

## PENN STATE AND SPACE EXPLORATION

The Pennsylvania State University supports the successful development of major national and international space missions and their enabling technologies through a diverse set of experience and capabilities, state-of-the-art facilities, and a faculty and staff commitment to excellence. Penn State is ranked 2<sup>nd</sup> in DoD and 10<sup>th</sup> in NASA funding to universities. The significant success of the Astronomy & Astrophysics Department in space science missions is a strong foundation for Penn State's future involvement in space exploration. With over 83,000 students, 16,000 faculty and staff, 23 locations, and an annual research budget of \$606.5M, Penn State is a key partner to the future of space utilization by the U.S.



*Davey Lab, home of the Center for  
Space Research Programs*



# CENTER FOR SPACE RESEARCH PROGRAMS



*For more information:*

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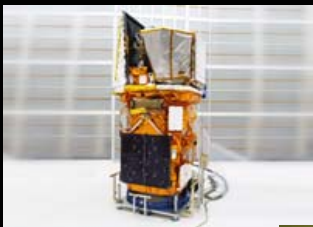
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*A key partner  
for enabling  
our exploration*

## MISSION ENABLING TECHNOLOGIES

Autonomous Systems  
Environmental Computing  
Complex Systems Health Monitoring  
Infrared Multiple 3-D Spectrometer  
Mission Operations Center  
Nanotechnology  
Nuclear Power Systems  
Advanced Propulsion  
Risk Modeling & Visualization Tools  
X-Ray Optics  
Underwater LIDAR  
Human Performance and Adaptation  
High Energy Astrophysics Detectors  
Astro-Statistics Techniques  
Science & Computation Facilities



Left: SWIFT spacecraft after delivery to Hangar AE at Cape Canaveral Air Force Station.

Right: Students begin building LionSat in CSSL's cleanroom facility.



## CENTER FOR SPACE RESEARCH PROGRAMS

The Center for Space Research Programs is a Penn State mission-oriented science and technology center catalyzing the conceptualization, formulation, and implementation of advanced space missions.

The Center facilitates development, growth, and sustainability of the unique human and physical resources required for space research at Penn State.

The Center enables and coordinates the collaborative use of Penn State space research resources, without regard to artificial college boundaries, in support of missions and their enabling technologies.

The Center's decisions are guided by the University's joint missions of education, research, and outreach.



Above: ARL's Stirling engine for nuclear power conversion.

## LABORATORIES INVOLVED IN SPACE RESEARCH

Environmental Institute  
Materials Research Institute  
Astrobiology Research Center  
Rotorcraft Center of Excellence  
Pennsylvania Space Grant Consortium  
Propulsion Engineering Research Center  
Communications and Space Sciences Lab  
Center for Innovative Sintered Products  
Center for Gravitational Wave Physics  
High Energy Astrophysics Group  
Noll Physiological Research Center  
Huck Institute of the Life Sciences  
General Clinical Research Center  
Applied Research Lab

Right: The Noll Laboratory is uniquely equipped to investigate physiological adaptation to the space environment.



Left: EMS massively parallel computing facilities for modeling Earth processes.

