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- VEGF165, human
President’s Address

Peter C. Agre, M.D.
AAAS President, and Director, Malaria Research Institute, Johns Hopkins Bloomberg School of Public Health

Agre shared the 2003 Nobel Prize in Chemistry with Roderick MacKinnon of Rockefeller University for the discovery of aquaporins, the key proteins that transport water across cell membranes.

Not long after receiving the Nobel Prize, Agre began working to extend his studies of aquaporins to malaria, addressing the question of whether or not aquaporins could be exploited as a means of treating or preventing the disease. Initial results led his laboratory to focus on malaria as its primary area of study. As director of the Malaria Research Center, he oversees 19 Hopkins faculty members who concentrate on advancing basic science to develop new methods in malaria prevention and treatment. Agre is a member of the National Academy of Sciences (NAS), chair of the NAS Committee on Human Rights, and a Fellow of AAAS and the American Academy of Arts and Sciences. He received his M.D. degree from Johns Hopkins University.

Plenary Speakers

Carol W. Greider, Ph.D.
Daniel Nathans Professor and Director, Department of Molecular Biology and Genetics, and Professor of Oncology, Johns Hopkins University School of Medicine, Baltimore, MD

Title To Be Determined

Greider, one of the world’s pioneering researchers on the structure of telomerases, was awarded the 2009 Nobel Prize in physiology or medicine by the Royal Swedish Academy of Sciences along with Elizabeth Blackburn and Jack W. Szostak. While a 23-year-old graduate student at the University of California, Berkeley, working together with Blackburn, Greider discovered the enzyme telomerase and later, in her own lab, she cloned its RNA component. This work laid the foundation for studies that have linked telomerase and telomeres to human cancer.
and age-related degenerative disease. It represents another example of curiosity-driven basic research that has direct medical implications. Greider obtained her Ph.D. degree in molecular biology from UC Berkeley in 1987.

Eric S. Lander, Ph.D.
Director, The Broad Institute of MIT and Harvard University, and Co-Chair, President’s Council of Advisors on Science and Technology (PCAST)
Science and Technology in the First Year of the New Administration

Lander is widely known as one of the driving forces behind today’s revolution in genomics, the study of all of the genes in an organism and how they function together in health and disease. He also is co-chair of President Obama’s council of science and technology advisers. PCAST is an advisory group of the nation’s leading scientists and engineers who directly advise the President and make policy recommendations in the many areas where understanding of science, technology, and innovation is key to strengthening the economy and forming policy. Lander also was one of the principal leaders of the Human Genome Project and is a member of both the National Academy of Sciences and Institute of Medicine. He is also an AAAS Fellow. Lander earned his B.A. degree in mathematics from Princeton University and Ph.D. degree in mathematics from Oxford University as a Rhodes Scholar.

Marcia McNutt, Ph.D.
Director, U.S. Geological Survey, and Science Adviser to the Secretary, U.S. Department of the Interior (invited)
Science Below the Sea

McNutt’s appointment in 2009 marked a milestone for USGS — she is the first female director in the agency’s 130-year history. She heads a multi-disciplinary organization that focuses on biology, geography, geology, geospatial information, and water, and is dedicated to studying the landscape, natural resources, and natural hazards. Most recently she served as president and chief executive officer of the Monterey Bay Aquarium Research Institute. Her biography includes a broad range of research interests and numerous honors and awards. Her research has ranged from studies of ocean island volcanism in French Polynesia to continental break-up in the Western United States to uplift of the Tibet Plateau. She also spent 3 years with the USGS in California working on earthquake prediction. She is a member of the National Academy of Sciences and a Fellow of AAAS. McNutt earned her Ph.D. degree in earth sciences at the Scripps Institution of Oceanography.

Barry C. Barish, Ph.D.
Director, Global Design Effort for the International Linear Collider (ILC), and Linde Professor of Physics, emeritus, California Institute of Technology, Pasadena
Lecture Title To Be Determined

Among Barish’s noteworthy experiments were those performed at Fermilab using high-energy neutrino collisions. These experiments were among the first to observe the weak neutral current, a linchpin of electroweak unification theories. Today he directs the ILC, the highest priority future project for particle physics worldwide that promises to complement the Large Hadron Collider at CERN in exploring the TeV energy scale. In the 1980s, Barish initiated an ambitious international effort to build a sophisticated underground detector which provided some key evidence that neutrinos have mass. In 1994, he became principal investigator of the Laser Interferometer Gravitational-Wave Observatory (LIGO) project. As director of the LIGO Laboratory from 1997 to 2005, he led a team of scientists who built two facilities to detect and study gravitational waves from astrophysical sources. Barish is a member of the National Academy of Sciences and is a Fellow of AAAS. He earned his Ph.D. degree in experimental high energy physics at the University of California, Berkeley.
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