

Noémie Globus – globus@stanford.edu

Kavli Institute for Particle Astrophysics and Cosmology, Stanford University – 382 Via Pueblo Mall Stanford, CA 94305

Education

- *Ph.D., Astronomy and Astrophysics*, Observatoire de Paris, France
- *M.Sc., Astronomy and Astrophysics*, Observatoire de Paris, France
- *B.Sc., Physics*, Ecole Normale Supérieure & Université Paris VI, France

Current Academic Positions

- Assistant Professor, Instituto de Astronomía UNAM, Ensenada, Baja California, México (starting 2025)
- Research Scientist, Kavli Institute for Particle Astrophysics and Cosmology, Stanford University, USA
- Visiting Scientist, Astrophysical Big Bang Laboratory, RIKEN, Japan
- Research Associate, Astronomy and Astrophysics, University of California, Santa Cruz

Past Academic Positions

- 2021 – 2024 Chancellor’s Postdoctoral Fellow, University of California, Santa Cruz, USA
- 2021 Visiting Fellow, Extreme Light Infrastructure, Czech Republic
- 2019 – 2021 Postdoctoral Fellow, New York University, USA
- 2019 – 2021 Visiting Researcher, Center for Computational Astrophysics, Flatiron Institute, USA
- 2018 Visiting scholar, KIPAC, Stanford University, USA
- 2015 – 2018 Postdoctoral Fellow, The Hebrew University of Jerusalem, Israel
- 2012 – 2015 Postdoctoral Fellow, Tel Aviv University, Israel

Awards & Grants

- Presidential Postdoctoral Fellowship, University of California, USA
- Koret Fellowship, Kavli Institute for Particle Astrophysics and Cosmology, Stanford University, USA
- Lady Davis Fellowship, The Hebrew University, Israel
- Simons Collaboration on Extreme Electrodynamics of Compact Sources (2023); Co-I \$175,000 over 2.5 yrs
- Sloan Foundation: “Matter-to-Life” Seed Grant (Astrobiology Investigations); PI \$50,000
- Office of Research Seed Grant, University of California, Santa Cruz, USA; PI \$15,000
- Faculty Course Redesign Fellow Award—Project REAL, University of California, Santa Cruz, USA; \$5,000

Beam Time Allocation

- J-PARC muon beamline at J-PARC MLF: 2020B, 2021A, 2023B
- PSI muon beamline (2 Days) 2024

Member

- Astrobiology Initiative, University of California, Santa Cruz, USA
- Simons Collaboration on Extreme Electrodynamics of Compact Sources
- Telescope Array Collaboration
- The Extreme Non-Thermal Universe: CDY Initiative
- POSSUM

Lecturer

- Lecturer on *Cosmic Rays* at the Summer School on Extreme Electrodynamics of Compact Sources, Washington University in St Louis, June 3-14, 2024
- Lecturer, ASTR-117: High Energy Astrophysics, University of California, Santa Cruz, 2022 - 2023 (Winter quarter) and 2023 - 2024 (Spring quarter)
 - ⇒ *air shower models*
 - ⇒ *cosmic-ray spectrum and composition*
 - ⇒ *cosmic-ray transport and second order Fermi acceleration*
 - ⇒ *shocks and first order Fermi acceleration*
 - ⇒ *supernova remnants*
 - ⇒ *neutron stars and black holes*
 - ⇒ *jets and winds from stellar and supermassive black holes*
 - ⇒ *multimessenger astronomy*
- Teaching assistant, 2008 - 2012 (3 years with 64 hours teaching every year, 1 year with 96 hours) Observatoire de Paris & Université Paris VI.
 - ⇒ *nuclear magnetic resonance*
 - ⇒ *special and general relativity*

- ⇒ solar optics and spectroscopy
- ⇒ dynamics of dilute gases and plasmas
- ⇒ imagery post-processing
- ⇒ far-infrared detection
- ⇒ introduction to astronomy and astrophysics
- ⇒ programming
- ⇒ supervisor of observations at Solar Tower
- ⇒ undergraduate student training (short-term research projects)

Diversity, Equity, Inclusion, and Accessibility (DEIA) Activities

- Mentor of three students for The Science Internship Program (SIP) which makes an intentional effort to recruit students from historically excluded backgrounds
- Mentor in dedicated programs at the University of California to create equity in STEM: UC LEADS and Lamat Institute
- Diversity and Inclusion workshops: Hebrew University of Jerusalem, New York University, Stanford University
- Member of the UCSC Astronomy & Astrophysics DEI committee, (2023 – 2024)
- Elected Students Representative, Doctoral School of Astronomy and Astrophysics of Paris (2009 – 2010)

Students Advised

- **Chen Ding**, now a PhD student at Brown University, worked on finding the origin of the dipole anisotropy in ultra-high energy cosmic rays under my co-supervision when he was an undergraduate at New York University. This study led to his first-author publication in *Astrophysical Journal Letters* and a press release in *Quanta Magazine*.
- **Payel Mukhopadhyay** worked on cosmic-ray reacceleration at Galactic wind termination shocks under my co-supervision when she was an PhD student at Stanford University.
- **Vanessa Mendoza**, an undergraduate at University of California, Santa Cruz, performed laboratory experiments to understand the interaction between circularly polarized light and biopolymers. Thanks to the work she did under my supervision, she was admitted to a fully funded MS program at Western Washington University.
- **Angela Twum**, a PhD student at University of California, Santa Cruz, studies the development of cosmic-ray shower in meteoritic parent bodies to find correlations between cosmic ray exposure and enantiomeric excesses
- **Caitlyn Nojiri**, now a post-bac student at University of California, Santa Cruz, investigates the biological impact of nearby supernovae. She won the outstanding research poster award with top honors (two years in a row) at the UC LEADS Symposium for the work she did under my supervision.
- **Jaymin Ding**, **Darya Morshed** and **Zoe Torres**, high school students, SIP Astrophysics Interns at University of California, Santa Cruz, are working under my supervision on a new catalog of Tidal Disruption Events

Grant Panelist

French National Research Agency (France), National Aeronautics and Space Administration (USA), Israel Science Foundation (Israel)

Referee

Nature, Science, Physical Review Letters, Physical Review D, The Astrophysical Journal, Monthly Notices of the Royal Astronomical Society, Journal of Cosmology and Astroparticle Physics, ACS Earth & Space Chemistry

Conference Organizer

- *Member of the Scientific Organizing Committee*, Workshop Feeling the pull and the pulse of relativistic magnetospheres, Les Houches, France, April 2025
- *Member of the Scientific Organizing Committee*, Eridanus 2024 Workshop, Baja California, México, October 2024
- *Moderator*, Bay Area Planetary Science (BAPS) Conference, September 19, 2023
- *Member of the Scientific Organizing Committee*, Windows on the Universe, ICISE, Quy Nhon, Vietnam, August 6 - 12, 2023
- *Member of the Local Organizing Committee*, IAUS 375: The multimessenger chakra of blazar jets, Kathmandu, Nepal, December 5-9, 2022
- *Member of the Local Organizing Committee*, 31st Texas Symposium on Relativistic Astrophysics, Prague, Czech Republic, September 12 - 16, 2022
- *Chair of the Organizing Committee*, Nuclear Astrophysics & Cosmic Rays in the Multimessenger Era, ICISE, Quy Nhon, Vietnam, July 25-29, 2022
- *Member of the Scientific Organizing Committee*, Theory meeting experiment: particle astrophysics and cosmology, ICISE, Quy Nhon, Vietnam, January 6-11, 2020

- Chair of the Organizing Committee, High Energy Astrophysics Israel Japan Workshop, RIKEN, Wako and Kobe Campus, Japan, July 18-23, 2019
- Member of the Scientific Organizing Committee, Very High Energy Phenomena in the Universe, Quy Nhon, Vietnam, August 12-18, 2018
- Chair of the Anisotropy Session, 2017 International Cosmic Ray Conference, Bexco, Busan, Korea, July 12-20, 2017
- Member of the Scientific Organizing Committee, High Energy Astrophysics Workshop at the Hebrew University, Israel, February 28, 2017

Seminar Organizer

- 2022 – 2024 Organizer of the monthly Astrobiology Colloquium, University of California, Santa Cruz, USA
- 2022 – 2023 Member, Astronomy & Astrophysics Colloquium committee, University of California, Santa Cruz, USA
- 2016 – 2018 Organizer of the weekly Astronomy seminar, the Hebrew University of Jerusalem, Israel

Observing Experience

- Observations, Telescope Bernard Lyot, Observatoire du Pic du Midi, France (2011-2013: 21 nights: NARVAL)
- Observations and data reduction, Observatoire de Haute Provence, France (2008: 1 week)
- Observations and data analysis, Canada France Hawaii Telescope, Hawaii, USA (2006: 3 weeks: WIRCam)

Selected Public Outreach Activities

- Public outreach, College of San Matteo, USA (2018)
- Public outreach, Wise Observatory of the Negev, Israel (2013 - 2014)
 - ⇒ organizer of the open nights
- Public outreach, Paris Observatory, France (2008 - 2011)
 - ⇒ organizer of the open nights, outreach lectures, mentor of astronomy projects in schools
 - ⇒ supervisor of observations for graduate students at the Solar Tower of Meudon (spectrograph)
 - ⇒ responsible for observations for the public at the historical 1-meter Telescope of Meudon (Jules Janssen Telescope, built in 1891)
- Co-founder and active member, ALCOR, Association for Astronomy of Université Paris XI, France (2002 - 2007)

List of publications from [Google Scholar](#)

News and views articles

- [Where do the highest-energy cosmic rays come from?](#) Stanford University
- [Cosmic Rays May Explain Life's Bias for Right-Handed DNA](#), Quanta Magazine
- [Cosmic rays may have left indelible imprint on early life](#), Stanford University
- [Cosmic Rays May Have Given Life Its Shape](#), Simons Foundation
- [Life, the Universe and Cosmic Rays](#), Nature
- [Cosmic Rays and the Handedness of Life](#), Scientific American
- [Cosmic Map of Ultrahigh-Energy Particles Points to Long-Hidden Treasures](#), Quanta Magazine
- [The origin of life's molecular asymmetry: An astrobiology perspective](#), Stanford University
- [The Twist of Life](#), University of California, Santa Cruz

Other publications

Topical convener for: Ultra-High-Energy Cosmic Rays: The Intersection of the “Cosmic and Energy Frontiers”, Submitted to the US Community Study on the Future of Particle Physics (Snowmass 2021)

Number of Invited Talks at International Conferences

35 (full list available upon request)

Number of Invited Colloquia & Seminars

75 (full list available upon request)

Selected Invited Review/Summary Talks

- TDE Conference, Heraklion, Greece, September 2-6, 2024 (*Jet formation around black holes*)
- Mexican Society of Astrobiology, April 13, 2023 (*The Chiral Puzzle of Life*)
- Annual Meeting of the European Astronomical Society (EAS23), Krakow, Poland July 10-14, 2023 (*Magnetospheres of black holes*)
- Workshop of the French cosmic ray community Montpellier, 3-5 July 2023 (*review on Cosmic rays and the origin of life*)
- Astrophysical Black Holes: A Rapidly Moving Field, Hong Kong, June 23-26, 2023 (*Black holes as cosmic accelerators*)
- UHECR 2022, Gran Sasso Science Institute (GSSI) in L'Aquila, October 3-7, 2022 (*UHECR sources*)
- Atelier de la communauté française du rayonnement cosmique, May 5-7, 2021 (*Cosmic-ray propagation*)
- High Energy Astrophysics Israel Japan Workshop, Tokyo, Japan, July 18-23, 2019 (*Conference summary talk*)