

# Honoris Causa



## Ashtekar Receives Humboldt Award

**Abhay Ashtekar**,  
Holder of the  
Eberly Family Chair  
in Physics and  
director of the Penn  
State Institute for

Gravitational Physics and Geometry, has received the Humboldt Award for Senior U.S. Scientists from the Alexander von Humboldt Foundation in Bonn, Germany, in honor of his exceptional scientific achievements in theoretical physics.

Ashtekar's research focuses on quantum gravity and General Relativity. He is recognized for his contributions both to Einstein's classical theory of gravitation, or General Relativity, and to the ongoing effort to create a quantum theory of gravity. He has contributed substantially to the analysis of the gravitational fields of isolated gravitating systems at large distances from their sources. In 1986 he discovered new variables to describe the gravitational field, which enabled him and his collaborators to make major progress toward the development of a quantum theory of gravity. This work led, in particular, to a new mathematical description of the structure of spacetime as polymer-like at the smallest scale. The joint research that Ashtekar will conduct as a result of this award will focus on quantum gravity and the dynamics of black holes.

Ashtekar has been the founding director of the Institute for Gravitational Physics and Geometry since 1993. He is a Fellow of the American Physical Society, a Foreign Fellow of the National Academy of Sciences in India, and an Honorary Fellow of the Indian Academy of Sciences. He has been chief editor for physics for the journal *Advances in Mathematical and Theoretical Physics* since 1997, and a managing editor for the *International Journal of Modern Physics-D* since 1992.

Ashtekar has served as president of the American chapter of the Indian Physics Association, as chair of the Topical Group in Gravitation of the American Physical Society, and as the chair of a Special Emphasis Panel of the National Science Foundation. He has authored or edited five scientific books and more than 170 scientific papers.

Prior to joining the faculty at Penn State, Ashtekar held positions as professor, distinguished professor, and the Erastus Franklin Holden Professor of Physics at Syracuse University from 1984 to 1993. Prior to that, he was professor and chair of gravitation at the University of Paris VI in France. He earned his doctoral degree in physics at the University of Chicago in 1974 and his bachelor's degree with honors in physics and mathematics at the University of Bombay, India, in 1969.

The Alexander von Humboldt Foundation was established in Berlin, Germany, in 1860. The foundation presents up to 150 research awards annually to foreign scholars to pay tribute to academic accomplishments that have gained international recognition and to foster long-term cooperation between German and foreign researchers.



## Grenfell Elected Fellow of British Royal Society

*Bryan Grenfell*

**Bryan Grenfell**, the  
Alumni Professor of  
the Biological

Sciences at Penn State, has been elected a Fellow of the British Royal Society. Founded in 1660, the Royal Society is an independent organization that serves as the United Kingdom's academy of science by advising the British government and promoting the natural and applied sciences both nationally and

internationally. Election to fellowship of the Royal Society is recognized worldwide as a sign of the highest regard in science. New Fellows must be proposed by two existing Fellows and then assessed by selection committees in each major field of science.

Grenfell studies the dynamics of the spatial and temporal interaction of infectious diseases, particularly as related to the control of disease in human and animal populations. He combines the development of theory with pioneering analyses of empirical data sets from a range of systems to demonstrate how density dependence and randomness, or disorder, interact to drive population dynamics in space and time. He is particularly interested in the population biology and control of foot-and-mouth disease and childhood infections such as measles. He also studies the evolutionary dynamics of pathogens such as influenza at different spatial scales.

His research accomplishments have been recognized with the T.H. Huxley Medal from the Imperial College in the United Kingdom in 1991, the Scientific Medal of the Zoological Society of London in 1995, and an Order of the British Empire award in 2002. He also received a Professorial Fellow Award from the United Kingdom Biotechnology and Biological Sciences Research Council in 2003.

From 2001 to 2002 Grenfell was a member of the Chief Scientific Advisor's Science Group on the control of the foot-and-mouth disease epidemic in the United Kingdom. He has served on United Kingdom Natural Environment Research Council (NERC) grant committees for Terrestrial Life Sciences from 1996 to 1999, and for Special Topics on Wildlife Diseases in 1991 and 1992. He served on the Infection and Immunity advisory panel from 1992 to 1995 and on the Biomathematics advisory panel from 1991 to 1996, both with the Wellcome Trust.

Grenfell has published 140 scientific papers about his research. He has been a member of the editorial advisory board for the *Journal of Theoretical Biology* from 2000 to 2003, and a member of the editorial board for the *British Ecological*