

AWM Hay Award for Contributions to Mathematics Education

In 1990 the Executive Committee of the Association for Women in Mathematics (AWM) established the annual Louise Hay Award for Contributions to Mathematics Education. The purpose of this award is to recognize outstanding achievements in any area of mathematics education, to be interpreted in the broadest possible sense. While Louise Hay was widely recognized for her contributions to mathematical logic and for her strong leadership as head of the Department of Mathematics, Statistics, and Computer Science at the University of Illinois at Chicago, her devotion to students and her lifelong commitment to nurturing the talent of young women and men secured her reputation as a consummate educator. The annual presentation of this award is intended to highlight the importance of mathematics education and to evoke the memory of all that Hay exemplified as a teacher, scholar, administrator, and human being.

AWM is pleased to present the Sixth Annual Louise Hay Award to two outstanding women mathematicians: GLENDA T. LAPPAN, Michigan State University, and JUDITH ROITMAN, University of Kansas.

Glenda T. Lappan

Citation

Glenda Lappan's long-standing and varied contributions have touched the individual and collective lives of mathematicians, mathematics teacher educators, undergraduates, graduate students, practicing teachers, and children. She embodies a rare combination of "mathematics educator" and "mathematics education educator"



Left to right: AWM President Chuu-Lian Terng, Hay Award recipients Judith Roitman and Glenda T. Lappan.

whose professional life is grounded in a deep understanding of and love for mathematics and the teaching and learning process. She is highly respected as a teacher, researcher, consultant, and national leader.

The foundation of Lappan's international research reputation was established with her writings on the theoretical and practical problems of teaching and learning mathematics during the important transition years of the "middle grades". In 1986 Professor Lappan was selected to direct the grades 5–8 portion of the National Council of Teachers of Mathematics (NCTM) *Curriculum and Evaluation Standards for School*

Mathematics. She chaired the project, which resulted in the publication in 1991 of the *Professional Standards for the Teaching of Mathematics*. Currently, Professor Lappan is codirector of the Connected Mathematics Project at Michigan State, a five-year project to implement the visionary recommendations put forth in the NCTM documents through the design of a complete mathematics curriculum for students in grades 6 through 8.

Professor Lappan has been committed to the professional development of mathematics teachers for over two decades, playing a prominent role in the initiation and oversight of the many workshops and summer programs conducted by the Michigan State University Mathematics Education Group. She has taken her philosophical ideas on curriculum and standards right into the classroom and has, through her innovative workshops, coached hundreds of precollege mathematics teachers and school administrators to rediscover their own and their students' mathematical abilities.

In addition to her commitment to mathematics education, Professor Lappan is herself a consummate educator. Interweaving research with methods in her teaching and learning activities, Professor Lappan has served well the educational needs of undergraduates, graduate students, and workshop attendees. She has acted as undergraduate advisor and mentor in the Department of Mathematics at Michigan State and has directed the dissertations of Ph.D. students. In all of these efforts, Professor Lappan's integrity, concern for others, and depth of understanding of mathematical content and the teaching and learning process have been abundantly evident.

Professor Lappan has lectured and delivered invited presentations extensively, including plenary lectures at the International Congress of Mathematics Education in Québec City (1992) and the Regional Conference on Mathematics Education in Shanghai (1994).

Professor Lappan is a highly visible spokesperson for policies of standards and reform. Her extraordinary energy, political acumen, compassionate communication skills, and vision for the future of mathematics education have made her an obvious choice for appointment to the profession's more influential governing positions and boards. Lappan serves on the Mathematical Sciences Education Board (MSEB) for the National Research Council and, in that capacity, has been prominent in negotiations with the National Academy of Sciences concerning the future of mathematics education reform. She has also served as a member of the MSEB Executive Committee and as Chair of the MSEB Committee on Systemic Change. Professor Lappan has

served as a program director in the Teacher Preparation Program in the Education and Human Resources Directorate at the National Science Foundation.

Professor Lappan has been elected by its membership to serve on the NCTM Board of Directors. She has been Board liaison to the Research Advisory Committee and is currently a member of NCTM Standards Coordinating Committee. She serves on numerous other advisory boards of projects and consults with educational task forces across the nation. U.S. Secretary of Education Richard Riley recently named Professor Lappan to the National Education Research Policy and Priorities Board, making her the only scientist in higher education selected. Lappan's mission during the term of her appointment is to develop a long-term education research agenda and to set priorities for the Education Department's Office of Educational Research and Improvement. As one of five appointees nominated by the National Academy of Sciences, the honor gives recognition to Professor Lappan's distinguished career as an internationally known researcher, educator, and leader in the field of mathematics education.

Response

It is a very great honor to receive the Louise Hay Award for Contributions to Mathematics Education from the Association for Women in Mathematics. To borrow a phrase from my wonderful parents, I am humbly proud—and proud of all the students young and old that I have had the privilege and pleasure of teaching. It is to them and their stimulation and challenges that I owe so very much.

When I was a student in high school in Douglas, Georgia, I had Mrs. Sarah Betty Durham for mathematics for my last two years. I was a kid off the farm who thought she had died and gone to heaven when she had access to this incredible stuff called mathematics. It was Mrs. Durham's challenge and her belief in me that made all the difference in dreaming that college was possible. She died a few years ago, but to the end she kept up with what I was doing and, in her own way, kept up the pressure for excellence. I owe her a great deal.

Many other teachers of mathematics have made a difference in my life. I never ceased to be amazed that Dr. Ball, Dr. Brahana, Dr. Cantrell, Dr. Jewett, and others at the University of Georgia never ran out of mathematics questions to throw at me even as we passed in the halls while I was in graduate school. They never stopped working to try to teach me something about mathematics, and they never let me stop working for myself. I hope that some of what they did

for me I have been able to do for students who have come through my hands.

I would like to thank my department chair, Jonathan Hall, and my colleague and friend, Patricia Lamm, for nominating me for this award. While it is very nice to have a pat-on-the-back from the field, it is even more gratifying to have your own colleagues appreciate what you have tried to do in your professional life. Thank you to AWM for the honor of receiving this award given in the name of a woman mathematician that gave so much to her profession—Louise Hay.

Judith Roitman

Citation

Judith Roitman has a long and distinguished career as a mathematics researcher, advocate for women in mathematics, and mathematics educator. Her research activity in set-theoretic topology and Boolean algebra spans several decades, and she has encouraged other research mathematicians to be actively interested in education and educational reform. She has helped influence and shape policy and practice in education through her service on committees such as the MSEB Panel on College and University Programs, the AMS Committee on Education, and the MER Advisory Board and has assumed critical leadership roles over the last two decades. She was AWM president from January 1979 until January 1981.

She has encouraged and mentored young persons in mathematics and freely and expertly shares her knowledge and experience about research, teaching, and mathematical history and folklore.

Elementary teachers have benefited from the workshops that Professor Roitman has directed. The standards of excellence and high expectations of Professor Roitman and her staff have inspired and motivated these teachers to share their new knowledge of both mathematical content and educational practice district wide. In addition to the local impact of these projects, Professor Roitman has been active on the state level and currently serves as a board member of the Kansas Mathematics and Science Education Coalition.

Professor Roitman believes that postsecondary institutions need to acknowledge their responsibilities to K-12 and has disseminated her thoughts broadly through invited talks, publications, and electronic networks, as well as informal conversations and interactions.

Professor Roitman is truly a model of a research mathematician who maintains substantive involvement in mathematics education.

Response

Receiving the Louise Hay Award is a great honor, and it is an even greater honor to share it with Glenda Lappan.

I don't know if the Hay Award committee planned it this way, but sharing the award with Glenda is a most welcome symbol of the cooperation needed among mathematicians, researchers in mathematics education, and teachers. It has been a privilege to be part of the emerging dialogue among and within these communities and to be part of the emerging community of research mathematicians involved with K-12 education. It is as a member of this community that I accept this award.

Our work is hampered, however, by not being part of the ordinary life of a research department. Even in a department like mine, where 20 percent of the faculty has been seriously involved in K-12 activities in the last few years, access to resources—both money and time—is neither routine nor reliable. It is important that research mathematicians be involved in K-12 education and our community recognizes this, but this has not yet been reflected in the way our universities and departments are organized. Receiving this award gives me a very public opportunity both to point out the problem and to hope for its solution.

AWM has been an important part of my life since early graduate school days, and I am most grateful to it. Of all the teachers and students I have learned from over the years, I would especially like to acknowledge the elementary and middle school teachers I have worked with in the last few years and two teachers of my own, whose care for and trust in students I can only hope to approximate: from graduate school, Mary Ellen Rudin, and from undergraduate school, Ed Cogan. Thank you.

—AWM