

BRIEF RESUME: Varsha P. Kulkarni

PROFESSIONAL PREPARATION:

Education:

- Indian Institute of Technology, Bombay, Engineering Physics, B. Tech., 1989
- Univ. of Chicago, Astronomy & Astrophysics, M.S., 1990
- Univ. of Chicago, Astronomy & Astrophysics, Ph.D., 1996
- Univ. of Arizona, NICMOS Postdoctoral Fellow, Quasar Absorption Systems, 1996-1999

Appointments:

- Interim Dept. Chair: Univ. of South Carolina, Dept. of Physics & Astronomy, 2012-2013
- Professor: Univ. of South Carolina, Dept. of Physics & Astronomy, 2010-present
- Associate Professor: Univ. of South Carolina, Dept. of Physics & Astronomy, 2005-2010
- Assistant Professor: Univ. of South Carolina, Dept. of Physics & Astronomy, 2000-2005
- Assistant Professor: Clemson Univ., Dept. of Physics & Astronomy, 1999-2000
- Research Associate: Univ. of Arizona, Steward Observatory, 1996-1999
- AURA Predoctoral Fellow: Space Telescope Scien. Inst., 1992-1996 (visiting from U. Chicago)
- McCormick Fellow/Graduate Research/Teaching Assistant: Univ. of Chicago, 1989-1992

Selected Honors and Awards:

- Press Release for European Southern Observatory, 2006
- Interview by New Scientist magazine, 2006
- William F. Lucas Junior Faculty Research Award, University of Arizona, 1997
- Pre-doctoral Fellowship, Association of Universities for Research in Astronomy, 1992—1996
- Robert R. McCormick Pre-doctoral Fellowship, University of Chicago, 1989-1992
- Gold Medal for highest score in Science among approx. 80,000 students in the Maharashtra State Secondary School Certificate Examination (roughly equivalent of the SAT), India, 1983
- Top rank in B. Tech. Engineering Physics, Indian Institute of Technology, Bombay, 1989
- National Science Talent Search Scholarship, India, 1983-1989

RESEARCH:

Research Areas:

Extragalactic Astronomy, Observational Cosmology, Intergalactic and Circumgalactic Medium, Galaxy Evolution

Research Funding:

- Funded by NASA and NSF since 2002.

Publications and presentations:

- Approx. 115 research articles, conference proceedings, and abstracts
- Approx. 160 research talks at conferences and institutions in 9 countries

Some Recent Publications:

- *Interstellar Silicate Dust in the $z=0.685$ Absorber Toward TXS 0218+357*, Aller, M. C., Kulkarni, V. P., York, D. G., Welty, D. E., Vladilo, G., & Liger, N. 2014, *Astrophys. J.*, in press (arXiv:1402.4509)
- *A SINFONI Integral Field Spectroscopy Survey for Galaxy Counterparts to Damped Lyman-alpha Systems V. Neutral and Ionized-phase Metallicities*, Péroux, C., Kulkarni, V. P., & York, D. G. 2014, *Monthly Not. Royal Astron. Soc.*, 437, 3144-3158
- *Atomic Data for S II—Toward Better Diagnostics of Chemical Evolution in High-redshift Galaxies*, Kisielius, R., Kulkarni, V. P., Ferland, G. J., Bogdanovich, P., & Lykins, M. L. 2014, *Astrophys. J.*, 780, 76, 11 pp.

- *Galaxies with background QSOs - II. An automated search for multiple galaxy emission lines*, Straka, L. A., Whichard, Z. L., Kulkarni, V. P., Bishof, M., Bowen, D., Khare, P., & York, D. G. 2013, Monthly Not. Royal Astron. Soc., 436, 3200-3223
- *A SINFONI Integral Field Spectroscopy Survey for Galaxy Counterparts to Damped Lyman-alpha Systems IV. Masses and Gas Flows*, Péroux, C., Bouché, N., Kulkarni, V. P., & York, D. G. 2013, Monthly Not. Royal Astron. Soc., 436, 2650-2665
- *A Mini X-ray Survey of Sub-DLAs: Searching for AGNs formed in Protogalaxies*, Chartas, G., Kulkarni, V. P., & Asper, A. 2013, Astrophys. J., 775, 119, 7 pp.
- *Element Abundances at high redshift: MIKE observations of sub-damped Lyman-a absorbers at $1.7 < z < 2.4$* , Som, D., Kulkarni, V. P., Meiring, J., York, D. G., Péroux, C., Khare, P., & Lauroesch, J. T. 2013, Monthly Not. Royal Astron. Soc., 435, 1469

TEACHING AND STUDENT TRAINING:

University Courses Developed or Taught:

- SCHC 115, 116 (Honors Introductory Astronomy)
- ASTR 111, 211, 311 (Descriptive Astronomy I, II, III)
- ASTR 475, 533, 534 (Upper-level Undergraduate Observational Astronomy Techniques)
- ASTR 599 (Upper-level Undergraduate Extragalactic Astronomy)
- PHYS 202, 208 (Introductory Physics)
- PHYS 731 (Graduate-level Extragalactic Astrophysics)
- PHYS 755A (Graduate-level Physics of Interstellar and Intergalactic Matter)
- PHYS 755G (Graduate-level Properties and Evolution of Galaxies)

Research Student Supervision:

- Since 2000: 14 graduate and 16 undergraduate students supervised.
- Since 2008: 9 graduate students, including 3 PhD graduates, 1 PhD expected in 2014.
- 5 undergraduate students during 2013-2014, including a Carolina Scholar and a Magellan Scholar.

SERVICE ACTIVITIES:

University:

- Interim Chair, Dept. of Physics & Astronomy, Univ. of South Carolina, 2012-2013
- USC Faculty Welfare Committee (Committee Chair, 2011-2012)
- USC Faculty Budget Committee (Committee Chair, 2013-2014)
- Faculty Senator 2005-2008

Professional:

- President, Southern Atlantic Coast Section of American Assoc. of Physics Teachers, 2012-2013
- Vice-President, Southern Atlantic Coast Section American Assoc. of Physics Teachers, 2011-12
- Served on review panels for NASA, NSF, NOAO (National Optical Astronomy Observatories);
Reviewer for Science Foundation of Ireland
- Referee for several Astronomy and Astrophysics journals
- Founder and organizer of annual Meetings of Astronomers in South Carolina (now in 12th year)
- Session chair, judge, and panel discussion member at US and international conferences
- Research advisor for NASA/MUSPIN's Undergraduate Research Program in Astrophysics,
a program for nationally selected minority undergraduates (operated by SC State Univ.)
- Advisory Committee, South Carolina State Museum Observatory-Planetarium project

Community:

- Popular lectures / observing sessions for K-12 schools, local science clubs, and general public.
- Science Fair judge; Volunteer for Astronomy Day; Interviews for local publications/TV stations