Gregory S. Tucker

Professor of Physics

## EDUCATION

| | | |
|---|---|---|
| 1991 | Ph.D. in Physics | Princeton University, Princeton, NJ |
| 1987 | M.A. in Physics | Princeton University, Princeton, NJ |
| 1985 | S.B. in Physics | Massachusetts Institute of Technology, Cambridge, MA |

## EMPLOYMENT

| | |
|---|---|
| 2011–present | Professor of Physics, Brown University, Providence, RI |
| 2009 | Visiting Professor of Physics, Laboratoire APC, Paris, France |
| 2004–2011 | Associate Professor of Physics, Brown University, Providence, RI |
| 2002–2003 | National Academy of Sciences National Research Council<br>Senior Fellowship at NASA Goddard Space Flight Center, Greenbelt, MD |
| 1997–2004 | Assistant Professor of Physics, Brown University, Providence, RI |
| 1997–1998 | Visiting Fellow, Princeton University, Princeton, NJ |
| 1996–1997 | Physicist, Smithsonian Astrophysical Observatory, Cambridge, MA |
| 1994–1996 | Research Associate in Physics, U. of British Columbia, Vancouver, BC |
| 1992–1994 | Postdoctoral Fellow in Physics, U. of British Columbia, Vancouver, BC |
| 1991–1992 | Research Associate in Physics, Princeton University, Princeton, NJ |

## PUBLICATIONS

Available at NASA ADS

## RESEARCH GRANTS

| | |
|---|---|
| 2020–2027 | Probing Exoplanet Atmospheric Physics with the EXoplanet Climate Infrared TElescope (EXCITE), NASA |

2017–2020 Transits and Eclipses of the Best of the Best: 23 Hot Jupiters for Atmospheric Characterization by Spitzer, Hubble, and JWST, JPL Spitzer Space Telescope Cycle-13 Award

2017–2020 Red worlds: Spitzer exploration of a compact system of temperate terrestrial planets transiting a nearby Jupiter-sized star, JPL Spitzer Space Telescope Cycle-13 Award

2017–2018 Probing the Three-Dimensional Nature of Exoplanetary Atmospheres Through Comparative Planetology, NASA/NESSF

2016–2019 A Preparatory Program to Identify the Single Best Transiting Exoplanet for JWST Early Release Science, Space Telescope Science Institute

2013–2016 Search for Signatures of Inflation with the EBEX Balloon-Borne Instrument, NASA

2009–2013 Collaborative Research: Simulation of Systematic Effects in Interferometry for Studies of the Cosmic Microwave Background, NSF

2009–2013 The Balloon-borne Large Aperture Submillimeter Telescope — BLAST, NASA

2009–2010 Demonstration of a Scalable Millimeter-wave Bolometric Interferometer (MBI), NASA

2008–2011 Search for the B-mode Polarization in the Cosmic Microwave Background Radiation with the EBEX Balloon-borne Experiment, NASA

2007–2013 GK-12 Physical Processes in the Environment, NSF

2007–2009 Demonstration of the Millimeter-wave Bolometric Interferometer, NASA

2006–2009 Extragalactic and Galactic Surveys with the Balloon-borne Large Aperture Submillimeter Telescope — BLAST, NASA

2005–2008 The E and B EXperiment (EBEX) NASA

2004–2007 Mission Concept Study for the Einstein Polarization Interferometer for Cosmology (EPIC), NASA

2003–2007 Development of the Millimeter-wave Bolometric Interferometer, NASA

2003–2006 BLAST: A Balloon-borne Large Aperture Submillimeter Telescope — A Comprehensive Plan for Galactic and Extragalactic Surveys

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|---|---|
| | from a Long Duration Balloon Platform, NASA |
| 2003–2006 | Teacher Training Through Research and Public Understanding of Cosmology, NASA EPO |
| 2000–2003 | BLAST: A Balloon-borne Large Aperture Submillimeter Telescope — A Comprehensive Plan for Galactic and Extragalactic Surveys at Sub-millimeter Wavelengths, NASA |
| 1998–1999 | Constellation-X Mission Microcalorimeter Development, Smithsonian Institution |
| 1996 | Development of a Program to Measure Cosmic Microwave Background Anisotropies, Smithsonian Institution |

AWARDS

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| 2026 | NASA Silver Group Achievement Award — EXoplanet Climate Infrared TElescope (EXCITE) Team |
| 2019 | The Giuseppe and Vanna Cocconi Prize of the European Physical Society for, an outstanding contribution to Particle Astrophysics and Cosmology: "To the WMAP and Planck Collaborations for providing high-precision measurements of the cosmic microwave background temperature anisotropies, leading to detailed information on properties of the universe and tests of cosmological models and fundamental physics." |
| 2019 | President's Award for Excellence in Faculty Governance |
| 2018 | Breakthrough Prize in Fundamental Physics (co-recipient with WMAP Science Team) |
| 2015 | Thomas Reuters, "The World's Most Influential Scientific Minds 2015" |
| 2014 | Thomas Reuters, "The World's Most Influential Scientific Minds 2014" |
| 2012 | Gruber Prize in Cosmology (co-recipient with WMAP Science Team) |
| 2007 | NASA Group Achievement Award — Wilkinson Microwave Anisotropy Probe (WMAP) Science Team |
| 2004 | NASA Group Achievement Award — Wilkinson Microwave Anisotropy Probe (WMAP) Team |

2002 National Academy of Sciences National Research Council Senior Fellowship

2003, 2001, 1998
Richard B. Salomon Faculty Research Award

2002 NASA Group Achievement Award — Microwave Anisotropy Probe (MAP) Team

2002 NASA/GSFC Group Award — Center of Excellence Microwave Anisotropy Probe (MAP) Team

2001 NASA/GSFC Group Award — MAP Thermal Vacuum Thermal Balance Test Team

2001 NASA/GSFC Group Award — MAP Electromagnetic Interference Test Team

2001 NASA/GSFC Group Award — MAP Integration and Test Team

1985 Phi Beta Kappa

1985 Sigma Xi

TEACHING

PHYS 0030 Basic Physics A
Manager and Lecturer

PHYS 0040 Basic Physics B
Manager and Lecturer

PHYS 0030, PHYS 0050, PHYS 0070
Lab manager

PHYS 0040, PHYS 0060, PHYS 0160
Lab manager

PHYS 0112 Extra-Solar Planets and the Search for Extraterrestrial Life

PHYS 0210, PHYS 0220
Beginning Astronomy

PHYS 0240, PHYS 0270
Introduction to Astronomy

PHYS 01560 Modern Physics Laboratory

PHYS 2010 Techniques in Experimental Physics

GRADUATE STUDENTS

Oliver Carey (Ph.D. candidate), Caitlyn Altermatt (Ph.D. candidate, Sc.M.),
Samuel Mason (Sc.M.), Kanchita Klangboonkrong (Ph.D. candidate, Sc.M.),
Annalies Kleyhheg (Ph.D.), Tim Rehm (Ph.D., Galkin Fellowship),
Rahul Shinde (Sc.M.), Yanrong Song (Sc.M.),
Brian Kilpatrick (Ph.D., NASA NESSF), Peter Nagler (Ph.D., Galkin Fellowship),
Shubham Kanodia (Sc.M.), Kyle Helson (Ph.D.),
Ata Karakci (Ph.D., Galkin Fellowship), Jerry Vinokurov (Ph.D.),
John Macaluso (Sc.M.), Matthew Truch (Ph.D.), Jaiseung Kim (Ph.D.)

UNDERGRADUATE STUDENTS

Over 50 undergraduate student research projects superivsed