Donald McClure Named AMS Executive Director

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In January 2009, the AMS Council approved the appointment of Donald E. McClure of Brown University as executive director of the Society. He succeeds John H. Ewing, who has held the post for the past thirteen years and who is now president of Math for America, a program that aims to attract mathematically talented young people to teach in the nation’s schools.

McClure’s background and experience make him an ideal candidate for the executive director position. He has a deep commitment to service on behalf of the mathematics community—a commitment that has led to him play a variety of roles in Society leadership, from hands-on tasks for the Data Committee and the Board of Trustees, to high-level work on policy committees. He has an impressive research background as well as experience in academic administration, including helping to run a distributed mathematics institute for more than a decade. He also has developed considerable business savvy, having founded and run a consulting business with a colleague at Brown University. On top of all this, he is geographically a good fit, for the AMS headquarters office is located in Brown’s home city of Providence, RI. As McClure put it, “Here’s a tremendous professional opportunity within walking distance of my house.”

The main emphasis of McClure’s AMS service over the years has been on professional issues. During the 1980s and early 1990s, he served as an AMS representative on the Data Committee, a joint committee of several mathematics organizations that each year produces the Annual Survey of Mathematical Sciences. As chair of this committee from 1991 to 1993, McClure led the computerization of the data analysis, ushering in the use of statistical software that greatly expanded the kinds of analysis that could be done with the survey data. Also in the early 1990s, he served on the Task Force for Employment, and he designed a targeted survey to examine the difficulties young mathematicians were having in finding jobs. The recommendations of the task force influenced many universities to expand the number of postdoctoral positions available to young mathematicians. These positions not only eased the immediate employment problem, but, after the job outlook improved, they helped provide more secure career paths for young people. McClure also served on the Committee on the Profession from the time that committee was started in 1993 until 2002 and served two years as chair. He was also a member of the Task Force on Excellence, which produced the 1999 AMS report Towards Excellence.

McClure was elected to the AMS Board of Trustees in 1995 and served on the board until 2000. His service included stints as chair of the board and as liaison to the AMS Publications Division. From 2003 until his appointment as executive director, McClure was AMS associate treasurer. Through serving on the board and in the treasurer position, he has come to understand many of the practical aspects of running the AMS and has a sense of the scope of its programs and publishing business. One of his main goals is to keep the business side running strong. “The AMS has for years been a very successful publishing business, and I want to assure that it stays that way,” he said. In particular, he noted, it is important to continue investment in the Society’s most important product, MathSciNet. “I want to continue to find ways to make MathSciNet the very best database it can be to serve the community,” he said. The book program, which has expanded in the last several years, could be vulnerable to the recent economic downturn, he noted, and so the AMS might face challenges in this area.
One immediate challenge McClure sees on the horizon for the mathematical community stems from the pressure the current economic climate is putting on college and university budgets, which in turn affects the mathematics job market. “We are going to see a difficult time for new Ph.D.’s again,” he said. “We don’t have data yet to back this up, but the forces that affected the condition of the market in the early 1990s are all being applied in the same direction that they were then—reduction of tax revenues for states and great pressure to reduce state budgets. I think this is going to have an impact on higher education, and colleges and universities are figuring out ways to cut their budgets.” Drawing on his experience with the job market difficulties of the 1990s, the AMS can consider various ways to help ease the situation, such as doing a targeted survey of new doctorates and facilitating the advertising of positions that open up late in the hiring season.

McClure received his bachelor’s degree in 1966 from the University of California, Berkeley, and his Ph.D. in applied mathematics in 1970 from Brown University, where his advisor was Ulf Grenander. McClure has spent his entire career at Brown, starting as an instructor in 1969 and rising to the rank of professor in 1982. He has advised fifteen Ph.D. students. McClure’s research concerns the formulation of probabilistic models for images and the design of algorithms based on those models and classical statistical principles. The research is motivated by the areas of image processing and computer vision, ill-posed inverse problems, and analysis of image sequences such as those occurring in film or progressive video. In early work in nonlinear approximation theory, he developed characterizations and very sharp asymptotic results for convergence of optimal approximations by variable knot splines. In the area of ill-posed inverse problems, McClure and his Brown colleague Stuart Geman were the first to propose and analyze Bayesian methods for computed tomography. There is now a vast literature in this area.

In 1986 McClure was part of a group that applied for and received a major grant through the University Research Initiative of the Department of Defense to launch a distributed mathematics institute, the Center for Intelligent Control Systems. The center ran for fifteen years and involved twenty-five to thirty faculty members at Brown, Harvard University, and the Massachusetts Institute of Technology, as well as many graduate students and postdoctoral researchers. As associate director of the center, McClure ran the center’s node at Brown, which was concerned primarily with computational vision and control theory. The center received three grants from the DoD and was phased out when the last one ended in 2001.

In 1981, together with Geman, McClure founded a consulting company, which initially focused on design of statistical methods for large-scale clinical trials. The company later expanded its work to algorithm development for vision software for semiconductor manufacturing equipment. In 1993 the company received a grant through the Advanced Technology Program of the National Institute of Standards and Technology and moved into automation of methods to remove damage and restore digital film and video. This is the main focus today of the company, which has about twenty employees and offices in Providence and Hollywood. “[Geman and I] still get involved in thinking about how to formulate the problems and design algorithms for them, but we don’t sit down and write the code!”, McClure remarked. “We have a great group of software developers” who understand both the mathematical and the programming sides.

With his research accomplishments, experience in both business and academic administration, and extensive knowledge of issues facing the mathematics profession, McClure brings a wealth of assets to the executive director position. “I am really excited about the new position,” he remarked. “My responsibilities and efforts will be guided by the Society’s mission to further mathematics research and scholarship. The AMS has a very positive impact on mathematics worldwide. I look forward to working with the staff and leadership to continue and expand the AMS contributions.”

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