

## RESEARCH CENTERS AND MISSIONS

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- Air Quality Laboratory
- Atmospheric Chemistry and Climate Modeling
- Cassini-Huygens Mission to Saturn and Titan
- Center for Planetary Sciences
- Center for Space Environment Modeling
- Magnetosphere-Ionosphere Science
- Messenger Mission to Mercury
- Microwave Geophysics Group
- Program for Research on Oxidants: Photochemistry, Emissions & Transport
- Solar and Heliospheric Physics
- Spaceborne Microwave Remote Sensors
- Tropospheric Ozone and Air Quality Modeling
- Venus Express Mission

## DEGREE AREAS OF STUDY

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### *ESSE Concentrations (BSE)*

- Climate Physics
- Meteorology
- Space Weather

### *SGUS Concentrations (BSE & MS or MEng)*

- Atmospheric or Space Sciences
- Space Engineering

### *MEng Concentration*

- Space Engineering

### *MS Concentration*

- Atmospheric and Space Sciences

### *PhD Concentrations*

- Atmospheric and Space Sciences
- Geoscience and Remote Sensing
- Space and Planetary Physics

## DISTINGUISHED FACULTY

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**Sushil Atreya**, Fellow, American Association for the Advancement of Science; Elected Member, International Academy of Astronautics

**Michael Combi**, Distinguished University Research Professor

**R. Paul Drake**, Fellow, American Physical Society

**A.W. (Tony) England**, Senior Scientist-Astronaut, NASA

**Lennard A. Fisk**, Thomas M. Donahue Distinguished University Professor of Space Science; Chair, NAS Space Studies Board; Member, National Academy of Sciences; National Associate, National Research Council; Fellow, American Geophysical Union; Elected Member, International Academy of Astronautics

**Tamas I. Gombosi**, Fellow, American Geophysical Union; Elected Member, International Academy of Astronautics

**Janet Kozyra**, George Carignan Collegiate Research Professor; Fellow, American Geophysical Union

**Andrew Nagy**, Fellow, American Geophysical Union; Elected Member, International Academy of Astronautics

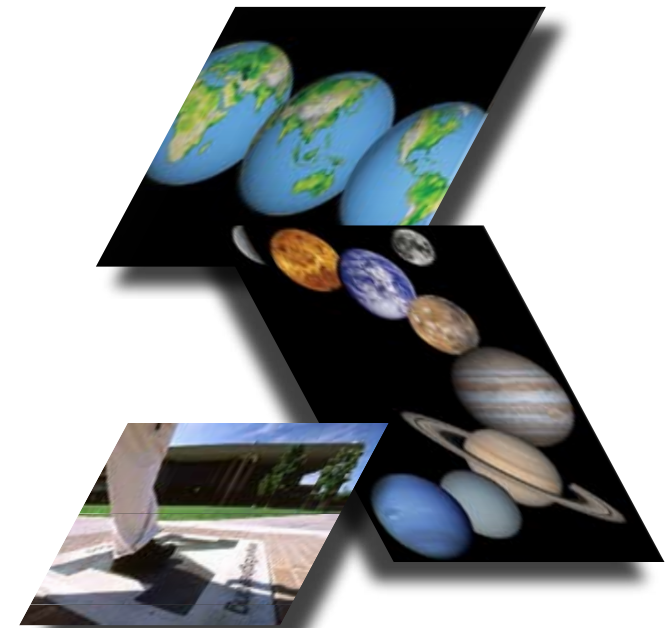
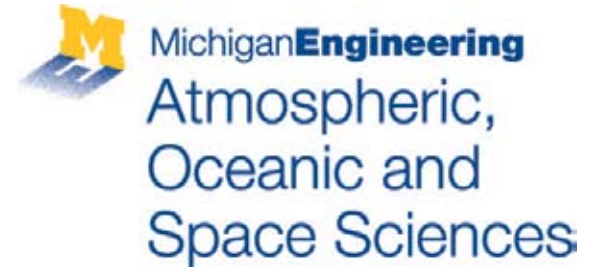
**Joyce Penner**, Aksel Wiin-Nielsen Distinguished University Professor of Atmospheric Sciences; Fellow, American Geophysical Union

**Richard Rood**, Fellow, American Meteorological Society; Recipient, World Meteorological Organization Norbert Gerbier-Mumm International Award

**Christopher Ruf**, Fellow, Institute of Electrical and Electronics Engineers; Recipient, IEEE Resnick Field Award

**Perry Samson**, Arthur Thurnau Professor

**Thomas Zurbuchen**, Recipient, Presidential Early Career for Scientists & Engineers Award



Atmospheric, Oceanic & Space Sciences  
University of Michigan  
Space Research Building  
2455 Hayward Street  
Ann Arbor, MI 48109-2143

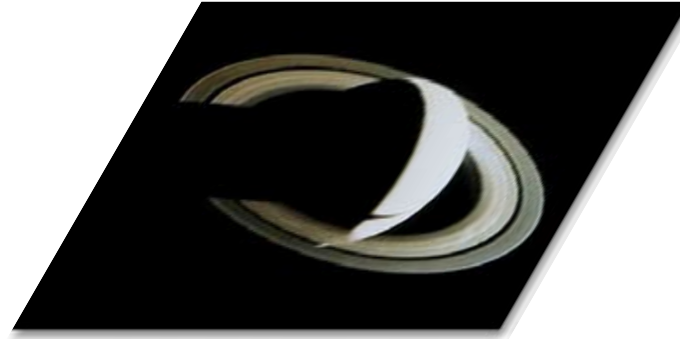
<http://aoss.engin.umich.edu>

## A RICH HISTORY IN SCIENCE-DRIVEN ENGINEERING

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For more than 60 years, AOSS has been contributing to the development of atmospheric and space sciences, through research sponsored by NASA, NSF, DoD and other governmental agencies. Since 1946, faculty have built and flown more than 35 instruments on NASA and ESA spacecraft.

In 2005, AOSS had more than \$15 million in research expenditures, one of the largest research programs at the University of Michigan.



## A LEADER IN SPACE AND ATMOSPHERIC SCIENCE

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AOSS is known as a leading science and engineering center for exploring the solar system and protecting the planet.

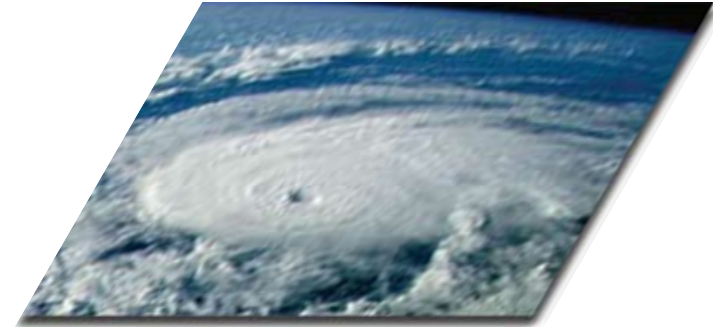
Our atmospheric scientists are solving problems related to short- and long-term forecasting, air quality, atmospheric turbulence and convection, biogeochemical cycling, and precipitation processes, among a growing list of areas.

The foci of planetary/space scientists include the effects of space weather on Earth, planetary atmospheric and geological environments, and the construction of satellite-platform instruments for observation of the earth-atmosphere-ocean system.

## AOSS IS A LEADER IN ...

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- Atmospheric, planetary and space sciences and engineering
- The design, building and maintenance of space-borne instruments
- Capabilities to measure atmospheric constituents on Earth and other planets
- Modeling space and atmospheric systems



## UNIQUE OPPORTUNITIES FOR STUDENTS

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Through our extensive research program, AOSS students are afforded the opportunity to participate from the conception to the completion of spaceflight projects. For more than 60 years, AOSS has contributed to the education of the next generation of scientists, engineers and managers that the nation needs to continue being the “leader and the best” in the future.

## A LEADER IN COMPUTATIONAL TECHNOLOGIES

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AOSS is a leader in computational technologies for space environment simulations, having developed the first high-performance, solution adaptive magneto hydrodynamics model for space plasmas as well as the Space Weather Modeling Framework (SWMF) that makes it possible to simulate the coupled Sun-Earth system faster than real time.

## A LEADER IN REMOTE SENSING AND ATMOSPHERIC SCIENCE

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AOSS is a national center for developing the next generation of remote sensors for use on weather satellites. Faculty are conducting extensive research in the areas of climate change, air quality, and the dynamics and chemistry of the lower atmosphere.

