Itai Linial – Curriculum Vitae

(September 2023)

Personal

Date of birth: July 5, 1990 (Israel)
E-mail: itai.linial@mail.huji.ac.il
Homepage: www.itailinial.com
Mobile: +972-54-5342832
Address: Institute for Advanced Study, 1 Einstein Drive, Princeton, New Jersey, 08540 USA

Academic Appointments

2022-present: Member, School of Natural Sciences, Institute for Advanced Study.

Education

2017-2022: PhD in Physics, Hebrew University of Jerusalem
Thesis: *Electromagnetic Counterparts to Gravitational Wave Sources and Aspherical Explosions*
Supervisor: Prof. Re'em Sari

2015-2017: M.Sc in Physics, Hebrew University of Jerusalem, *Suma cum Laude*
Thesis: *Mass transfer in binary systems*
Supervisor: Prof. Re'em Sari

2013-2014: B.Sc in Physics, Hebrew University of Jerusalem, *Magna cum Laude*
2013-2014: B.Sc in Mathematics, Hebrew University of Jerusalem, *Magna cum Laude*

Honors and Awards

- The Gruber Foundation Prize Fellowship (2022)
- THEA Fellowship (2022)
- Rothschild Fellowship (2022)
- CIERA Prize Fellowship, Northwestern University (2022, declined)
- Burke Prize Fellowship, California Institute of Technology (2022, declined)
- Adams Fellowship for Ph.D. studies (Adams Fellow, 2018 cohort; 2018-2022)
- 69th Lindau Nobel Laureate Meeting dedicated to physics (2019)
- Arnold Rosenblum Award for outstanding achievements in astrophysics (2017)
- Dean's list of the Hebrew University of Jerusalem (2014, 2015, 2016)
- Ulpanat de-Shalit program for undergraduate students, Weizmann institute (2013)
- Participated in the Hebrew University's delegation to the LHC in CERN (2013)
- National Astrophysics Olympiad (*Dror Sade)*, third place (2009)
- International physics Olympiad (IPhO) (2008)

- Shalhevet Freier Physics Tournament, Weizmann Institute, second place (2007)
- National Mathematics Teams Olympiad, second place (2007)

Selected talks and colloquia

- "Repeating Flares in Galactic Nuclei", NEMMA Symposium, Penn-State University, State College, PA, USA. (*invited*)
- "Quasi-Periodic Eruptions from Star-Disc Interaction", Flares and Bursts from Galactic Nuclei, Institute for Advanced Study, Princeton, NJ, USA. June 2023.
- "Quasi-Periodic Eruptions from Galactic Nuclei", TDE Mini-Workshop, Columbia University, New York, NY, USA. March 2023.
- "Quasi-Periodic Eruptions from Galactic Nuclei", IAS Informal Seminar, Institute for Advanced Study, Princeton, NJ, USA. March 2023. (*invited)*
- "Stellar Destruction in Galactic Nuclei and Quasi Periodic Eruptions", Black Hole Dynamics, Niels Bohr Institute, Denmark, Copenhagen. June 2022. (*invited)*
- "Stellar Destruction in Galactic Nuclei", Dynamical Formation of Gravitational Wave Sources, Aspen, CO, USA. January 2022.
- "Shocking Transients – Early Light of Stellar Explosions", Astro-Plasma Seminar, Princeton University, NJ, USA. October 2021. (*invited)*
- "Shocking Transients – Early Light of Stellar Explosions", TAC seminar, UC Berkeley, CA, USA. October 2021. (*invited)*
- "Shocking Transients", Astrophysics seminar, TAPIR, Caltech, CA, USA. October 2021. (*invited)*
- "Stellar Feasts of Supermassive Black Holes", Astrophysics department seminar, UCLA Physics and Astronomy department. University of California Los Angeles, CA, USA. December 2019.
- "Early light from Aspherical explosions", Astro-lunch seminar, Astronomy department, University of California, Berkeley, CA, USA. November 2019.
- "Early light from Aspherical explosions", Astrophysics seminar, TAPIR, Caltech, CA, USA. November 2019.
- "Early light from Aspherical explosions", Astrophysics department seminar, University of California Los Angeles (UCLA), CA, USA. August 2019.
- "TTV Modes – Inferring Planet Mass and Eccentricity", Exoplanets II Conference, Cambridge University, UK. June 2018.
- "Mass loss through L2", Physics of Extreme Gravity Stars, NORDITA, Stockholm, Sweden. June 2017.

Teaching Experience

2015-2022	Teaching assistant at the Hebrew University in the Physics department
2015-2017	"Physics lab", for B.Sc. second year students (physics major; mandatory)
2016-2018	"Classical mechanics" for B.Sc. biology students (biology major, mandatory)

2018-2019 "Astronomy for Poets" – introduction to modern astronomy for non-science students of the Hebrew University.

2018-2022 "Analytical mechanics" for B.Sc. students (physics major; mandatory)

Scientific Engagement

- Referee for the Monthly Notices of the Royal Astronomical Society.
- Referee for the Astrophysical Journal.
- Referee for Nature Astronomy.

Outreach and external activities

- 2023 – Organized the workshop "Flares and Bursts in Galactic Nuclei @ IAS". https://www.ias.edu/sns/flares-and-bursts-galactic-nuclei
- 2023 – Organized the TDE Mini-Workshop at Columbia University.
- 2021 – Organized the Racah Institute of Physics summer workshop for outstanding undergraduate physics students.
- 2018-2021 – Organized and participated in public outreach stargazing events.
- 2018 – Volunteered in the "Speaking Hebrew" program – Hebrew course for Palestinian women from East Jerusalem.
- 2016 - Volunteered in "Engineers without borders" – developed and taught a science and sustainability program in a vocational high school in Jerusalem, Israel.
- 2008-2013 – Mandatory military service an elite technological unit in the IDF. Led a computer vision research and development team.

Journal Publications (Peer reviewed)

1. Rom, B., **Linial, I.**, Sari, R., "Energy Flux and Particle Flux in Steady-state Solutions of Nuclear Star Clusters", The Astrophysical Journal, Volume 951, Issue 1, id.14, 4 pp, (2023). https://doi.org/10.3847/1538-4357/acd54f. IF: 5.75 [Q1: 10/91, 89th percentile].

2. **Linial, I.**, Sari, R., "Unstable Mass Transfer from a Main-Sequence Star to a Supermassive Black Hole and Quasi-Periodic Eruptions", The Astrophysical Journal, Volume 945, Issue 2, id.86, 11 pp, (2023). https://doi.org/10.3847/1538-4357/acbd3d. IF: 5.75 [Q1: 10/91, 89th percentile].

3. Krolik, J., **Linial, I.**, "Quasi-Periodic Erupters: A Stellar Mass-Transfer Model for the Radiation", The Astrophysical Journal, Volume 941, Issue 1, id.24, 7 pp, (2022). https://www.doi.org/10.3847/1538-4357/ac9eb6. IF: 5.75 [Q1: 10/91, 89th percentile].

4. **Linial, I.**, Sari, R., "Stellar Distributions Around a Supermassive Black Hole: Strong Segregation Regime Revisited", The Astrophysical Journal, Volume 940, Issue 2, id.101, 7 pp, (2022).

https://doi.org/10.21203/rs.3.rs-1443433/v1. IF: 5.75 [Q1: 10/91, 89th percentile].

5. Rose, S. C., Naoz, S., Sari, R., **Linial, I.**, "The Formation of Intermediate Black Holes in Galactic Nuclei", The Astrophysical Journal Letters, Volume 929, Issue 2, id.L22, 9 pp. (2022). https://doi.org/10.3847/2041-8213/ac6426. IF: 8.811 [Q1: 8/91, 91st percentile].

6. Irwin, C., **Linial, I**.*, Sari, R., Piran, T., Nakar, N., "Bolometric light curves of aspherical shock breakout", Monthly Notices of the Royal Astronomical Society, Volume 508, Issue 4, pages 5766–5785, (2021). https://doi.org/10.1093/mnras/stab2705 (* = equal contribution)
IF: 5.36 [Q1: 13/91, 86th percentile].

7. **Linial, I.**, Fuller, J., Sari, R., "Partial stellar explosions – ejected mass and minimal energy", Monthly Notices of the Royal Astronomical Society, Volume 501, Issue 3, pages 4266-4275, (2021). https://doi.org/10.1093/mnras/staa3969. IF: 5.36 [Q1: 13/91, 86th percentile].

8. **Linial, I.**, Sari, R., "Oblique Shock Breakout from a Uniform Density Medium", Physics of Fluids 31, id. 097102, (2019). https://doi.org/10.1063/1.5100060. IF: 3.52 [Q1: 6/34, 82nd percentile].

9. **Linial, I.**, Sari, R., "Cooling off with a kilonova - Lower Limit on the Expansion Velocity of GW170817", Monthly Notices of the Royal Astronomical Society, Volume 483, Issue 1, pages 624-627, (2019). https://doi.org/10.1093/mnras/sty3170. IF: 5.36 [Q1: 13/91, 86th percentile].

10. **Linial, I**., Gilbaum, S., Sari, R., "Modal Decomposition of TTV: Inferring Planet Masses and Eccentricities", The Astrophysical Journal, Volume 860, Issue 1, article id. 16, (2018). https://doi.org/10.3847/1538-4357/aac21b. IF: 5.75 [Q1: 10/91, 89th percentile].

11. **Linial, I.**, Sari, R., "Mass loss through the L2 Lagrange point – Application to Main Sequence EMRI", Monthly Notices of the Royal Astronomical Society, Volume 469, Issue 2, pages 2441-2454, (2017). https://doi.org/10.1093/mnras/stx1041. IF: 5.36 [Q1: 13/91, 86th percentile].

12. Mahlab, S., **Linial, I.**, Linial, M., "Translation Efficiency of Synaptic Proteins and Its Coding Sequence Determinants", Bioinformatics, pages 151-157, (2013). IF: 7.14 [Q1: 6/146, 96th percentile].

13. Tirosh, I., **Linial, I.**, Ashkenazi M., Linial, M., "Short Toxin-like Proteins Abound in Cnidaria Genomes", Toxins (Basel), 4 (11), pages 1367-1384, (2012).
https://doi.org/10.3390/toxins4111367.
IF: 4.55 [Q1: 21/93, 77th percentile].

Accepted for Publication

1. **Linial, I.**, Metzger, B. D., "EMRI+TDE=QPE: Periodic X-ray Flares from Star-Disk Collisions in Galactic Nuclei", Submitted to The Astrophysical Journal.

2. Rose, S., Naoz, S,. Sari, R., **Linial, I.**, “Stellar Collisions in the Galactic Center: Massive Stars, Collision Remnants, and Missing Red Giants”. Submitted to The Astrophysical Journal.