For Your Information

Douglas Arnold to Be Next IMA Director

At the end of August 2001, Douglas N. Arnold will become the director of the Institute for Mathematics and its Applications (IMA). He succeeds Willard Miller, who has served in the post for the past four years. The IMA is part of the University of Minnesota and is one of three mathematical sciences institutes funded by the National Science Foundation (NSF).

Arnold is currently Distinguished Professor of Mathematics at Pennsylvania State University. He holds other positions at the university as well: he is a codirector of the Center for Computational Mathematics and Applications, the associate director of the Institute for High Performance Computing Applications, and a member of the Center for Gravitational Physics and Geometry. Arnold has had a long association with the IMA and spent two years in residence there. He also recently served on the IMA Board of Governors.

Arnold's primary research interests are numerical analysis, partial differential equations, mechanics, and, in particular, the interplay among these fields. He has made major contributions to the numerical simulation of elastic plates and shells and also of incompressible fluids. Two years ago he used an NSF Interdisciplinary Grant in the Mathematical Sciences to immerse himself in the nascent area of computational relativity, which seeks computational and numerical solutions to Einstein's field equations. One of the big challenges is the detection and interpretation of gravitational wave data. Detectors for these waves are now being built and will for the first time give scientists a way of collecting astronomical data outside the electromagnetic spectrum. Arnold sees abundant opportunities for mathematical scientists to contribute to this research.

Since its founding in 1979 the IMA has established itself as one of the premier institutes in the world for applied, interdisciplinary, and industrial mathematics. One direction in which Arnold hopes to lead the IMA is toward more involvement with computation. "The digitalization of all areas of science and technology means that there is a place for computation in all programs of the IMA," Arnold remarked. Such an emphasis would require increased computational resources, but, more importantly, it would require bringing the right people together. "A major goal of the IMA is to connect people," Arnold said. "We want to bring to people who are at the state of the art in computing, problems that they might not be aware of. We also want to convince scientists to bring their problems" to mathematical and computational scientists who have expertise to help solve them.

"People sometimes ask, Is IMA a conference center? or is it a research institute where people actually do mathematics?" Arnold remarked. "It's both. But it is also a place for changing what people do. They spend some time at the IMA and return to their home institutions more connected to important problems and more productive." He is particularly interested in continuing to develop the institute's role as a training center where people can learn about new areas of research in which the mathematical sciences can make contributions. "Mathematics departments suffer from a perceived isolation from other sciences," and many are just now starting to reach out, he noted. "If we are going to flourish, those connections have to be made."

Avner Friedman, who preceded Miller as IMA director, was responsible for establishing many of the institute's strong ties to industry. As Arnold put it, Friedman "redefined what people think of when they say 'industrial mathematics'." Arnold hopes to continue to build this aspect of the IMA agenda. To this end, Fadil Santosa, who has served part-time as associate director for industrial relations at the IMA, has now been made a full-time associate director. Arnold also plans to continue the "hot topics" workshops initiated by his predecessor, Willard Miller. These workshops are centered on problems of current interest to industry; Arnold hopes to expand them to include problems coming from other scientific disciplines. Another emphasis for Arnold will be fundraising. Currently about $2.2 million of the IMA's $3.5 million budget comes from the NSF, and Arnold would like to increase the fraction coming from non-NSF sources.

Arnold received his Ph.D. from the University of Chicago in 1979 under the direction of Jim Douglas. He was on the faculty of the University of Maryland before taking a position as professor at Pennsylvania State University in 1989. In 1991 he received the first International Giovanni Sacchi Landriani Prize of the Accademia di Scienze e Lettere in Milan. Arnold has been invited to give a Plenary Lecture at the International Congress of Mathematicians in Beijing in August 2002.

Willard Miller will be returning to the mathematics faculty of the University of Minnesota after his four-year term as IMA director, during which he led the IMA through a successful national recompetition for funding of mathematics institutes by the NSF. He coordinated the

original 1979 proposal for the founding of the IMA and was associate director for seven years.

"We are entering a period in which mathematics should become a vital component of many fields and industries in which its presence has been limited until now—the life sciences and information technology, for example," Arnold said. "There is a wealth of new opportunities and challenges for the IMA in the coming years. I am greatly excited and honored by the chance to direct it through that period."

—Allyn Jackson

ICM2002 Satellite Conferences

Before or after the 2002 International Congress of Mathematicians (ICM2002) in Beijing, a series of satellite conferences will be held in different parts of China as well as in neighboring countries and areas. ICM2002 will be held August 20-28, 2002.

Below is a list of the titles and locations of the ICM2002 satellite conferences. Further information is available on the Web at `http://www.icm2002.org.cn/satellite/index.htm`.

August 5-15 (dates not confirmed), Kyoto, Japan: New Directions in Dynamical Systems

August 11-17, Moscow State Aviation Institute, Moscow: Differential and Functional Differential Equations

August 11-19, Taiyuan: Nonlinear Functional Analysis

August 12-16, Pohang University of Science and Technology (POSTECH), Pohang, South Korea: Infinite Dimensional Function Theory

August 12-16, Shanxi Normal University, Xian: Geometric Topology

August 12-17, University of Tibet, Lhasa, Tibet: Mathematics Education

August 13-17, East China Normal University, Shanghai: Algebraic Geometry

August 13-17, Weihai Campus, Shandong University: Number Theory and Arithmetic Geometry

August 13-19, Beijing: Discrete, Combinatorial and Computational Geometry

August 14-17, Chinese University of Hong Kong (cosponsored by Chung Chi College, Southeast Asian Mathematical Society, and UNESCO): International Conference in Algebras and Related Topics

August 14-17, Qingdao University, Qingdao: Game Theory and Applications

August 14-17, Shanghai Jiao-Tong University, Shanghai: Complex Analysis

August 14-18, Chengde: Operator Algebras and Applications

August 14-18, Chengdu: Symplectic Topology and Geometry

August 14-18, Science and Culture Center Hotel, Daejeon, South Korea: Several Complex Variables and Complex Geometry

August 14-18, Shanghai University, Shanghai: Matrix Theory and Its Applications

August 14-18, Zhejiang University, Hangzhou: Harmonic Analysis and Its Applications

August 15-17, Hong Kong University of Science and Technology, Hong Kong: Combinatorics, Graph Theory, and Applications

August 15-17, National University of Singapore: Symposium on Stochastics and Applications

August 15-18, Guilin: Mathematical Biology

August 15-18, Northwest University, Xian: International Colloquium for the History of Mathematics

August 16-19, University of Macau: Clifford Analysis

August 17-18: Nankai Institute of Mathematics, Nankai University, Tianjin: Differential Geometry and Global Analysis

August 17-19, Beijing: Mathematical Software

August 29-31, Hebei University, Baoding: Nonlinear Partial Differential Equations in Mechanics and Physics

August 29-31, Weihai, Shandong, and Beijing: Backward Stochastic Differential Equations

August 29-September 1, Huangshan: Nonlinear Evolution Equations and Dynamical Systems

August 29-September 1, Xian Jiaotong University, Xian: Scientific Computation

August 29-September 2, City University of Hong Kong, Hong Kong: Nonlinear Partial Differential Equations—Theory and Approximation

August 29-September 2, Southwest China Normal University, Chongqing: International Conference on Mathematical Logic, 8th Asian Local Conference

August 29-September 2, Suzhou University, Suzhou: Algebra

August 30-September 1, Northwestern Polytechnical University, Xian: Cybernetics and Optimization

August 30-September 2, University of Science and Technology of China, Hefei: Geometric Function Theory in Several Complex Variables

August 30-September 3, Hebei Normal University, Shijiazhuang: Combinatorics

August 30-September 3, Dalian University of Technology, Dalian: Computational Mathematics and Applications

August 30-September 4, Lanzhou (Dunhuang): Ordinary Differential Equations

—From an ICM2002 announcement

Memorial Service for Robert A. Rankin

The family of Robert A. Rankin, emeritus professor at the University of Glasgow, will hold a Service of Thanksgiving at 10:00 a.m. on Saturday, October 13, 2001, at the University of Glasgow Memorial Chapel. The service will be followed by an informal buffet. Those interested in attending should contact Rankin's daughter, F. K. C. Smith, by e-mail at `fenny@smithzzz.demon.co.uk`.

—F. K. C. Smith