

Education

Massachusetts Institute of Technology <i>Ph.D., Department of Physics, Center for Space Research</i>	Cambridge, Massachusetts <i>January 1991 – June 1996</i>
Massachusetts Institute of Technology <i>M.S., Department of Aeronautical and Astronautical Engineering</i>	Cambridge, Massachusetts <i>September 1989 – January 1991</i>
California Institute of Technology <i>B.S. Applied Physics, with Honors</i>	Pasadena, California <i>October 1985 – June 1988</i>

Professional Appointments

University of Hawai'i at Mānoa <i>Professor, Department of Earth Sciences</i>	Honolulu, Hawaii <i>August 2010 – Present</i>
University of Hawai'i at Mānoa <i>Associate Professor, Department of Earth Sciences</i>	Honolulu, Hawaii <i>August 2006 – August 2010</i>
University of Hawai'i at Mānoa <i>Assistant Professor, Department of Earth Sciences</i>	Honolulu, Hawaii <i>August 2001 – August 2006</i>
California Institute of Technology Jet Propulsion Laboratory <i>Postdoctoral Associate, Division of Geological and Planetary Sciences</i>	Pasadena, California <i>May 1997 – May 2001</i>
Massachusetts Institute of Technology <i>Postdoctoral Associate, Center for Space Research</i>	Cambridge, Massachusetts <i>June 1996 – May 1997</i>

Awards

Gauss Professor <i>Göttingen Academy of Sciences & Humanities</i>	Georges-Augustus University, Göttingen, DE <i>August – November 2024</i>
Ida Pfeiffer Professor <i>Faculty of Earth Sciences, Geography & Astronomy, Univ. Vienna</i>	Institute for Astrophysics, University of Vienna <i>September 2016 – February 2017</i>
Fulbright Research Fellowship <i>U.S.-Austria Fulbright Commission</i>	Institute for Astrophysics, University of Vienna <i>September 2016 – February 2017</i>
Chair of Astrobiology <i>Pufendorf Institute for Advanced Studies</i>	Lund University <i>May – November 2011</i>
Graduate Student Fellowship <i>National Science Foundation</i>	Massachusetts Institute of Technology <i>1989 – 1992</i>
Dr. Robert H. Goddard Memorial Scholarship <i>National Space Club</i>	California Institute of Technology <i>1988</i>
Caltech – Carnation Scholarship <i>Carnation Corporation</i>	California Institute of Technology <i>1986, 1987, 1988</i>

Auxiliary Appointments

University of Vienna <i>Senior Affiliate, Institute for Astrophysics</i>	Vienna, Austria 2021 – Present
University of Hawai'i at Mānoa <i>Cooperating Graduate Faculty, Institute for Astronomy</i>	Honolulu, Hawaii 2021 – Present
University of Hawai'i at Mānoa <i>Cooperating Graduate Faculty, Department of Oceanography</i>	Honolulu, Hawaii 2002 – Present

Instructional Portfolio

ERTH 101: Voyage of the *Vicariance: A Geography of Time* (undergrad, 3 semester-hrs)
ERTH 610: Graduate Seminar: (post-graduate, 1 semester-hour)
ERTH 616: Scientific Writing: (post-graduate, 3 semester-hours).
ERTH 669: Origins of Solar Systems (post-graduate, 3 semester-hours)
ERTH 673: Planetary Systems: A Material Perspective (post-graduate, 3 semester-hours).
ERTH 707: Exoplanet Astronomy (post-graduate, 3 semester-hours).
ERTH 710: Archaeology Meets the Earth & Space Sciences: (postgraduate, 2 semester hours).

Other Academic Appointments since Ph.D.

International Space Science Institute <i>Visiting Scientist</i>	Bern, Switzerland May – June 2024
ETH <i>Visiting Professor, Institute for Particle Physics and Astrophysics</i>	Zurich, Switzerland August – November 2022
International Space Science Institute <i>Visiting Scientist</i>	Bern, Switzerland June 2022
University of Vienna <i>Ida Pfeiffer Professor, Institute for Astrophysics</i>	Vienna, Austria March – August 2021
University of Bern <i>Visiting Professor, Center for Space and Habitability</i>	Bern, Switzerland September – March 2021
University of Göttingen <i>Visiting Professor, Institute for Astrophysics</i>	Göttingen, Germany October – December 2019
University of Vienna <i>Fulbright Fellow, Institute for Astrophysics</i>	Vienna, Austria September 2016 – January 2017
International Space Science Institute <i>Visiting Scientist</i>	Bern, Switzerland August – September 2016
Center for Space and Habitability <i>Visiting Professor</i>	Bern, Switzerland May - July 2016

Geneva Observatory <i>Swiss National Science Foundation Fellow</i>	Versoix, Switzerland <i>April – Augusts 2015</i>
Harvard-Smithsonian Center for Astrophysics <i>Visiting Sabbatical Professor, Institute for Theory and Computation</i>	Cambridge, Massachusetts <i>March – August 2015</i>
Max Planck Institute for Astronomy, Heidelberg <i>Visiting Scientist</i>	Heidelberg, Germany <i>July 2014 – January 2015</i>
University of Lund <i>Chair of Astrobiology, Pufendorf Institute for Advanced Studies</i>	Lund, Sweden <i>May – November 2011</i>
University of California, Berkeley <i>Visiting Sabbatical Professor, Dept. of Earth & Planetary Sciences</i>	Berkeley, California <i>August – December 2007</i>
Center for Astrophysics Research of Lyon <i>Visiting Scientist</i>	Lyon, France <i>October 2005</i>

Other Professional Positions:

National Academies of Science, Engineering and Medicine <i>Christine Mirzayan Fellow, Division of Earth and Life Sciences</i>	Washington, DC <i>May 2001 – September 2001</i>
Paracel, Inc. <i>Consultant, bioinformatics for Celera Human Genome Sequencing Project</i>	Pasadena, California <i>1999 – 2001</i>
Ecole Polytechnique de Lausanne (EPFL) <i>Visiting Researcher, Department of Fluid Dynamics</i>	Lausanne, Switzerland <i>June – August 1990</i>
National Center for Space Research (CNES) <i>Engineer, CNES-Planetary Society Mars Balloon Project</i>	Toulouse, France <i>September 1988 – August 1989</i>

Extramural Research Funding (Total of \$11,629,190; active in bold)

NASA Hubble Guest Observer Cycle 30 (PI) <i>"Photometry of a Young Planetary-Mass Companion to a Taurus M Dwarf Star"</i>	\$34,824 <i>2023–2024</i>
NASA TESS Guest Observer Cycle 4 (PI) <i>"Rotation And Multiplicity Among Hyades M Dwarfs"</i>	\$50,000 <i>2021–2022</i>
NASA Solar System Workings (co-PI) <i>"Planet of Steel: Carbon and the Inner Workings of Mercury's Core"</i>	\$559,426 <i>2021–2024</i>
NASA Swift Guest Observer Cycle 17 (PI) <i>"X-raying the Inner Disk of a "Dipper" Star with Swift"</i>	\$47,000 <i>2021–2022</i>
NSF Astronomy and Astrophysics Research Grants (PI) <i>"Catch a Fading Star: Using Transient Dimming to Explore Planet-Forming Zones...."</i>	\$697,010 <i>2021–2024</i>
NASA Interdisciplinary Consortia for Astrobiology Research (PI) <i>"Follow the Volatiles: Tracing chemical species relevant to habitability..."</i>	\$1,734,191 <i>2021–2026</i>
NASA TESS Guest Observer Cycle 4 (co-PI)	\$75,000

<i>"Mass Measurement of TESS Transiting Candidate Companions"</i>	2020–2021
NASA Exoplanets Research Program (PI)	\$298,807
<i>"Comparative Evolution of Small Planets Close to Cool Stars"</i>	2020–2023
NASA Exoplanets Research Program (Co-PI)	\$478,549
<i>"Precise Near-Infrared RV Measurements of Planet Candidates Identified by TESS"</i>	2019–2022
NASA TESS Guest Observer Cycle 2 (PI)	\$50,000
<i>"A survey of transient stellar dimming in TESS FFI lightcurves"</i>	2019–2021
NASA Astrophysics Data Analysis Program (PI)	\$199,882
<i>"Using K2 to explore episodic stellar variability during the epoch of planet formation"</i>	2019–2022
NSF Astronomy & Astrophysics Research Grants (PI)	\$293,735
<i>"A new spin on M dwarf ages and evolution"</i>	2018–2022
NSF Astronomy & Astrophysics Research Grants (co-PI)	\$278,033
<i>"Refining the radii of exoplanet host stars"</i>	2017–2021
NASA K2 Guest Observer Cycle 6 (co-PI)	\$30,000
<i>"Solving the mystery of hot Jupiter inflation with K2"</i>	2017–2021
NASA K2 Guest Observer Cycle 4 (co-PI)	\$41,259
<i>"Zodiacal Exoplanets in Time (ZEIT): The Hyades Cluster"</i>	2017–2021
NASA K2 Guest Observer Cycle 2 (co-PI)	\$38,000
<i>"Giants orbiting Giants: A search for transiting planets around oscillating RGB stars"</i>	2017–2021
Sloan Foundation Deep Carbon Observatory, Census for Deep Life (PI)	\$25,000
<i>"Ice-Covered Icelandic Crater Lake Ecosystem Study"</i>	2017–2021
NASA Origins of Solar Systems (PI)	\$373,445
<i>"A combined Doppler and photometric search for signpost planets around M dwarfs"</i>	2017–2021
NASA Astrobiology: Exobiology and Evolutionary Biology (PI)	\$357,0673
<i>"Formation, evolution, and detection of planets close to cool stars"</i>	2017–2021
NSF Astronomy & Astrophysics Research Grants (co-PI)	\$174,022
<i>"Targets for planets: a database of nearby stars suitable for exoplanet surveys"</i>	2017–2021
NSF Graduate Student Fellowship Program (PI for student)	\$75,000
<i>"Physical and chemical processes in the atmospheres of planetary embryos"</i>	2017–2021
NASA Terrestrial Planet Finder Foundation Science (PI)	\$249,426
<i>"Observable signatures of extreme seasonality on Earth-like planets...."</i>	2017–2021
NASA Newton-XMM Telescope Observing Support (co-I)	\$36,400
<i>"The Nature of the Flaring Companion to HD 43162"</i>	2017–2021
NASA Astrobiology Institute Director's Discretionary Fund (PI)	\$50,000
<i>"Diversity, phylogeny, and genetics of the basal metazoan Trichoplax adhaerens"</i>	2017–2021
NASA Astrobiology Institute Cooperative Agreement Notice-3 (co-PI)	\$5,171,596
<i>"The origin, history, and distribution of water and its relation to life in the Universe"</i>	2003–2008
NSF Biogeosciences (PI)	\$79,000

<i>"Microcosm Investigations of Carbonate Reef Microbial Biogeochemistry"</i>	2017–2021
NSF Biocomplexity in the Environment, Coupled Biogeochem. Cycles (PI)	\$98,456
<i>"Cycles of Carbon and Nitrogen in an Ice-covered Volcanic Crater Lake"</i>	2001–2002

Extramural Professional Service

KITP Program and Conference on Rocky Planet Formation in Inner Protoplanetary Disks	Co-Organizer
<i>Kavli Institute for Theoretical Physics, Santa Barbara, USA</i>	<i>April–May 2025</i>
Observing techniques, instrumentation and science for metre-class telescopes III	SOC
<i>Tatranská Lomnica, Slovakia</i>	<i>11–15 September 2023</i>
NASA Funding Proposal Review Panels	Member
<i>Astrophysics Data Analysis; Medium-Class Explorers & Missions of Opportunity</i>	<i>Ongoing</i>
<i>NASA Astrobiology Institute Cooperative Agreement Notice; Origins of Solar Systems, HST, JWST</i>	
NSF Funding Proposal Review Panels	Member
<i>Faculty Early Career Development Program</i>	<i>Ongoing</i>
Peer Review of Journal Manuscripts	Reviewer
<i>The Astrophysical Journal; The Astronomical Journal; Monthly Notices of the Royal Astronomical Society; Icarus; Journal of Geophysical Research - Planets</i>	<i>Ongoing</i>
NASA TESS Mission, Atmospheres Working Group	Member
	<i>2014–2021</i>
TESS Science Meeting I	SOC
<i>Cambridge, USA</i>	<i>July 2019</i>
Exoplanet Science Working Group, Origins Space Telescope Project	Member
	<i>2017–2019</i>
International Science Definition Team for Exoplanets, Thirty Meter Telescope	Member
	<i>2014–present</i>
Session on "M Dwarfs in the Light of Exoplanets" at Cool Stars 17	Organizer
<i>Barcelona, Spain</i>	<i>October 2012</i>
Workshop: Transiting Planets in the House of the Sun: M Dwarfs and their Planets	Organizer
<i>Kula, Maui, USA</i>	<i>June 2012</i>
Session on "Geology of Exoplanets" at Exoplanets for Planetary Scientists Conference	Chair
<i>Orlando, USA</i>	<i>December 2010</i>
Potsdam, Germany	Participant
<i>IODP Working Group on "Limits and Evolution on Earth and Beyond"</i>	<i>2009</i>
Session on 'Hot Earths: formation, detection, and structure' at AAS 210th Meeting	Organizer
<i>Honolulu, USA</i>	<i>May 2007</i>
NASA-JPL Terrestrial Planet Finder Mission	Science Working Group
	<i>2002–2006</i>
ISSI Workshop: "Geology and Habitability of Terrestrial Planets"	SOC

Bern, Switzerland

September 2005

2nd Terrestrial Planet Finder /Darwin Meeting
San Diego, USA

SOC
July 2004

Bioastronomy Meeting
Reykjavik, Iceland

SOC
July 2004

Supervision and Mentoring

Postdocs:

Knicole Colón, Postdoctoral Researcher in Astronomy <i>Current position: Staff Scientist, NASA Goddard Space Flight Center</i>	Supervisor 2012-2013
Joost van Summeren, Postdoctoral Researcher in Geology & Geophysics <i>Current position: KWR Research Institute</i>	Supervisor 2011-2012
Eric Hilton, Postdoctoral Researcher in Astronomy <i>Current position: Universe Sandbox</i>	Supervisor 2011-2012
Antje Rusch, Postdoctoral Researcher in Geomicrobiology <i>Current position: Fauna Marin GmbH</i>	Supervisor 2006-2008
Evgenya Shkolnik, NASA Postdoctoral Research Fellow <i>Current position: Professor, Arizona State University</i>	Supervisor 2005-2006
Ketil Sorenson, Postdoctoral Researcher in Geomicrobiology <i>Current position: Technical University of Denmark</i>	Supervisor 2004-2006

Doctoral Students:

Lukas Gehrig, Institute for Astrophysics, University of Vienna <i>Dissertation: "Modeling the Interaction of Young Low-Mass Stars with Their Disks"</i>	Co-Advisor 2021-present
Ryan Dungee, Institute for Astronomy Doctoral Student <i>Dissertation: "Understanding the evolution of M Dwarf spin-down"</i> <i>Current Position: Dunlap Postdoctoral Fellow, Dunlap Institute, University of Toronto</i>	Co-Advisor/Supervisor 2019-2022
Andrew Mann, Institute for Astronomy Doctoral Student <i>Dissertation: "Planets around cool stars: spectroscopic/photometric study of M dwarfs"</i> <i>Current Position: Assistant Professor, University of North Carolina</i>	Advisor/Supervisor 2009-2013
Nicholas Moskovitz, Institute for Astronomy Doctoral Student <i>Dissertation: "Spectroscopic and theoretical constraints on planetesimal differentiation"</i> <i>Current Position: Staff Scientist, Lowell Observatory</i>	Advisor/Supervisor 2005-2009
Angelos Hannides, Dept. of Oceanography Doctoral Student <i>Dissertation: "Organic matter cycling and nutrient dynamics in marine sediments"</i> <i>Current Position: Assistant Professor, Coastal Carolina University</i>	Co-Advisor/Supervisor 2002-2008

Doctoral Dissertation Committees:

Keng-Hsien (Earth & Planetary Sciences) <i>"Deep volatile cycle in planetary interiors"</i>	Committee Member 2021–present
Jingwen Zhang (Institute for Astronomy) <i>"Orbital Dynamics in Close Binaries & Fourier Transform Spectr. for Direct Imaging"</i>	Committee Member 2021–2022
Nicholas Saunders (Institute for Astronomy) <i>"Tracing Hot Jupiter Evolution with TESS and Gaia"</i>	Committee Member 2021–2022
Casey Brinkman (Institute for Astronomy) <i>"Diversity of rocky planet compositions and host star abundances"</i>	Committee Member 2019–2022
Ashley Chontos (Institute for Astronomy) <i>"Exoplanets orbiting asteroseismic stars: benchmark systems with TESS"</i>	Committee Member 2019–2021
Travis Berger (Institute for Astronomy) <i>"Precise demographics of Kepler exoplanets in the Gaia era"</i>	University Representative 2018–2021
Samuel Grunblatt (Institute for Astronomy) <i>"Giant planets transiting giant stars"</i>	University Representative 2016–2019
Megan Ansdell (Institute for Astronomy) <i>"Protoplanetary disk demographics with ALMA"</i>	University Representative 2014–2017
Brendan Bowler (Institute for Astronomy) <i>"A high-contrast direct imaging search for gas-giant planets around low-mass stars"</i>	University Representative 2010–2013
Dagny Looper (Institute for Astronomy) <i>"TW Hydrae Association: new nearby accreting stars and first estimate of the IMF"</i>	University Representative 2008–2011

Masters Students:

Ian Berry (Institute for Astronomy) <i>M.S. Project: "Extending Gyrochronology to the Fully Convective Boundary and Beyond with the Open Cluster Ruprecht 23"</i> 2023–2024	Co-Advisor
Andrew Hoffman (Institute for Astronomy) <i>M.S. Project: "Multi-wavelength Photometry of Occulting Dust around Taurus Stars"</i>	Advisor/Supervisor 2022–2023
Alexa Anderson (Institute for Astronomy) <i>M.S. Project: "The Dynamic Inner Disk of EP Chamaeleontis"</i>	Advisor/Supervisor 2021–2022
Aleezah Ali (Institute for Astronomy) <i>M.S. Project: "Binarity of Kepler M Dwarf Stars and Their Planets"</i>	Advisor/Supervisor 2021–2022
Leander Schlarmann (University of Vienna) <i>M.S. Project: "Modeling Venus-like atmospheres in chemical equilibrium"</i>	Co-Advisor 2021–2022
Carina Heinrichsberger (University of Vienna) <i>M.S. Project: "Why is Venus so Cool?"</i>	Co-Advisor 2021–2022
Suchitra Narayanan (Institute for Astronomy) <i>M.S. Project: "SURPH: A Relative Photometry Pipeline for LCO"</i>	Advisor/Supervisor 2020–2021
Rena Lee (Department of Earth Sciences) <i>M.S. Thesis: "Multiplicity in the Beta Pictoris Moving Group"</i>	Advisor/Supervisor 2020–2022

Larisa Nofi (Institute for Astronomy) <i>M.S. project: "Spectrothermometry of K dwarf stars"</i> <i>Current position: Lockheed-Martin Aerospace</i>	Advisor/Supervisor 2015–2016
Samuel Grunblatt (Institute for Astronomy) <i>M.S. project: "Giant planets around giant stars"</i> <i>Current position: Kalbfleisch Postdoctoral Fellow, American Museum of Natural History</i>	Advisor/Supervisor 2015–2016
Megan Ansdell (Institute for Astronomy) <i>M.S. project: "The near-ultraviolet luminosity function of M dwarf stars"</i> <i>Current position: Program Scientist, NASA Headquarters</i>	Advisor/Supervisor 2013–2014
Jillian Ward (Department of Oceanography) <i>M.S. thesis: "Diversity and Biogeography of the Unique, Tropical Phylum Placozoa"</i> <i>Current position: biotechnology industry</i>	Advisor/Supervisor 2005–2008

Bachelors Students:

Lynzee Hoegger (Department of Physics & Astronomy) <i>B.A. Senior Project: "LCO Observations of a T Tauri Dipper Star"</i>	Advisor 2021–2022
John Bredall (Department of Physics & Astronomy) <i>B.S. Honors Thesis: "An ASAS-SN Survey of Variable Young Stellar Objects"</i>	Co-Advisor 2019–2020
Oana Vesa (Albion College) <i>NSF Research Experience for Undergraduates at the Institute for Astronomy</i>	Co-Advisor 2017
Emily Chang (Global Environmental Sciences, Department of Oceanography) <i>B.S. Thesis: "Identification & Photometry of Candidate Transiting Exoplanet Signals"</i>	Advisor 2011–2012
Jennifer Beyer (Department of Geology & Geophysics) <i>NASA Space Grant Undergraduate Fellow</i>	Advisor 2010–2011
Melissa Ilardo (Princeton University) <i>Visiting Summer Student</i>	Advisor 2007–2008
Nelson Lazago (Department of Biology) <i>NASA Space Grant Undergraduate Fellow</i>	Advisor 2007–2008
Daniel Rogers (University of Massachusetts at Amherst) <i>Visiting Student</i>	Advisor 2006–2007
Whitney Hassett (Global Environmental Sciences, Dept. of Oceanography) <i>Student assistant</i>	Supervisor 2006–2007
Sean Otaga (Departments of Civil Engineering and Oceanography) <i>Student assistant</i>	Supervisor 2006–2007
Aliz Axmann (Department of Mathematics) <i>B.S. thesis: "Dynamics of Motility in Placozoa"</i>	Advisor 2004–2005
Maxime Grand (Global Environmental Sciences, Dept. of Oceanography) <i>B.S. thesis: "Precipitation, Plant Communities and Methane Fluxes in Ka'au Crater"</i>	Advisor 2002–2003