

CURRICULUM VITAE

Gautam Vasisht

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POSITIONS

10-97 – Current Member of Technical Staff, Jet Propulsion Laboratory, Caltech
6-96 – 9-97 Caltech Postdoctoral Scholar
9-94 – 5-96 Graduate Research Assistant, Caltech
9-91 – 9-94 Allen Moffett Graduate Fellow, Caltech
5-89 – 8-89 Summer Student, Giant Meterwave Radio Telescope (GMRT)
 Pune, India
5-88 – 8-88 Summer Assistant, Indian Institute of Science
 Bangalore, India

VISITING POSITIONS

1-06 – 9-07 Visiting Scientist, European Southern Observatory,
 Garching bei München, Germany

EDUCATION

PhD, Astronomy, June 1996
Division of Physics, Mathematics & Astronomy
California Institute of Technology
Thesis: “The Many Faces of Young Neutron Stars”
Advisor: Prof. Shrinivas R. Kulkarni

BS, Electrical Engineering, June 1990
Department of Electrical and Computer Engineering
Indian Institute of Technology, Kanpur, India
Thesis: “Switching Techniques for Sidelobe Reduction
in Antenna Arrays”

FELLOWSHIPS, HONORS

NASA, Group Achievement Award, Exoplanetary Spectroscopy, 2009
Ed Stone Prize Publication, 2009, for the discovery of Methane
in HD 189733b
NASA, Group Achievement Award, Nulling with the Keck
Interferometer, 2005, 2008
JPL, Technical Excellence Award, Keck Interferometer First Fringes, 2001
Alan T. Moffet Graduate Fellowship, Caltech (91 – 94)
National Talent Fellowship, India (85 – 90)

PROFESSIONAL COMMUNITY SERVICES

2012	Reviewer: for Science and Technology Facilities Council, United Kingdom
2012	Panelist: Jobs Panel at the 219th AAS Meeting, Austin, Texas
2011	Panelist: NASA Origins of Solar Systems (OSS) review
2011	Panelist: NASA Astrophysics Data Analysis Program (ADAP) review
2010	Panelist: NASA Origins of Solar Systems (OSS) review
2009	Lecturer: NExSci Sagan summer school on the characterization of extrasolar planets
2008	External Reviewer: for Dutch National Research Council (NWO) proposals
2006	Panelist: ESO Prima Astrometric Instrument review
2007	Dutch Research Council NWO: External proposal review for VLT Second Generation instruments
2004 – 2005	European Southern Observatory: VLTI Fringe Tracking Tiger Team
1998 – 2000	Review panelist: Chandra X-ray Observatory, GO program, Cycles 1,2,3
1998 – 1999	Review panelist: NASA Long Term Space Astrophysics (LTSA) Program
1996 – 1998	Review panelist: ASCA X-ray Observatory, GO program
1997	Review panelist: Rosat, GO program Referee for the ApJ, PASP, and A& A

RECENT GRANTS

2013 – 2015	NASA ROSES Origins, for a "new Exoplanet Survey," inst. PU
2012 – 2013	JPL Director's Fund (DRDF), for precision spectroscopy with LAEDI, PI
2011 –	Science and Technology Facility Proposal, for Project 1640 exoplanet imaging using the CAL system, PI
2011 –	Science and Technology Facility Proposal, Caltech JPL Detector Facility, as co-I with Dr. J. Rhodes for developing the Detector lab
2010	Strategic Initiative, JPL Research and Technology, Precision photometry for the ASTrO mission, PI
2010 – 2012	NASA ROSES Origins, Methods in High Contrast Imaging, PI
2011	NSF MRI, New H2RG Detector for High Contrast Imaging as co-I with Dr. B. Oppenheimer (AMNH)
2009 – 2011	Topical Research and Technology, Modeling of Super Earth Atmospheres, as co-I with Dr. P. Chen
2009 – 2011	Strategic Initiative, JPL Research and Technology, CAL Wavefront Sensor, as co-I with Dr. M. Shao
2009 – 2010	Strategic Initiative, JPL Research and Technology, Exoplanetary spectroscopy, as co-I with Dr. M. Swain

RECENT INVITED TALKS

Feb 2011	Royal Astronomical Society, Burlington House, London: Special Discussion Meeting on Extrasolar Planets
May 2010	KISS Workshop, Santa Barbara, Exoplanet science during cruise phase of planetary missions
Feb 2010	MPIA, Heidelberg, THESIS/EChO Meeting

Dec 2009	Institute for Astrophysics, Paris, The Transit Spectroscopy Mission Meeting
Nov 2009	Keck Institute for Space Studies, Pasadena, Innovative Approaches to Exoplanet Spectra
Apr 2009	European Geophysical Union, Vienna, Exoplanets
Nov 2008	Paris Observatory: Conference on Molecules in Extrasolar Planetary Atmospheres
Sep 2008	University of Exeter: The Exeter Workshop on Exoplanets

INSTRUMENTATION PROJECTS

2012 –	LAEDI: Optical externally dispersed Echelle spectrograph for precision radial velocities, PI
2009 – 2012	NESSI: Near IR multi-object spectrograph for transit spectroscopy, instrument design, co-I
2009 – 2011	Project 1640 - CAL: Post coronagraphic precision IR wavefront sensor for high contrast imaging, PI
2008 – 2011	Project 1640 - Coronagraph: Participation in the development of APLC coronagraph and imaging spectrograph, co-PI
2007 – 2009	Palomar Testbed Interferometer: upgrade to 3 - way interferometric, co-I combination (only partially finished due to PTI closure)
2006 – 2007	Manhattan II: Suppression of VLT M1-M3 vibrations via fast accelerometer feedforward to optical delay lines
2002 – 2005	FATCAT III: Near to Mid infrared differential phase science for the Keck Interferometer
1998 – 2003	FATCATs I & II: Near infrared science and fringe tracking for the Keck Interferometer
1992 – 1996	FFBs: Twin Radio-Pulsar Flexible Filter Banks

MISSION CONCEPT DEVELOPMENT EXPERIENCE

THESIS: US medium class mission for extrasolar planet spectroscopy
 EChO: European medium class mission for extrasolar planet spectroscopy, US co-I
 FINESSE: Explorer class mission for infrared extrasolar planetary spectroscopy, instrument design, science, co-I
 ELEKTRA: Explorer class mission for a panoramic survey for transiting planets, instrument, science, co-I
 GEMM: Microlensing parallax measurements using the Deep Impact spacecraft, project science, co-I
 ZODIAC II: High contrast imaging from stratosphere/balloon platform science, science cameras, co-I
 BEST: Transit spectroscopy from stratosphere/balloon platform,
 DAVINCI: Visible nulling terrestrial planet imager, AMCS study, co-I

MENTORING EXPERIENCE

Undergraduate: Various SURP students over the years

E.g. M. Fitzgerald, now faculty at UCLA
Mentored in: Kalman Filter for fringe control
Undergraduate: Harvey Mudd College Clinic Program
Mentored 4 students in: Mid-IR Beam Combiner for Keck
Undergraduate: Harvey Mudd College Clinic Program
Mentored 4 students in: Delay lines for Antarctic Interferometer
Postdoc: Dr. Laurent Pueyo, NPP Fellow, 2008-2011
now staff astronomer, STSCI
Mentored in: Exoplanet image post-processing
Postdoc: Dr. Eric Cady, Caltech Postdoctoral Scholar, 2010-2012
now staff member, JPL
Mentored in: Wavefront control with Project 1640
Postdoc: Dr. Avi Shporer, Sagan Fellow, 2013-2015
Mentoring in: Kepler searches for Brown Dwarfs

PROFESSIONAL SOCIETIES

AAS, SPIE

PUBLICATIONS

Nearly 50 referred publications with over 2700 citations (h-index 30)