



SOUTHWEST RESEARCH INSTITUTE

UTSA[®]

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For more information, visit our website
grad.space.swri.edu or contact Mihir Desai (mdesai@swri.edu).

GRADUATE PROGRAM IN SPACE PHYSICS

The Southwest Research Institute Space Physics Graduate Program through the University of Texas at San Antonio



UTSA[®]

THE SPACE PHYSICS GRADUATE PROGRAM

Students in the program are prepared for a career in Space Physics through research-focused courses and **investigations with space flight missions**. This is performed alongside world class faculty in SwRI's state-of-the-art facilities for construction and calibration of space flight instrumentation.

UTSA

UTSA is one of the largest schools in the University of Texas system and has been ranked one of the top 50 universities under 50 years old by the Times Higher Education. The UTSA Department of Physics and Astronomy offers both M.S. and Ph.D. in Physics for areas such as Space Physics, Astrophysics, Material Science, Biophysics, and Nanotechnology.

San Antonio - rated as one of the 52 places to go in 2015 by the NY Times - is home of the historic Alamo (a UNESCO World Heritage site) and the River Walk which intersects museums and other culture sites. Surrounded by the natural beauty of the Texas Hill Country, San Antonio is also only a few hours from the Texas Gulf coast. San Antonio is also only about an hour from Austin, the capital of Texas and the "live music capital of the world".

SwRI

SwRI's Space Science and Engineering Division is a leader in space physics research. Faculty members have served as PI and Co-I for numerous NASA and ESA flight instruments and missions with involvement on IMAGE, New Horizons, ACE, Ulysses, STEREO, TWINS, SWIFT, TRICE-2, IBEX, MMS, Van Allen Probes, Cassini, GREECE, Juno, Rosetta, and LRO along with future missions such as Solar Probe Plus, Solar Orbiter, JUICE, BepiColumbo, Europa Mission, and cubesat missions such as CeREs and CuSPP+.

SwRI has campuses around the world, with its headquarters in San Antonio, TX. With over 3,000 employees, SwRI is a world-renowned institution benefiting government, industry, and the public through innovative science and technology.

The **research-focused program** has a **high faculty to student ratio** that allows students to be closely and personally mentored by the faculty member they elect as advisor.

A few of the electives offered to students are:

- Plasma Physics and Magnetohydrodynamics
 - Fundamentals of Space Physics
 - Solar and Heliospheric Physics
 - Space Physics Laboratory
 - Magnetospheric Physics
 - Ionospheric Physics
 - Planetary Science

RESEARCH

Research at the Southwest Research Institute includes both the **unique opportunity to work on space flight instrumentation**, through instrument design, construction, and calibration, as well as conduct their own scientific research using current mission data sets. Our students produce publications in high impact journals including *Nature* and *Science*. Additionally, SwRI/UTSA students attend and present research at both national and international scientific conferences and serve on committees within the field.

SwRI FACULTY

- α Space Flight Instrumentation
- β Solar & Heliospheric Physics
- χ Magnetospheric Physics
- δ Atmospheric Physics
- ε Ionospheric Physics
- ϕ Planetary Science
- γ Cometary Physics
- η Astrophysics

Frederic Allegrini	α, β, ϕ
Mihir Desai	α, β, ϕ
Stephen Fuselier	$\alpha, \beta, \chi, \gamma$
Randy Gladstone	$\alpha, \chi, \varepsilon, \phi$
Jerry Goldstein	χ, ϕ
Jorg-Micha Jahn	$\alpha, \chi, \varepsilon$
Mark Libardoni	α, ϕ
Stefano Livi	$\alpha, \beta, \chi, \phi$
Kathleen Mandt	$\alpha, \delta, \varepsilon, \phi, \gamma$
David McComas	$\alpha, \beta, \chi, \phi$
Kurt Rutherford	$\alpha, \chi, \varepsilon, \phi$
Pete Roming	α, η
Phil Valek	α, χ, ϕ
Hunter Waite	α, ϕ

ALUMNI

Alumni of the program are now at various universities, government labs, and research institutions such as:

- The European Space Research and Technology Centre (ESTEC)
- Johns Hopkins University Applied Physics Lab
- NASA Goddard Space Flight Center
- UC Berkeley