, 2009).