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Accolades

In a ceremony in Amsterdam last November, the Royal Netherlands Academy of Arts and Sciences presented the 2006 Lorentz medal to **Leo Kadanoff**. This medal is given once every four years for important contributions to theoretical physics.

The Royal Academy cited **Kadanoff, the John D. MacArthur Distinguished Service Professor Emeritus in Physics and the College**, for revolutionizing the way physicists view phase transitions. These transitions are sudden changes in matter, such as the transition from liquid to gas or the spontaneous appearance of a magnetic field in a metal. Kadanoff discovered that these transitions obey laws, described by the names “universality” and “scaling.”

Kadanoff also has fruitfully applied his ideas to many other diverse phenomena, according to the Royal Academy. These include the complex behavior of turbulent fluids and tumbling sand piles, as well as the chaotic dynamics of market fluctuations, heart beat irregularities and traffic jams.

The Lorentz medal was established in 1926 by the Royal Academy to honor Nobel laureate Hedrik Antoon Lorentz, the founder of theoretical physics in the Netherlands.

Ivan Moskowitz, Assistant Professor in Pediatrics and a member of the Institute for Molecular Pediatric Sciences, has received the American Heart Association’s Louis N. and Arnold M. Katz Basic Research Prize.

The award, which is given by the association’s Council on Basic Cardiovascular Sciences, recognizes research in biochemical, cellular, molecular and genetic sciences, and whole animal studies, especially those related to creating new genetic lines. Moskowitz’s work establishes an early blueprint for candidate genes responsible for inborn and acquired human cardiac conduction defects.

“Little is known about the formation of the conduction system in the developing heart. Proof-of-concept for this work was established in genetically modified mice,” said Daniel Kelly, chair of the Katz Prize committee. “Dr. Moskowitz combined the power of applied genomics to sophisticated studies in vivo to unravel a molecular regulatory circuit that drives the formation of the electrical system of the heart.”

The Katz Prize is awarded annually to one of five finalists who submit an abstract to the association’s annual Scientific Sessions. Panels of distinguished researchers, scientists, nurses, clinicians and

academicians in the fields of cardiovascular disease and stroke judge the applications on the scientific merit of the abstract; quality and originality of the manuscript; professional accomplishments of the applicant; and the applicant's oral abstract presentation at Scientific Sessions.

Tobias Moskowitz, Professor of Finance in the Graduate School of Business, has received the 2007 Fischer Black Prize from the American Finance Association honoring the top finance scholar under age 40. The prize is similar to the John Bates Clark Medal that is given by the American Economic Association to the most outstanding economist under 40.

Moskowitz, who also is a Neubauer Family Faculty Fellow, was honored for his "ingenious and careful use of newly available data to address fundamental questions in finance," according to the association announcement.

In his recent work he has shown that zoning rules and property tax assessment procedures influence commercial real estate contracts in a way that is consistent with corporate finance theory. As a result, the American Finance Association said in the award announcement: "Professor Moskowitz accomplishes the difficult task of testing the theory while having access to much less information than is available to market participants."

The prize honors the memory of Fischer Black, formerly a general partner at Goldman Sachs and a professor in the GSB and the Massachusetts Institute of Technology; his seminal research included the development (with Myron Scholes) of the widely applied model known as the Black-Scholes Option Pricing Model.

Joshua Rauh, Assistant Professor of Finance in the Graduate School of Business, has won the 2006 Brattle Prize for the outstanding research paper on corporate finance published in the *Journal of Finance*.

Rauh won the award for the paper "Investment and Financing Constraints: Evidence from the Funding of Corporate Pension Plans."

In addition to his position at Chicago GSB, Rauh is a faculty research associate at the National Bureau of Economic Research in its program on public economics and aging. Earlier in his career, Rauh was an associate economist for Goldman Sachs International in London, and he worked at Deutsche Bank in Frankfurt in corporate and institutional banking after receiving his A.B. in economics at Yale University in 1996.

Kimani Toussaint was one of 100 young scientists that the National Academy of Sciences brought together in November at the 18th Annual Kavli Frontiers of Science Symposium in Irvine, Calif. The

symposium series is designed to foster collaborative research by inviting young researchers who have already made recognized contributions to science. Since its inception in 1989, more than 100 of its previous participants have been elected to the National Academy of Sciences and eight have won Nobel Prizes.

Toussaint, a National Science Foundation Minority Postdoctoral Fellow in the James Franck Institute, works with Norbert Scherer, Professor in Chemistry and the College, to develop the next-generation optical microscope. The goal of this project is to develop a method of resolving objects under study beyond the diffraction limit, which prevents any optical microscope from producing clear images below a certain size. An optical microscope with greater capability would benefit the study of biological phenomena that cannot currently be observed.

Bruce Winstein, the Samuel K. Allison Distinguished Service Professor in Physics and the College, has received the 2007 W.K.H. Panofsky Prize in Experimental Particle Physics from the American Institute of Physics. Winstein was cited “For leadership in the series of experiments that resulted in a multitude of precision measurements of properties of neutral K mesons, most notably the discovery of direct CP violation.”

How CP (charge-parity) violation occurs is one of the major unresolved problems in the physics of fundamental particles. It refers to the predominant existence of matter over antimatter in the universe. Winstein led a research team in 1999 that made the definitive observation of a new type of CP violation. The only other observation of CP violation prior to that occurred in 1964.

Edward Blucher, Professor in Physics and the College, has been elected a fellow of the American Physical Society. Blucher, who is also a Professor in the Enrico Fermi Institute, was cited “for his work in measurements of electroweak processes, in particular for precise determination of the parameters of kaon decays and the elucidation of the ‘unitary puzzle’ in kaon physics.”

The American Physical Society fellowships were created to recognize members who have made advances in knowledge through original research and publication or who made significant and innovative contributions in the application of physics to science and technology. Each year, no more than one-half of 1 percent of the then-current society membership is recognized for election to the status of fellow by peer members.

Kelly Brunt, graduate student in Geophysical Sciences, has received an Outstanding Student Paper Award for the 2006 Fall meeting of the American Geophysical Union. She was cited for her paper, “Observations and models of tidally pulsed flow of the Ross Ice Shelf, Antarctica.”

Brunt's paper presented data that address a new-found mystery in the Antarctic: the ice shelves that buttress the ice streams seem to flow in pulses, on a daily basis, in concert with the ocean tide. Her paper was based on data collected in Antarctica in 2005 with Douglas MacAyeal, Professor in Geophysical Sciences and the College, and graduate students Emily O'Donnell and L. "Mac" Cathles. Brunt showed that two likely hypotheses that might be used to explain the data actually do not, and that ideas yet to be proposed and tested will be needed to solve the mystery.

The *Proceedings of the National Academy of Sciences* will award a 2006 Cozzarelli Prize to **Rustem Ismagilov, Associate Professor in Chemistry, and graduate students Christian Kastrup, Matthew Runyon and Feng Shen.** The award was presented Sunday, April 29 at the PNAS editorial board meeting in Washington, D.C.

The six papers receiving the Cozzarelli Prize were chosen from 3,300 research articles published in *PNAS* in 2006. Ismagilov and his associates were honored in the physical and mathematical sciences category. Their paper, published in the Oct. 24, 2006, issue of *PNAS*, demonstrated for the first time how to use a simple laboratory model consisting of only a few chemical reactions to predict when and where blood clotting will occur.

The *PNAS* established the annual Paper of the Year Prize to recognize recently published *PNAS* articles of scientific excellence and originality.

Kevin Murphy, the George J. Stigler Distinguished Service Professor in Economics and the Graduate School of Business, and Robert Topel, the Isidore Brown & Gladys J. Brown Professor of Urban & Labor Economics in the GSB, have won the Kenneth J. Arrow Award from the International Health Economics Association for the best research paper in health economics.

Murphy and Topel were cited for their paper, "The Value of Health and Longevity," published in the *Journal of Political Economy*. They will receive the award in Copenhagen in July at the association's sixth World Congress.

Gary Becker, University Professor in Economics, Sociology and the GSB, Tomas Philipson, Professor in the Irving B. Harris Graduate School of Public Policy Studies, and Rodrigo Soares of the University of Maryland, won the award last year for their paper "The Quantity and Quality of Life and the Evolution of World Inequality." In their paper, Murphy and Topel found that cumulative gains in life expectancy after 1900 were worth more than \$1.2 million to the average American in 2000, whereas post-1970 gains added about \$3.2 trillion per year to national wealth, equal to about half of the gross domestic product.

Potential gains from future health improvements also are large, they found. For example, a 1 percent reduction in cancer mortality would be worth \$500 billion.

The International Health Economics Association was formed in the early 1990s to increase communication among health economists, foster a higher standard of debate in the application of economics to health and health care systems, and assist young researchers at the start of their careers. The group represents 2,000 health economists in 72 countries.

The Arrow Award is named in honor of Kenneth Arrow, professor emeritus at Stanford University and the 1972 winner of the Nobel Memorial Prize in Economic Sciences. Arrow's groundbreaking research on risk and insurance remains one of the foundations of modern health economics.
