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5-19-2003

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Recommended Citation

Sims, David, "UNH Names Peter T Paul Endowed Chair in Space Science" (2003). *UNH Today*. 1929.
<https://scholars.unh.edu/news/1929>

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UNH Names Peter T. Paul Endowed Chair in Space Science

By [David Sims](#)

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May 19, 2003

DURHAM, N.H. -- Amitava Bhattacharjee, professor of physics and astronomy at the University of Iowa, has been named the Peter T. Paul Chair of Space Science within the Institute for the Study of Earth, Oceans, and Space (EOS) and the Department of Physics at the University of New Hampshire.



Amitava Bhattacharjee

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The chair is the result of a gift from Troy, N.H., native and UNH alumnus Peter T. Paul, a 1967 graduate in business administration and former president and CEO of Headlands Mortgage Company. Founded by Paul in 1986, Headlands became one of the premier wholesale mortgage lending institutions in the country.

The \$10 million Paul gift funds both the space science chair and a chair in developmental psychology.

"With the hiring of Professor Bhattacharjee, the Paul Chair comes full circle," says Berrien Moore III, EOS director. "We have honored the visionary generosity of Peter Paul by selecting Amitava Bhattacharjee. His acceptance demonstrates the extraordinary importance of the Paul gift. It creates fundamental change and exciting possibilities that will play out in the years to come."

Bhattacharjee is currently a professor and director of the Center for Magnetic Reconnection Studies, a multi-institutional consortium involving the University of Iowa, the University of Chicago and the University of Texas at Austin. He recently was named

Collegiate Fellow at Iowa, and is a Fellow of the American Physical Society and the American Association for the Advancement of

Science.

Bhattacharjee received a Ph.D. in theoretical plasma physics from Princeton University in 1981, and went on to teach applied physics at Columbia University for nine years. He then joined the physics faculty at the University of Iowa, which included now Professor Emeritus James Van Allen (discoverer of the Van Allen radiation belts that surround the Earth). Among his primary research interests are magnetohydrodynamics, magnetic reconnection, and turbulence.

"I foresee unique opportunities for collaboration and growth in precisely the areas that have been central to my research life. As I have done at Columbia and at the University of Iowa, I hope to be able to learn from and collaborate with not only the theory group in space science, but also with the experimentalists and observers in the diverse areas of auroral, magnetospheric, and solar-terrestrial physics at the University of New Hampshire," Bhattacharjee says.

Chung-Sang Ng, an associate research scientist in Bhattacharjee's theoretical plasma physics group, also will join EOS and the physics department at UNH, accompanied by research scientists Naoki Bessho, Kai Germaschewski, and Ping Zhu.

In addition, in conjunction with Bhattacharjee's appointment, Joachim Raeder of UCLA will join the Space Science Center (SSC) and physics faculty as associate professor. Raeder, who is widely known for his important contributions to global magnetohydrodynamic models of the Sun-Earth system, will complement Bhattacharjee's and Ng's analytical and computational studies in theoretical plasma physics.

Plasma, in physics, is a highly ionized gas and is sometimes described as the "fourth state of matter." Plasmas occur in interstellar space, in the atmosphere of stars, including the Sun, and can be created in the laboratory and experimental thermonuclear reactors. A fluorescent light bulb contains a form of plasma.

Understanding magnetic reconnection, a main focus of Bhattacharjee's research, is one of the principal challenges in plasma physics. Reconnection is a process by which magnetic fields reconfigure themselves and release energy. It is widely believed to play a crucial role in space and astrophysical phenomena such as magnetospheric substorms and solar flares.

"The Bhattacharjee-Raeder-Ng team, coupled with our own Solar-Terrestrial Theory Group, will allow us to start a major new initiative in the computational approach to plasma physical problems, in the laboratory, in the solar system and in far-away astrophysical objects,"

Moore says.

Roy Torbert, who directs the SSC, says of Bhattacharjee, "He crosses the boundaries of solar system space physics, astrophysical research into exotic objects such as accretion disks and the interstellar medium, as well as the major national effort in magnetic fusion energy."

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