

Curriculum Vitae

Ore Gottlieb

CONTACT INFORMATION	CCA Flatiron Institute 162 5th Ave, New York, NY 10010	<i>Phone:</i> +1-872-808-5925 <i>E-mail:</i> ogottlieb@flatironinstitute.org <i>Web:</i> http://oregottlieb.com
RESEARCH INTERESTS		Multi-messenger Astrophysics, Black Holes, Neutron Stars, Black Hole–Neutron Star Mergers, Neutron Star–Neutron Star Mergers, Supernovae, Gamma-ray Bursts, Fast Blue Optical Transients, Accretion Disks, Active Galactic Nuclei, Gravitational Waves, and Particle Emission. My areas of expertise include special and general relativity, magnetohydrodynamics, radiation processes, and numerical simulations.
ACADEMIC POSITIONS		
2026-2027	THEA fellow at Columbia University	
2023-2026	Flatiron Research fellow at CCA	
2021-2023	Rothschild/CIERA fellow at Northwestern University	
EDUCATION		
2016-2021	Ph.D. in Physics and Astronomy, advised by Ehud Nakar, Tel Aviv University, Israel	
2014-2016	M.Sc. in Physics, cum Laude, advised by Amiel Sternberg, Tel Aviv University, Israel	
2011-2014	Additional B.Sc. in Physics, Tel Aviv University, Israel	
2009-2011	B.Sc. in Computer Science, Technion, Haifa, Israel	
SCHOLARSHIPS, HONORS AND AWARDS		<ul style="list-style-type: none"> • Flatiron Research Fellowship (2023) • THEA Postdoctoral Fellowship (2023) • CIERA Postdoctoral Fellowship (2021) • Rothschild Postdoctoral Fellowship (2021) – <i>24 Ph.D. graduates from all academic disciplines in Israel</i> • Israel Physical Society - Yoel Rakah Prize for Outstanding Theoretical Physics Student (2021) – <i>One research student in all fields of theoretical physics in Israel</i> • Award for outstanding achievements in research, Tel Aviv University (2021) • Award for outstanding achievements in research, Tel Aviv University (2019) • The Yuval Ne’eman award for Outstanding academic achievement, Tel Aviv University (2019) – <i>One research student in all fields of physics in Tel-Aviv University</i> • Award for outstanding achievements in research, Tel Aviv University (2018)
FUNDING & COMPUTATIONAL AWARDS		<ul style="list-style-type: none"> • 2025: PI of ASCR Leadership Computing Challenge Computational time award, 2.4M GPU-hours (monetary equivalent: \$9.6M) “Simulating large-scale long-lived neutron star remnants from binary neutron star mergers” • 2024-2025: Science-PI of NASA Fermi Cycle 17 Guest Investigator program NNH23ZDA001N, budget of \$80K “Large-scale long-lived neutron star remnants from binary neutron star mergers” • 2024: PI of Energy Research Computing Allocations Process Computational time award, 120K GPU-hours (monetary equivalent: \$260K) “End-to-end simulations of r-process nucleosynthesis in collapsing stars with magnetars” • 2022-2023: Co-PI of ASCR Leadership Computing Challenge Computational time award, 2.6M GPU-hours (monetary equivalent: \$6.5M) “Simulating collapsar accretion disks, outflows, and nucleosynthesis” • 2021-2022: Science-PI of NASA Fermi Cycle 14 Guest Investigator program 80NSSC22K0031, budget of \$80K “Simulating dynamical ejecta effects on high energy emission from neutron star and black hole collisions”
PROFESSIONAL ACTIVITIES		<ul style="list-style-type: none"> • Panel Reviewer for NSF, BSF, ISF, NASA Postdoctoral Program, Fermi Guest Investigator Program • Main organizer of a 2024 Summer Workshop in The Aspen Center for Physics: “Multi-Messenger Binary Mergers & Stellar Explosions” • Special session organizer in AAS summer meeting 2025 “Beyond Mergers: Cataclysmic Events Powering r-Process Nucleosynthesis” • Special session organizer in AAS High Energy Astrophysics Division (HEAD) meeting 2023 “Multi-messenger stripped-envelope supernovae”

- Journal Reviewer for MNRAS, The Astrophysical Journal, Astronomy & Astrophysics, Physical Review

List of Publications

46 total papers, > 7000 citations, h-index 25.
 25 lead author papers, > 1500 citations, h-index 18.
 5 mentored student papers.
 1 science letter.
 1 research note.

LEAD AUTHOR PUBLICATIONS

25. **O. Gottlieb**, B. D. Metzger, F. Foucart, E. Ramirez-Ruiz
 “A Unified Model of Kilonovae and GRBs in Binary Mergers Establishes Neutron Stars as the Central Engines of Short GRBs,” *ApJ*, **984**, 77 (2025).
24. **O. Gottlieb**, M. Renzo, B. D. Metzger, J. A. Goldberg, M. Cantiello
 “She’s Got Her Mother’s Hair: End-to-End Collapsar Simulations Unveil the Origin of Black Holes’ Magnetic Field,” *ApJL*, **976**, 13 (2024).
23. **O. Gottlieb**, B. D. Metzger
 “Late Jets, Early Sparks: Illuminating the Premaximum Bumps in Superluminous Supernovae,” *ApJL*, **974**, 1 (2024).
22. **O. Gottlieb**, A. Levinson, Y. Levin
 “In LIGO’s Sight? Vigorous Coherent Gravitational Waves from Cooled Collapsar Disks,” *ApJL*, **972**, 4 (2024).
21. **O. Gottlieb**, B. D. Metzger, E. Quataert, D. Issa, T. Martineau, F. Foucart, M. Duez, L. Kidder, H. Pfeiffer, M. Scheel
 “A Unified Picture of Short and Long Gamma-ray Bursts from Compact Binary Mergers,” *ApJL*, **958**, 33 (2023).
20. **O. Gottlieb**[†], D. Issa[†], J. Jacquemin-Ide, M. Liska, F. Foucart, A. Tchekhovskoy, B. D. Metzger, E. Quataert, R. Perna, D. Kasen, M. D. Duez, L. E. Kidder, H. P. Pfeiffer, M. A. Scheel
[†]Contributed equally
 “Large-scale Evolution of Seconds-long Relativistic Jets from Black Hole-Neutron Star Mergers,” *ApJL*, **954**, 21 (2023).
19. **O. Gottlieb**, D. Issa, J. Jacquemin-Ide, M. Liska, A. Tchekhovskoy, F. Foucart, D. Kasen, R. Perna, E. Quataert, B. D. Metzger
 “Hourslong Near-UV/Optical Emission from Mildly Relativistic Outflows in Black Hole-Neutron Star Mergers,” *ApJL*, **953**, 11 (2023).
18. **O. Gottlieb**, J. Jacquemin-Ide, B. Lowell, A. Tchekhovskoy, E. Ramirez-Ruiz
 “Collapsar Black Holes are Born Slowly Spinning,” *ApJL*, **952**, 32 (2023).
17. **O. Gottlieb**, H. Nagakura, A. Tchekhovskoy, P. Natarajan, E. Ramirez-Ruiz, S. Banagiri, J. Jacquemin-Ide, N. Kaaz, V. Kalogera
 “Jet-Inflated Cocoons in Dying Stars: New LIGO-Detectable Gravitational Wave Sources,” *ApJL*, **951**, 30 (2023).
16. **O. Gottlieb**, S. Moseley, T. Ramirez-Aguilar, A. Murguia-Berthier, M. Liska, A. Tchekhovskoy
 “On the jet-ejecta interaction in 3D GRMHD simulations of binary neutron star merger aftermath,” *ApJL*, **933**, 2 (2022).
15. **O. Gottlieb**, M. Liska, A. Tchekhovskoy, O. Bromberg, A. Lalakos, D. Giannios, P. Mösta
 “Black hole to photosphere: 3D GRMHD simulations of collapsars reveal wobbling and hybrid composition jets,” *ApJL*, **933**, 9 (2022).
14. **O. Gottlieb**, A. Tchekhovskoy, R. Margutti
 “Shocked jets in CCSNe can power the zoo of fast blue optical transients,” *MNRAS*, **513**, 3810 (2022).
13. **O. Gottlieb**, A. Lalakos, O. Bromberg, M. Liska, A. Tchekhovskoy
 “Black hole to breakout: 3D GRMHD simulations of collapsar jets reveal a wide range of transients,” *MNRAS*, **510**, 4962 (2022).

12. **O. Gottlieb**, E. Nakar
“The propagation of relativistic jets in expanding media,” *MNRAS*, **517**, 1640 (2022).
11. **O. Gottlieb**, N. Globus
“The role of jet-cocoon mixing, magnetization and shock breakout in neutrino and cosmic-ray emission from short GRBs,” *ApJL*, **915**, 4 (2021).
10. **O. Gottlieb**, O. Bromberg, A. Levinson, E. Nakar
“Intermittent mildly magnetized jet as the source of GRBs,” *MNRAS*, **504**, 3947 (2021).
9. **O. Gottlieb**, E. Nakar, O. Bromberg
“The structure of hydrodynamic γ -ray burst jets,” *MNRAS*, **500**, 3511 (2021).
8. **O. Gottlieb**, O. Bromberg, C.B. Singh, E. Nakar
“The structure of weakly-magnetized γ -ray burst jets,” *MNRAS*, **498**, 3320 (2020).
7. **O. Gottlieb**, A. Levinson, E. Nakar
“Intermittent hydrodynamic jets in collapsars do not produce GRBs,” *MNRAS*, **495**, 570 (2020).
6. **O. Gottlieb**, A. Loeb
“Electromagnetic signals from the decay of free neutrons in the first hours of neutron star mergers,” *MNRAS*, **493**, 1753 (2020).
5. **O. Gottlieb**, A. Levinson, E. Nakar
“High efficiency photospheric emission entailed by formation of a collimation shock in gamma-ray bursts,” *MNRAS*, **488**, 1416 (2019).
4. **O. Gottlieb**, E. Nakar, T. Piran
“Detectability of neutron star merger afterglows,” *MNRAS*, **488**, 2405 (2019).
3. K. P. Mooley[†], A. T. Deller[†], **O. Gottlieb**[†], E. Nakar, G. Hallinan, S. Bourke, D. A. Frail, A. Horesh, A. Corsi, K. Hotokezaka
[†]**Contributed equally**
“Superluminal motion of a relativistic jet in the neutron star merger GW170817,” *Nature*, **561**, 355 (2018).
2. **O. Gottlieb**, E. Nakar, T. Piran, K. Hotokezaka
“A cocoon shock breakout as the origin of the γ -ray emission in GW170817,” *MNRAS*, **479**, 588 (2018).
1. **O. Gottlieb**, E. Nakar, T. Piran
“The cocoon emission – an electromagnetic counterpart to gravitational waves from neutron star mergers,” *MNRAS*, **473**, 576 (2018).

MENTORED
STUDENT
PUBLICATIONS

5. J. Bopp, **O. Gottlieb**
“Fast Transients Fueled by Magnetic Fury from Slow-Spinning Collapsar Black Hole Accretion Disks,” *ApJL*, **982**, 56 (2025).
4. D. Issa, **O. Gottlieb**, B. D. Metzger, J. Jacquemin-Ide, M. Liska, F. Foucart, G. Halevi, A. Tchekhovskoy
“Magnetically-Driven Neutron-Rich Ejecta Unleashed: Global 3D Neutrino-GRMHD Simulations of Collapsars Reveal the Conditions for r-process Nucleosynthesis,” *arXiv*, **2410.02852** (2024).
3. E. Guarini, I. Tamborra, **O. Gottlieb**
“State-of-the-Art Collapsar Jet Simulations Imply Undetectable Subphotospheric Neutrinos,” *PhRvD*, **107**, 023001 (2023).
2. A. Lalakos, **O. Gottlieb**, N. Kaaz, K. Chatterjee, M. Liska, I. Christie, A. Tchekhovskoy, I. Zhuravleva, E. Nokhrina
“Bridging Bondi and Event Horizon Scales: 3D GRMHD Simulations Reveal X-Shaped Radio Galaxy Morphology,” *ApJL*, **936**, 5 (2022).
1. M. Eisenberg, **O. Gottlieb**, E. Nakar
“Observational signatures of stellar explosions driven by relativistic jets,” *MNRAS*, **517**, 582 (2022).

SCIENCE LETTER

CO-AUTHOR
PUBLICATIONS

1. **O. Gottlieb**
“Detecting Gravitational-waves from Collapsar Cocoons with the Cosmic Explorer,” *Cosmic Explorer Science Letter* (2023)
16. M. R. Izquierdo, C. Palenzuela, S. Liebling, **O. Gottlieb**, M. Bezares
“Implications of Magnetic Flux-Disk Mass Correlation in Black Hole-Neutron Star Mergers for GRB sub-populations,” *arXiv*, 2501.13154 (2025).
15. A. Perna, **O. Gottlieb**, E. Shukla, D. Radice
“Connecting GRBs from Binary Neutron Star Mergers to Nuclear Properties of Neutron Stars,” *PhRvD*, 111, 063015 (2025).
14. A. Rudolph, I. Tamborra, **O. Gottlieb**
“Subphotospheric Emission from Short Gamma-Ray Bursts. II. Signatures of Non-Thermal Dissipation in the Multi-Messenger Signals,” *ApJ*, 983, 34 (2025).
13. A. Lalakos, A. Tchekhovskoy, O. Bromberg, **O. Gottlieb**, J. Jacquemin-Ide, M. Liska, H. Zhang
“Jets with a Twist: Emergence of FR0 Jets in 3D GRMHD Simulation of Zero Angular Momentum Black Hole Accretion,” *ApJ*, 964, 79 (2024).
12. V. Rohoza, A. Lalakos, M. Paik, K. Chatterjee, M. Liska, A. Tchekhovskoy, **O. Gottlieb**
“How to Turn Jets into Cylinders near Supermassive Black Holes in 3D GRMHD Simulations,” *ApJ*, 963, 29 (2024).
11. A. Rudolph, I. Tamborra, **O. Gottlieb**
“Subphotospheric emission from short gamma-ray bursts: Protons mold the multi-messenger signals,” *ApJ*, 961, 7 (2024).
10. J. Jacquemin-Ide, **O. Gottlieb**, B. Lowell, A. Tchekhovskoy
“Collapsar GRBs Grind their BHs to a Halt,” *ApJ*, 961, 212 (2024).
9. G. Halevi, B. Wu, P. Mösta, **O. Gottlieb**, A. Tchekhovskoy, D. R. Aguilera-Dena
“Density Profiles of Collapsed Rotating Massive Stars Favor Long Gamma-Ray Bursts,” *ApJL*, 944, 38 (2023).
8. A. Hajela, R. Margutti, J. S. Bright, K. D. Alexander, B. D. Metzger, V. Nedora, A. Kathirgamaraju, B. Margalit, D. Radice, E. Berger, A. MacFadyen, D. Giannios, R. Chornock, I. Heywood, L. Sironi, **O. Gottlieb**, and 20 coauthors
“Evidence for X-Ray Emission in Excess to the Jet-afterglow Decay 3.5 yr after the Binary Neutron Star Merger GW 170817: A New Emission Component,” *ApJL*, 927, 17 (2022).
7. K. Hotokezaka, E. Nakar, **O. Gottlieb**, S. Nissanke, K. Masuda, G. Hallinan, K. P. Mooley, A. T. Deller
“A Hubble constant measurement from superluminal motion of the jet in GW170817,” *Nature Astronomy*, 3, 940 (2019).
6. E. Nakar, **O. Gottlieb**, T. Piran, M. Kasliwal, G. Hallinan
“From γ to radio - The electromagnetic counterpart of GW170817,” *ApJ*, 867, 18 (2018).
5. K. P. Mooley, E. Nakar, K. Hotokezaka , G. Hallinan, A. Corsi, D. A. Frail, A. Horesh, T. Murphy, E. Lenc, D. L. Kaplan, K. De, D. Dobie, P. Chandra, A. T. Deller, **O. Gottlieb**, and 10 coauthors
“A mildly relativistic wide-angle outflow in the neutron star merger GW170817,” *Nature*, 554, 207 (2018).
4. O. Bromberg, A. Tchekhovskoy, **O. Gottlieb**, E. Nakar, T. Piran
“The gamma-rays that accompanied GW170817 and the observational signature of a magnetic jet breaking out of NS merger ejecta,” *MNRAS*, 475, 2971 (2018).
3. R. Harrison, **O. Gottlieb**, E. Nakar
“Numerically calibrated model for propagation of a relativistic unmagnetized jet in dense media,” *MNRAS*, 477, 2128 (2018).
2. M. M. Kasliwal, E. Nakar, L. P. Singer, D. L. Kaplan, D. O. Cook, A. Van Sistine, R. M. Lau, C. Fremling, **O. Gottlieb**, and 72 coauthors
“Illuminating Gravitational Waves: A Concordant Picture of Photons from a Neutron Star Merger,” *Science*, 358, 1559 (2017).

RESEARCH NOTE	<p>1. B. P. Abbott et al. “Multi-messenger Observations of a Binary Neutron Star Merger,” ApJL, 848, 12 (2017).</p>
INVITED CONFERENCE TALKS	<p>1. M. Renzo, J. A. Goldberg, A. Grichener, O. Gottlieb, M. Cantiello “Progenitor with small reaction networks should not be used as initial conditions for core collapse,” RNAAS, AAS55519 (2024)</p>
INVITED SEMINARS/ COLLOQUIA	<ul style="list-style-type: none"> • Relativistic fluids around compact objects, Warsaw, Poland - May 2025 • Workshop on GRBs and Central Engine Powered Transients, Playa Del Carmen, Mexico - December 2024 • GRB Forum 2024, Athens, Greece - July 2024 • Thinkshop on Fast Evolving Transients, Bormio, Italy - February 2024 • RESCEU-NBIA workshop on gravitational-wave sources, Tokyo, Japan - December 2023 • AAS High Energy Astrophysics Division (HEAD) meeting 2023, Waikōloa, Hawaii, USA - March 2023 • Growing black holes: accretion and mergers, Kathmandu, Nepal - May 2022 • Seventh physics & astrophysics at the extreme (PAX-VII) workshop, <i>introductory talk</i>, PSU, PA, USA - August 2021 • 2021 Israel Physical Society Conference, Nuclear Research Center Negev, Israel - February 2021 • Sixteenth Marcel Grossmann Meeting, Rome, Italy - July 2021 • 43rd COSPAR Scientific Assembly, Sydney, Australia - January 2021 • High Energy Astrophysics Japan Israel Workshop, RIKEN, Tokyo & Kobe, Japan - July 2019 • TeV Particle Astrophysics 2018, Langenbeck-Virchow-Haus, Berlin, Germany - August 2018 • Public Lecture, Center for Theoretical Physics, Warsaw, Poland - May 2025 • Princeton Gravity Initiative seminar, Princeton University, Princeton, NJ, USA - April 2025 • Astrophysics seminar, Hebrew University, Jerusalem, Israel - April 2025 • Astrophysics seminar, Technion, Haifa, Israel - April 2025 • Institute for Fundamental Science seminar, University of Oregon, Eugene, OR, USA - March 2025 • Astronomy seminar, Stony Brook, New York, NY, USA - February 2025 • MIT Physics Colloquium, MIT, Cambridge, MA, USA - February 2025 • ZTF MMA Call, Zoom meeting - December 2024 • Galaxy lunch talk, Yale University, New Haven, CT, USA - November 2024 • Easytalk seminar, Goddard Space Flight Center, Greenbelt, MD, USA - October 2024 • Strong Gravity seminar, Perimeter Institute, Waterloo, Canada - October 2024 • Astroparticle seminar, Niels Bohr Institute, University of Copenhagen, Copenhagen, Denmark - September 2024 • LIGO–Virgo–KAGRA burst group, Online - June 2024 • Pizza Lunch Talk, Columbia University, New York, NY, USA - April 2024 • Simons Collaboration on Extreme Electrodynamics of Compact Sources Seminar, Zoom meeting - March 2024 • Cosmic Explorer Science Letter call, Zoom meeting - February 2024 • Astrophysics seminar, CRA, Georgia Tech, Atlanta, Georgia, USA - February 2024 • Theoretical Astrophysics seminar, UC Berkeley, Berkeley, CA, USA - February 2024 • Stars & Plasma group, CCA, Flatiron Institute, New York, NY, USA - November 2023 • CITA seminar, CITA, University of Toronto, Toronto, Ontario, Canada - October 2023 • Thursday lunch seminar, CCA, Flatiron Institute, New York, NY, USA - September 2023 • UND physics colloquium, UND, Grand Forks, ND, USA - April 2023 • Theory seminar, Northwestern University, Evanston, IL, USA - March 2023 • UW physics colloquium, University of Washington, Seattle, WA, USA - February 2023 • Thunch seminar, Princeton University, Princeton, NJ, USA - December 2022 • Astrophysics seminar, Technion, Haifa, Israel - July 2022 • Computational Relativistic Astrophysics seminar, Max-Planck Institute for Gravitational Physics, Potsdam, Germany - February 2022 • Explosive Astro Talk, UC Berkeley, Berkeley, CA, USA - January 2022 • High Energy AstroPhysics, UNAM, Mexico City, Mexico - January 2022 • Explosive Astro Talk, UC Berkeley, Berkeley, CA, USA - November 2021 • High-energy seminar, Sorbonne Université, Paris, France - May 2021 • Theoretical Astroparticle Physics seminar, DESY Zeuthen, Berlin, Germany - April 2021 • Astrophysics Seminar, The Hebrew University, Jerusalem - June 2020

- Astrophysics Seminar, Tel Aviv University, Tel Aviv - June 2020
- LIGO Group seminar, MIT, Cambridge, MA, USA - September 2019
- Technion, Haifa, Israel - February 2019
- High Energy Astrophysics Seminar, The Hebrew University, Jerusalem - June 2017
- Astrophysics Seminar, Tel Aviv University, Tel Aviv - November 2015

CONTRIBUTED TALKS

- Stellar black hole formation and detection, Kyoto, Japan - March 2025
- Stars & Plasma group, CCA, Flatiron Institute, New York, NY, USA - February 2025
- Stars & Plasma group, CCA, Flatiron Institute, New York, NY, USA - June 2024
- High-Energy Phenomena in Relativistic Outflows VI, Paris, France - October 2023
- GRB50: The Past, Present, and Future of GRBs, Warrenton, VA, USA - August 2023
- The Transient and Variable Universe, Urbana, IL, USA - June 2023
- APS April meeting, Minneapolis, MN, USA - April 2023
- THEA seminar, Columbia University, New York, NY, USA - December 2022
- Stars & Plasma group, CCA, Flatiron Institute, New York, NY, USA - December 2022
- Theoretical Astrophysics seminar, UC Berkeley, Berkeley, CA, USA - October 2019
- Tea talk, Stanford University, Stanford, CA, USA - October 2019
- Special Seminar, UC Santa Cruz, Santa Cruz, CA, USA - October 2019
- TAPIR seminar, Caltech, Pasadena, CA, USA - October 2019
- Theory group, Carnegie Observatory, Pasadena, CA, USA - October 2019
- Astrophysics seminar, UC Los Angeles, Los Angeles, CA, USA - October 2019
- Astrophysics seminar, Northwestern University, Evanston, IL, USA - October 2019
- Astrophysics seminar, Columbia University, New York, NY, USA - September 2019
- High Energy group, University of Chicago, Chicago, IL, USA - September 2019
- Astroplasma group, Princeton University, Princeton, NJ, USA - September 2019
- Astrophysics seminar, NYU, New York, NY, USA - September 2019
- Compact Objects group, CCA, Flatiron Institute, New York, NY, USA - September 2019
- BBL seminar, MIT, Cambridge, MA, USA - September 2019
- ITC seminar, CfA, Harvard University, Cambridge, MA, USA - September 2019
- GRBs and Related Astrophysics in Multi-Messenger Era, Nanjing University, Nanjing, China - May 2019
- FOE19 Fifty-one Erg, North Carolina State University, Raleigh, NC, USA - May 2019
- KITP seminar, University of California, Santa Barbara, California, USA - August 2018
- Astrophysics seminar, Caltech, CA, USA - August 2018
- High-Energy Phenomena in Relativistic Outflows VI, Space Research Institute of Moscow, Russia - September 2017
- National Israeli Astronomy Seminar Day, Tel Aviv University, Israel - January 2017
- 2016 Israel Physical Society Conference, Tel Aviv University, Israel - December 2016
- Eighth Huntsville Gamma-Ray Burst Symposium, Huntsville, AL, USA - October 2016
- National Israeli Astronomy Seminar Day, Hebrew University, Israel - February 2016

MENTORING

- * A paper has been published
- Mentored students*
- Teresita Ramirez-Aguilar* (Northwestern University, graduate student)
 - Serena Moseley* (Northwestern University, graduate student)
 - Justin Bopp* (CUNY, M.Sc. student)
 - Nikola Bukowiecka (University of Rhode Island, graduate student)

Co-mentored students

- Aretaios Lalakos* (Northwestern University, graduate student)
- Ersilia Guarini* (University of Copenhagen, graduate student)
- Danat Issa* (Northwestern University, graduate student)
- Sean Li (Columbia University, graduate student)
- Gal Birenbaum (Tel Aviv University, graduate student)
- Moshe Eisenberg* (Tel Aviv University, M.Sc. student)
- Krishna Kumar (IISER Thiruvananthapuram, M.Sc. student)

TEACHING EXPERIENCE

- 2022-2023: Guest Lecturer: Northwestern University & Columbia University undergraduate courses.
- 2018-2019: Teaching Assistant: "Introduction to Astrophysics" - course for physics majors.

- 2016-2020: Teaching Assistant: "General Physics B1" - course for chemistry and geophysics majors.
- 2016: *Initiator & developer of the "Dark Matter experiment" for physics sophomores at Tel Aviv University.*
- 2015-2020: Instructor in second-year undergraduate physics teaching laboratories.
- 2014-2015: Instructor in first-year undergraduate physics teaching laboratories.

OUTREACH ACTIVITY

- 2020: Co-author of a high-school textbook on space and astrophysics for final exams in Israel.
- 2014 - 2021: Science-oriented-youth program at Tel Aviv University
Half-day seminars in selected topics in physics and astrophysics to middle- and high-school classes.
Physics and astrophysics full semester courses to middle- and high-school kids.
- 2014 - 2018: Tel Aviv University Astronomy Club ("TAU AstroClub")
Taking part in monthly public lectures, guided night sky observations, observatory "open house" evenings, and other outreach activities.
- 2014 - 2015: Netivim to the University
Science education in high schools of low socioeconomic status, including the development of the educational programs.
- 2011 - 2016: Perach
Science education in elementary schools and therapeutic boarding school.
Technion excelling mentor.

SELECTED PRESS RELEASE

- Simulations reveal black holes inherit magnetic fields from parent stars, Phys, 2024
- Astrophysical simulations predict new detectable gravitational wave source from collapsing stars, Phys, 2024
- The elusive origins of long gamma-ray bursts may finally be revealed, SPACE, 2023
- New astrophysics model sheds light on additional source of long gamma-ray bursts, Science Daily, 2023
- Scientists find explanation for 'impossible' blast of light that hit Earth, Yahoo!, 2023
- Unprecedented gamma-ray burst explained by long-lived jet, Science Daily, 2023
- This gamma-ray space mystery may finally be solved with new black hole simulations, SPACE, 2023
- Astronomers simulate evolution of jets associated with collapsing star, Sky & Telescope, 2023
- Dying stars build humongous 'cocoons' that shake the fabric of space-time, Live Science, 2023
- Gravitational waves may come from 'cocoons' of debris around dying stars, SPACE, 2023
- Dying stars' cocoons could be new source of gravitational waves, Science Daily, 2023
- Gravitational waves may come from 'cocoons' of debris around dying stars, Yahoo!, 2023
- AAS Journal author Series, YouTube, 2022
- How wobbling black holes explain blinking cosmic lights, Yahoo!, 2022
- Gamma-ray bursts might be much rarer than we thought, study suggests, SPACE, 2022
- Falling stardust, wobbly jets explain blinking gamma ray bursts, Science Daily, 2022
- What makes gamma-ray bursts blink on and off?, Astronomy, 2022
- Otherworldly blue lights in space are no longer shrouded in mystery, Yahoo!, 2022
- Cocooned, dying stars may cause sudden, bright blasts that confound scientists, SPACE, 2022
- Dying stars' cocoons might explain fast blue optical transients, Science Daily, 2022
- Radio observations point to likely explanation for neutron-star merger phenomena, Science Daily, 2019
- Exactly how fast is the universe expanding?, Science Daily, 2019
- Faster Than Light? Neutron-Star Merger Shot Out a Jet with Seemingly Impossible Speed, Scientific American; SPACE, 2018
- Radio observations confirm superfast jet of material from neutron star merger, Science Daily, 2018