Edward Witten Receives Nemmers Prize

Photograph courtesy of C. J. Mozzochi.

Edward Witten

EDWARD WITTEN, professor of physics at the Institute for Advanced Study in Princeton, has been awarded the Frederic Esser Nemmers Prize in Mathematics. The prize, awarded by Northwestern University, carries a $100,000 stipend.

Witten is regarded as the world's premier theoretical physicist. Known for his many contributions to particle physics and string theory, he has almost single-handedly constructed a new branch of mathematical physics.

He is a leading scholar in the field of superstring theory, which seeks to describe all the fundamental forces of nature in one conceptual framework. He has proposed an extension of string physics called "M-Theory" to unify the five separate string theories into one "master" theory (see "Magic, Mystery, and Matrix", by Edward Witten, *Notices*, October 1998, pages 1124–1129).

Witten's work on topological quantum field theory, together with many achievements in mathematics inspired by insights from physics, earned him a Fields Medal in 1990. His ideas have inspired major mathematical developments, including the Jones-Witten theory of three-manifold invariants and the Seiberg-Witten gauge theory on three- and four-manifolds. He has also provided new perspectives, motivated by insights from physics, on some celebrated classical results in mathematics, such as the Atiyah-Singer index theorem and the Morse inequalities.

Witten was a professor of physics at Princeton from 1980 to 1987, when he joined the Institute for Advanced Study. He is currently on leave at the California Institute of Technology. In connection with the receipt of the prize, Witten will spend a period of residence at Northwestern, during which he will present a public lecture and interact with students and members of the faculty.

Witten received a MacArthur Fellowship in 1982. In 1985 he received the Einstein Medal from the Einstein Society and the Physical and Mathematics Science Award from the New York Academy of Sciences. In 1996 *Time* magazine profiled him as one of the twenty-five most influential people in America.

Northwestern University also awarded the Erwin Plein Nemmers Prize in Economics to Daniel L. McFadden, the E. Morris Cox Professor of Economics at the University of California, Berkeley.

The Nemmers Prizes are awarded every other year to scholars who display work of lasting significance in the fields of mathematics and economics. Initiated in 1994, the prizes are made possible through bequests from the late Erwin P. Nemmers, a former member of the Northwestern University faculty, and his brother, the late Frederic E. Nemmers, both of Milwaukee, Wisconsin. Consistent with the terms of the Nemmers' bequests, past recipients of the Nobel Prize and current or former full-time members of the Northwestern faculty are ineligible for a Nemmers Prize.

The recipients of the awards are determined by separate selection committees. The year 2000 selection committees were composed of faculty members from the Massachusetts Institute of Technology, Stanford University, University of Chicago, California Institute of Technology, and Northwestern University. Previous recipients of the Nemmers Prize in Mathematics are Yuri I. Manin (1994), Joseph B. Keller (1996), and John H. Conway (1998).

—Allyn Jackson

2000 AAS-AMS-APS Public Service Award

The AMS, the American Astronomical Society (AAS), and the American Physical Society (APS) have presented the first AAS-AMS-APS Public Service Award. The award recognizes a public figure for his or her sustained and exceptional contributions to public policies that foster support for research, education, and industrial innovation in the physical sciences and mathematics.

The year 2000 recipients of the AAS-AMS-APS Public Service Award are WILLIAM FRIST, JOSEPH I. LIEBERMAN, and HAROLD VARMUS. Frist (R-Tennessee) and Lieberman (D-Connecticut) are United States senators. They are co-chairs of the Senate Science and Technology Caucus and strong advocates for federal support of basic research. Varmus, who until December 1999 was director of the National Institutes of Health, emphasized in many forums that biomedical research depends upon research in mathematics and the physical sciences.

At a ceremony on Capitol Hill on March 29, 2000, each honoree received a cast crystal award mounted on an engraved black marble base. The base carries the logos of the three societies and the words "for committed and sustained effort in support of science".

The AMS believes that science and mathematics research and education are critical to the future of American society. They contribute to the nation's knowledge base and its scientific infrastructure and also enable the development of new technologies and new industries. Nevertheless, few government leaders devote significant efforts to developing public policies that recognize the importance of science and mathematics research and education. For this reason and to encourage public leaders to devote a portion of their policy efforts to the support of science and mathematics, the AAS, AMS, and APS have established this joint public service award.

Public Service Award winners (left to right) Joseph I. Lieberman, Harold Varmus, and William Frist.

Awardees are chosen by a selection committee consisting of two representatives from each organization, for a total of six members. In addition, the Washington, DC, representative of each society participates in an advisory, ex-officio capacity. The AMS representatives on the selection committee are president Felix E. Browder and past president Arthur Jaffe; the AMS Washington, DC, representative is Samuel M. Rankin III. Up to four awards will be given annually.

—Allyn Jackson