Iair Arcavi

Short CV

May 13, 2026

PERSONAL INFORMATION

Born: March 24, 1982, Israel.
Address: School of Physics and Astronomy
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Languages: Hebrew, English, Spanish.

RESEARCH INTERESTS

Core collapse supernovae and their progenitors; Tidal disruptions of stars by super-massive black holes; Electromagnetic counterparts of gravitational-wave sources; Asteroseismology of massive stars; Transient surveys, robotic observations, real-time rapid telescope triggering; Astronomical big-data management.

POSITIONS

October 2024 - **: Director, Wise Observatory, Tel Aviv University, Israel.**

August 2023 - **: Associate Professor, Tel Aviv University, Israel.**

October 2018 - August 2023: Senior Lecturer, Tel Aviv University, Israel.

September 2016 - August 2018: NASA Einstein Postdoctoral Fellow, University of California, Santa Barbara.

January 2014 - August 2016: Postdoctoral Fellow, Las Cumbres Observatory Global Telescope & Kavli Institute for Theoretical Physics, University of California, Santa Barbara.

September - December 2013: Visiting General Member, Kavli Institute for Theoretical Physics, University of California, Santa Barbara.

August - December 2013: Postdoctoral Fellow, Weizmann Institute of Science, Rehovot, Israel.

EDUCATION

Weizmann Institute of Science, Rehovot, Israel

Ph.D. in Physics, 2013

Thesis title: The Core Collapse Supernova Population:

Revealing the Different Ways Through Which Massive Stars End Their Lives
Supervisor: Prof. Avishay Gal-Yam

Tel Aviv University, Tel Aviv, Israel

B.Sc. in Physics and Mathematics, Summa Cum Laude, 2007

Honors & Awards (selected)

Harvey L. Karp Discovery Award, UC Santa Barbara, 2015.

Einstein Postdoctoral Fellowship, NASA, 2016.

Alon Fellowship, Israel Council for Higher Education, 2018.

Azrieli Global Scholarship, Canadian Institute for Advanced Research, 2019.

Excellence in Teaching Award, Tel Aviv University, 2019, 2022, 2023, 2024.

Rector's Excellence in Teaching Award, Tel Aviv University, 2020, 2021, 2024.

Nathan Rosen Prize, Israel Physical Society, 2020.

Excellence in Innovation in Teaching Award, Tel Aviv University, 2023.

Membership in the Israel Young Academy, 2026.

Grants (selected)

Alon Fellowship, 2018-2021

Israel Science Foundation Personal Grant, "New Types of Transients in Galaxy Centers as Tools for Studying Supermassive Black Holes", 2018

United States - Israel Binational Science Foundation, "lluminating Gravitational Waves with Rapid Global Followup", 2019-2023 *with D. A. Howell*

Canadian Institute for Advanced Research Azrieli Global Scholarship, 2019-2020

Israel Science Foundation Center of Excellence Grant, "Illuminating gravitational wave transients: The electromagnetic emission from mergers involving neutron stars", 2019-2023 *with E. Waxman, A. Gal-Yam, E. Ofek, D. Kushnir, E. Behar*

European Research Council Starting Grant, "The Many Flavours of Stellar Demise: Supernovae, Tidal Disruption Events, and Neutron Star Mergers", 2020-2026

Pazi Foundation, "Understanding Massive Stars and Their Explosions: A Joint Theoretical - Observational Approach", 2022-2026 *with A. Gilkis and E. Sagi*

Israel Science Foundation Workshop Grant, "Gravitational Wave Physics and Astronomy Workshop", 2024-2025

Israel Science Foundation Personal Grant, "The Global Asteroseismology Project: Asteroseismology of Massive Stars with a Global Network of Telescopes", 2024

United States - Israel Binational Science Foundation, "NSF-BSF: A Multi-Wavelength View of Extreme Accretion onto Supermassive Black Holes", 2025-2028 *with*

G. S. Djorgovski, G. Graham, E. Kara and D. Frostig

European Research Council Consolidator Grant, "Supermassive Black Hole Transients: From Single Brush Strokes to the Entire Painting", 2027-2032

Invited International Talks

I have been invited to speak at numerous international conferences, seminars and colloquia, and serve on the organizing committee of several international conferences (the full list is available in my online CV).

Students and Postdocs

Currently advising 2 MSc students and 4 PhD students. Previously advised and co-advised 6 postdocs.

Service (selected)

Referee for ApJ, ApJL, MNRAS, A&A, PASJ, Nature, Nature Astronomy.

Review work for NASA panels (*JWST*, *HST* DDT, NPP, NESSF, ADAP).

Review work for the Israeli Ministry of Science, Technology and Space (Israel Science Foundation, Israel Space Agency).

Review work for the United States - Israel Binational Science Foundation.

Review work for the NOAO, NAOC, Las Cumbres Observatory and Liverpool Telescope time allocation committees.

Chairman of the Student Council, Weizmann Institute of Science, 2012.

Refereed Articles

240 refereed publications with 24,700 citations; H-Index: 83
(according to the NASA Astrophysics Data System)

During Postdoc (Selected)

1. **Arcavi, I.**, et al., *A Continuum of H- to He-Rich Tidal Disruption Candidates With a Preference for E+A Galaxies*, 2014, ApJ, 793, 38.
2. **Arcavi, I.**, *Hydrogen-Rich Core Collapse Supernovae*, 2016, invited chapter for the Handbook of Supernovae, Springer. Editors: Athem W. Alsabti and Paul Murdin.
3. **Arcavi, I.** et al., *Optical Emission from a Kilonova Following a Gravitational-Wave-Detected Neutron-Star Merger*, 2017, **Nature**, 551, 54.
4. **Arcavi, I.** et al., *Energetic Eruptions Leading to a Peculiar Hydrogen-Rich Explosion of a Massive Star*, 2017, **Nature**, 551, 210.
5. **Arcavi, I.**, *The First Hours of the GW170817 Kilonova and the Importance of Early Optical and Ultraviolet Observations for Constraining Emission Models*, 2018, ApJL, 855, 23.

As Faculty (Led by My Research Group)

1. **Arcavi, I.**, Nyiha, I., & French, K. D., 2022, *Types of Transients in the Centers of Post-starburst and Quiescent Balmer-strong Galaxies*, The Astrophysical Journal, 924, 121

2. Gilkis, A., & **Arcavi, I.**, 2022, *How much hydrogen is in Type Ib and IIb supernova progenitors?*, Monthly Notices of the Royal Astronomical Society, 511, 691
3. **Arcavi, I.**, 2022, *Errors When Constraining Hot Blackbody Parameters with Optical Photometry*, The Astrophysical Journal, 937, 75
4. Ben-Ami, T., **Arcavi, I.**, Newsome, M., et al., 2023, *The Type Ibn Supernova 2019kbj: Indications for Diversity in Type Ibn Supernova Progenitors*, The Astrophysical Journal, 946, 30
5. Lam, M. C., Smith, R. J., **Arcavi, I.**, et al., 2023, *Automated SpectroPhotometric Image REDuction (ASPIRED)*, The Astronomical Journal, 166, 13
6. Makrygianni, L., Trakhtenbrot, B., **Arcavi, I.**, et al., 2023, *AT 2021loi: A Bowen Fluorescence Flare with a Rebrightening Episode Occurring in a Previously Known AGN*, The Astrophysical Journal, 953, 32
7. Li, W., **Arcavi, I.**, Nakar, E., et al., 2023, *Rapidly Evolving Transients in Archival ZTF Public Alerts*, The Astrophysical Journal, 955, 144
8. Dgany, Y., **Arcavi, I.**, Makrygianni, L., et al., 2023, *Needle in a Haystack: Finding Supermassive Black Hole-related Flares in the Zwicky Transient Facility Public Survey*, The Astrophysical Journal, 957, 57
9. Shitrit, N., & **Arcavi, I.**, 2024, *The Global Asteroseismology Project Proof of Concept: Asteroseismology of Massive Stars with Continuous Ground-based Observations*, The Astronomical Journal, 167, 65
10. Newsome, M., **Arcavi, I.**, Howell, D. A., et al., 2024, *Probing the Subparsec Dust of a Supermassive Black Hole with the Tidal Disruption Event AT 2020mot*, The Astrophysical Journal, 961, 239
11. Faris, S., **Arcavi, I.**, Makrygianni, L., et al., 2024, *Light-curve Structure and Hα Line Formation in the Tidal Disruption Event AT 2019azh*, The Astrophysical Journal, 969, 104
12. Newsome, M., **Arcavi, I.**, Howell, D. A., et al., 2024, *Mapping the Inner 0.1 pc of a Supermassive Black Hole Environment with the Tidal Disruption Event and Extreme Coronal-line Emitter AT 2022upj*, The Astrophysical Journal, 977, 258
13. Keinan, I., & **Arcavi, I.**, 2025, *The Potential of Coordinated Gravitational-wave Follow-up for Improving Kilonova Detection Prospects: Lessons from GW190425*, The Astrophysical Journal, 985, 142
14. Makrygianni, L., **Arcavi, I.**, Newsome, M., et al., 2025, *The Double Tidal Disruption Event AT 2022dbl Implies that at Least Some "Standard" Optical Tidal Disruption Events Are Partial Disruptions*, The Astrophysical Journal Letters, 987, 20
15. Keinan, I., **Arcavi, I.**, Howell, D. A., et al., 2026 *Las Cumbres Observatory Gravitational-Wave Follow-up in O3 and O4: Strengths and Weaknesses of*

a Rapid Response Galaxy Targeted Strategy, accepted to The Astrophysicsl Journal

As Faculty (Selected Contributions)

1. Trakhtenbrot, B., **Arcavi, I.** et al., *A New Class of Transients Marking Enhanced Accretion onto Supermassive Black Holes*, 2019, **Nature Astronomy**, 3, 242.
2. Modjaz, M., Gutierrez, C., **Arcavi, I.,** *New Regimes in the Observation of Core-Collapse Supernovae*, 2019, Invited Review, **Nature Astronomy**, 3, 717.
3. Wyatt, S. D., Tohuvavohu, A., **Arcavi, I.**, et al., *The Gravitational Wave Treasure Map: A Tool to Coordinate, Visualize, and Assess the Electromagnetic Follow-Up of Gravitational Wave Events*, 2020, ApJ, 894, 127.
4. van Velzen S., et al., *Optical-Ultraviolet Tidal Disruption Events*, 2020, Space Science Reviews, 216, 124.
5. Kilpatrick, C. D., Coulter, D. A., **Arcavi, I.**, et al., 2021, *The Gravity Collective: A Search for the Electromagnetic Counterpart to the Neutron Star-Black Hole Merger GW190814*, The Astrophysical Journal, 923, 258
6. Hiramatsu, D., et al., *The Electron-Capture Origin of Supernova 2018zd*, 2021, **Nature Astronomy**, 5, 903.
7. Leloudas, G., Bulla, M., Cikota, A., et al., 2022, *An asymmetric electron-scattering photosphere around optical tidal disruption events*, **Nature Astronomy**, 6, 1193
8. Pasham, D. R., Lucchini, M., Laskar, T., et al., 2023, *The Birth of a Relativistic Jet Following the Disruption of a Star by a Cosmological Black Hole*, **Nature Astronomy**, 7, 88
9. Masterson, M., Kara, E., Panagiotou, C., et al., 2025, *Millihertz oscillations near the innermost orbit of a supermassive black hole*, **Nature**, 638, 370