

Daniel Ariad

POSTDOC RESEARCHER · THE MCCOY LAB @ JOHNS HOPKINS UNIVERSITY

✉ daniel@ariad.org | 🏠 ariad.org | 📧 scikal | 📺 daniel-ariad | 🐦 @ar1ad

Education

Ben-Gurion University of the Negev

Israel

PHD IN THEORETICAL CONDENSED MATTER PHYSICS

2013 - 2019

- Advisor: Dr. Eytan Grosfeld
- Thesis: "Studied the geometric phases in topological superconductors."

Ben-Gurion University of the Negev

Israel

MSC IN ASTROPHYSICS

2009 - 2013

- Advisor: Dr. Michael Gedalin
- Thesis: "The role pickup ions play in the termination shock."

Ben-Gurion University of the Negev

Israel

BSC IN PHYSICS

2006 - 2009

Military Service

Jul 2003 - Jul 2006 **Sergeant First Class**, Combat Corps, IDF, Israel

Electro-optic technician. Tested, evaluated, and analyzed EO/IR devices. Performed test planning, day-to-day operation, data analysis, and the preparation of reports.

Professional Experience

Mar 2020 - Present **Postdoctoral Researcher**, Johns Hopkins University, MD, USA

Develop computational tools to study the origin and etiology of human chromosome abnormalities. The research aim is to uncover basic mechanisms responsible for chromosomal abnormalities and the development of diagnostic tests to detect them.

Mar 2019 - Mar 2020 **Postdoctoral Researcher**, Indiana University Bloomington, IN, USA

Classified phases of matter and phase transitions in disordered Graphene, using high performance clusters.

Apr 2018 - Mar 2019 **Postdoctoral Fellow**, Ben-Gurion University of the Negev, Israel

Studied edge modes in topological insulators.

Publications

Daniel Ariad, Stephanie M. Yan, Andrea R. Victor, Frank L. Barnes, Christo G. Zouves, Manuel Viotti, Rajiv C. McCoy. "Haplotype-aware inference of human chromosome abnormalities".

Accepted to PNAS (September 20, 2021) bioRxiv:10.1101/2021.05.18.444721

Daniel Ariad, Yshai Avishai and Eytan Grosfeld. "How vortex bound states affect the Hall conductivity of a chiral $p \pm ip$ superconductor". Phys. Rev. B 98, 104511 (2018), arXiv:1603.00840. Appeared on PRB Kaleidoscope (Sep 2018)

Daniel Ariad, and Eytan Grosfeld. "Signatures of the topological spin of Josesphson vortices in topological superconductors". Phys. Rev. B 95, 161401(R) (2017), arXiv:1301.0538

Daniel Ariad, Eytan Grosfeld, and Babak Seradjeh. "On the effective theory of vortices in two-dimensional spinless chiral p-wave superfluid". Phys. Rev. B 92, 035136 (2015), arXiv:1407.2553

Daniel Ariad, and Michael Gedalin. "The role pickup ions play in the termination shock". Journal of Geophysical Research: Space Physics 118.6 (2013): 2854-2862.

Awards, Fellowships, & Grants

- 2018 **Short-term post-doctoral fellowship**, The Kreitman School for Advanced Research Studies, Ben-Gurion University of the Negev
- 2014 **Scholarship for outstanding doctoral students**, Ilse Katz Institute for Nanoscale Science & Technology. (Declined due to a conflict with Negev-Zin policy)
- 2014 **The Negev-Zin scholarship for outstanding doctoral students**, Ben-Gurion University of the Negev

Recent Presentations

ORAL PRESENTATIONS

- Oct 2021 **Symposium on Genomics and Computational Biology, Center for Computational Genomics at the Johns Hopkins University School of Medicine**, Baltimore, MD
- Sep 2021 **RECOMB-Genetics, The 9th RECOMB Satellite on Computational Methods in Genetics**, Padova, Italy
- Sep 2020 **Joint group meeting at the Johns Hopkins University**, Baltimore, MD

POSTER PRESENTATIONS

- Oct 2021 **The 70th Annual Meeting of the American Society of Human Genetics**, Virtual event
- Aug 2021 **The 25th International Conference on Research in Computational Molecular Biology**, Padova, Italy
- May 2021 **Biology of Genomes 2021**, Cold Spring Harbor Laboratory, NY

Teaching Experience

- 2009 - 2018 **Teaching Assistant**, Ben-Gurion University of the Negev, Israel
Labs Instructor for third year undergraduates physics (2014-2018); Teaching Assistant for Solid State Physics 1 for Physics (2015-2016); Teaching Assistant for Physics 1-2-3 (2010-2013)
- 2012-2013, 2017-2018 **Teaching Assistant**, The Israeli Air-Force flight academy, Israel
Teaching Assistant for Physics 1 — Classical Mechanics.
- 2018 **Teaching Assistant**, Shamoon College of Engineering, Israel
Teaching Assistant for Physics 2 — Electricity and Magnetism.
- 2012 - 2013 **Guest Lecturer**, College of Engineering and Technology ORT Hermelin, Israel
Lecturer for Physics 1 — Classical Mechanics.

Mentoring

- 2017 **Ido Friedle**, Project for a BSc physics students at Ben-Gurion University of the Negev, Israel
- 2015 **Ori Engel**, Project for a BSc physics students at Ben-Gurion University of the Negev, Israel

Outreach & Professional Development

SERVICE AND OUTREACH

- 2013-Present **Wikipedia Contributor**, Wikipedia — the Free Encyclopedia.
Writing new articles and expanding existing articles.
- 2009-2010 **Junior Faculty Staff Association**, Committee Member, Ben-Gurion University of the Negev, Israel
Participate in a forum that sets the Association's policy.
- 2008-2009 **The Student Association**, Council Member, Ben-Gurion University of the Negev, Israel
The council approves the association's budget and elects the chairman of the student association. In addition, council members are invited to be part of interview panels, which include the selection of personnel to staff and engagements with parties outside the association.

PEER REVIEW

- 2020-2021 **Nature**, Reviewer of Springer Nature
- 2015-2018 **Physical Review Letters, Physical Review B**, Journal Referee of the American Physical Society (APS Physics)