

International Collaborations for Astronomical Research



Jack Hughes
Distinguished Professor, Physics and Astronomy

CURRENT RESEARCH

Partnering with South Africa to train young scientists in astronomical research using world-class facilities

Humanity has discovered a great deal about the vast Universe in which we live and its mysterious origins, but there are many milestones yet to reach. The astronomical revolution launched by Copernicus has now reached a level of detailed understanding that allows us to ask ever more sophisticated questions. Drs. Jack Hughes (PI), Andrew Baker, [Alyson Brooks](#), and their colleagues in the Department of Physics and Astronomy at Rutgers University are advancing astronomical research in a variety of areas (e.g., the formation and evolution of galaxies, and the properties of dark matter and dark energy), while educating young scientists determined to understand and explain the wonders of the universe. Through partnerships with the rapidly developing research community in South Africa, the Rutgers faculty have added a new international dimension to their pursuit of knowledge and their training of students.

In 1994, the new administration of Nelson Mandela identified astronomy as one of a handful of scientific disciplines holding the greatest potential for the country, capable of strengthening human capital and technical infrastructure. Researchers at Rutgers University have since built multiple, close ties with the South African astronomical community, through involvement in world-class facilities like [SALT](#) and [MeerkAT](#). As most of these contacts have been strictly at the faculty level, however, Drs. Hughes, Baker, and Brooks hope to support a vigorous, extensive, two-way exchange of students at the graduate level. With adequate funding, the collaborators will not only advance...

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AFFILIATION



Rutgers University

EDUCATION

- Ph.D. in Physics 1984, Columbia University

AWARDS

- Rutgers Board of Trustees Award for Excellence in Research, 2009
- Fellowship, American Physical Society, 2008
- NASA Public Service Medal, 1993

RESEARCH AREAS

Technology, Computational Sciences / Mathematics, Space, Materials Science / Physics

FUNDING REQUEST

Your contributions will help Drs. Hughes, Baker, and Brooks establish a flexible program of student exchanges with South Africa. The initial plan is to have two student exchange programs, one supporting short-term visits from the U.S. to South Africa that would require \$10-\$15k/year, and another bringing South African Ph.D. students to the U.S. that would require \$65-70k/year. Partner with the team to help advance astronomical education and research, in South Africa and New Jersey!