Mathematics People

Iglehart and Derman Awarded von Neumann Prize

The 2002 John von Neumann Theory Prize, the highest prize given in the field of operations research and management science, has been awarded to DONALD L. IGLEHART, professor emeritus at Stanford University, and CYRUS DERMAN, professor emeritus at Columbia University, for their fundamental contributions to performance analysis and optimization of stochastic systems. The award, presented by the Institute for Operations Research and the Management Sciences (INFORMS), carries a cash award of $5,000.

The citation for Iglehart reads, in part, "Iglehart pioneered and, in subsequent papers with his student Ward Whitt, led the development of diffusion limits and approximations for heavily congested stochastic systems. The importance of these ideas is that they provide tractable limiting processes and readily computable approximations for complex queueing and other stochastic systems for which closed-form or even numerical solutions have proved intractable. His work in this area transformed the field, with literally hundreds of papers subsequently continuing the development of his ideas."

The prize citation for Derman states that he "fundamentally advanced finite-state-and-action Markovian decision processes. He took the lead role in showing that starting from a state, the set of state-action frequencies over all policies is the convex hull of the finite set of state-action frequencies over all stationary deterministic Markov policies. This work plays a fundamental role in solving such problems in the presence of linear constraints on the state-action frequencies, e.g., reflecting desired limits on the frequency of unfavorable events like failures, rejects, shortages and accidents, and has been widely used in practice."

—From an INFORMS announcement

Mathematics Project Wins Siemens Westinghouse Competition

The top prize in the 2002–03 Siemens Westinghouse Competition in Math, Science, and Technology has been awarded to STEVEN J. BYRNES, a senior at Roxbury Latin High School in West Roxbury, Massachusetts, for a mathematics project titled "Poset-Game Periodicity". The prize carries a $100,000 scholarship.

The winning project analyzes a class of two-player games known as poset games, which play an important role in the field of discrete mathematics for their potential applications in artificial intelligence, error correcting, and computer networks. Byrnes was the only student in the United States in 2002 to be a prizewinner in both the U.S. Mathematics Olympiad and the U.S. Physics Olympiad. He plans to study mathematics in college.

The annual competition, administered by the College Board and funded by the Siemens Foundation, recognizes outstanding talent among high school students in science, mathematics, and technology.

—From a Siemens Foundation announcement

Rhodes Scholarships Awarded

Three mathematics students are among the thirty-two American men and women chosen as Rhodes Scholars by the Rhodes Scholarship Trust. The Rhodes Scholars were chosen from 981 applicants who were endorsed by 341 colleges and universities in a nationwide competition. The names and brief biographical descriptions of the mathematics scholars follow.

MATT LANDREMAN of St. Paul, Minnesota, is a senior at Swarthmore College, where he majors in physics. He is a Goldwater Scholar and has published research in plasma

physics in major academic journals. He is a tutor in the Philadelphia Upward Bound program and established a commercial bakery at Swarthmore College, the proceeds of which are donated to charity. He is a cross-country and marathon runner. He plans to read mathematics at Oxford University.

JACOB G. FOSTER of Winchester, Virginia, is a physics major at Duke University. He is also an actor and musician who plays piano and organ, is president of Duke's musical theater company, and practices kung fu. He plans to study for the M.Sc. in mathematics.

HEIDI L. WILLIAMS of Williston, North Dakota, majors in pure mathematics at Dartmouth College. She has been a Truman Scholar and a U.S. Presidential Scholar, won a national cryptology competition in high school, and in 2002 participated in the Director's Summer Program at the National Security Agency. She founded a program to address educational barriers for middle school girls, and she participates in ballet and modern dance. She plans to study for the M.Sc. in mathematical foundations of computer science.

Rhodes Scholarships provide two or three years of study at the University of Oxford in England. The value of the Rhodes Scholarship varies depending on the academic field, the degree (B.A., master's, doctoral), and the Oxford college chosen. The Rhodes Trust pays all college and university fees and provides a stipend to cover students' necessary expenses while in residence in Oxford, as well as during vacations, and transportation to and from England. The total value averages approximately $28,000 per year.

—Allyn Jackson

MATHEMATICS PEOPLE