HISTORY OF THE DISTINGUISHED TEACHING AWARD

In order to honor college or university teachers who have been widely recognized as extraordinarily successful, the Mathematical Association of America introduced awards in 1991 for Distinguished College or University Teaching of Mathematics. These awards have been known as the Deborah and Franklin Haimo Awards for Distinguished Teaching since 1993.

Since 1992, the New Jersey section of MAA has honored extraordinary teaching in our state with its Distinguished Teaching award.

CITATION

PROFESSOR DENIS BLACKMORE

The New Jersey Section of the Mathematical Association of America is pleased to present the 2015 MAA-NJ Distinguished Teaching Award to Professor Denis Blackmore of the New Jersey Institute of Technology.

Professor Blackmore has distinguished himself as a teacher at both the undergraduate and graduate levels. He is revered by students across campus for his encyclopedic knowledge of mathematics, his passion for the subject and his willingness to help students. He has received numerous teaching awards in recognition of his excellent classroom instruction, including the *College of Science and Liberal Arts Award for Excellence in Graduate Teaching*, the *Education Opportunity Program Award for Teaching Excellence*, and *the NJIT Honors Program Teaching Excellence Award*. Professor Blackmore is appreciated by his students for being patient and approachable. His office is always occupied by students, and he is an extremely

Professor Denis Blackmore

popular choice for undergraduate students seeking a research project. He has mentored many undergraduate students over the years, including several REU students, and members of the NJIT McNair Program Many of these mentoring projects have resulted in publications in refereed journals such as the *Rose-Hulman Undergraduate Mathematics Journal,* the *Journal of Mathematical Analysis and Applications,* and *Chaos, Solitons & Fractals*.

Professor Blackmore also plays a major role in mentoring graduate students. He has supervised 15 Ph.D. students and more than 20 Masters students while at NJIT. His versatility as a scientist and mentor is extraordinary, as evidenced by the fact that he has advised or co-advised Ph.D. students in Applied Mathematics, Physics, Civil Engineering, Mechanical Engineering and Electrical Engineering. He has also served on more than 50 Ph.D. dissertation committees, and has taught independent-study graduate courses in both mathematics and computer science. Professor Blackmore will work with any student, at any level and in almost any field, who expresses interest and curiosity. He has a remarkable ability to define just the right projects for students so that their contributions and abilities shine through.

Professor Blackmore's commitment to education extends far beyond the walls of NJIT. For twelve years, he taught modules on aeronautics and astronautics in the Summer Program for Inner City Elementary School Students (funded by the Victoria Foundation). He has also served on the McNair Program Advisory Board as well as the Newark Literacy Campaign. Several years ago, he mentored a gifted inner city high school student on a project in algebraic topology; that student is now at MIT on full scholarship. Professor Blackmore has also served as a research mentor for several international undergraduate students in exchange programs at NJIT. Denis will never pass on an opportunity to share his passion for math and science with young minds. He serves as an inspiration to young people and as a model educator to his colleagues.

When Professor Blackmore first arrived at NJIT, the math department was a teaching/service department that did not award degrees. Over the years the department has expanded significantly and now offers several degree programs at the undergraduate and graduate levels. Professor Blackmore played a major role in the development of all of these programs. Most notably, he was the principal architect of our BS programs in Applied Mathematics and in Actuarial Science and Statistics; the MS program in Applied Mathematics; and the Ph.D. program in Mathematical Sciences (joint with Rutgers-Newark). He has also been very active in curriculum development; he has developed approximately 15 new courses at NJIT, and served on numerous curriculum committees, including chair of the Departmental Curriculum Committee for the past five years.

Professor Blackmore has also made substantial contributions to education through his involvement in a wide array of interdisciplinary activities and his participation in professional societies. He is very active professionally in the fields of mathematics, physics, and engineering, and he has been appointed to editorial boards of journals in many of these diverse areas. He is a frequent organizer of conferences, such as the American Mathematical Society meeting in 1987 and 2009, the Frontiers in Applied and Computational Mathematics conferences, and the 1992 Japan-USA Symposium on Flexible Automation, to name a few. He brings many of his students, both undergraduate and graduate, to conferences to present their work and gain exposure. He has also done an enormous amount of committee work to address education related matters at the department and university levels.

It is rare that an internationally known scientist is able to connect in a strong way with students who are a generation or two younger. Professor Blackmore is not only able to make that connection, but he has shown time and again that these interactions can empower students to achieve great things. He has left an indelible mark on education, in particular on the many NJIT students whom he has inspired over his distinguished career.

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Response from Professor Blackmore

I am deeply honored to receive this award. My self-image is that of a researcher first and teacher second – but it is a close second. Teaching completes me as an academic mathematician. A class in which I have been particularly successful in firing the imagination of students and illuminating the beauty and power of mathematics, can produce an adrenaline rush comparable to making a significant advance in research. There is little to compare with the satisfaction derived from shaping young minds and occasionally hearing from former students of how much you taught and influenced them. So it is especially gratifying to receive this award from the MAA, which has done such extraordinary work in advancing mathematical pedagogy and the appreciation of mathematics.

There are so many to thank for making this award possible, but in the interest of brevity I shall only name a few. There were two

principal events in my choosing a career in mathematics. One was the epiphany I experienced in an undergraduate course in complex analysis taught by Jane Cronin-Scanlon, an outstanding researcher and gifted teacher, who first made mathematics come alive for me. The other was my association with Morris Morduchow, a fluid mechanics researcher and teacher with a strong mathematical bent.

Later, in graduate school, there were inspiring teachers such as Ed Beckenstein, Burt Lieberman, Harry Hochstadt, Pincus Mendelson and Larry Narici, with the knowledge and the ability to show how the course material was leading to even more spectacular mathematical vistas. In addition, I should mention the many very competent, but less than inspiring teachers that inadvertently taught me about pitfalls to be avoided in teaching.

I thank my students: they taught me more about teaching than they could possibly imagine. My professional colleagues from around the world and especially at NJIT provided fellowship and advocacy that helped me immeasurably. My colleagues in the DMS – my happy home away from my happy home – deserve special mention. Their friendship, support and encouragement is beyond recompense. I would like to list them all, but John Bechtold and Bruce Bukiet, who did so much to help me obtain this award need be named.

My wife, Diane, and son, John, provided the indispensable home support and understanding that I needed to be successful. Finally, there is the incalculable debt I owe to my mother, Helma – my rock, my unconditional safe harbor and role model nonpareil. I wish she were here to enjoy this award with me.

Biography:

Denis Blackmore is Professor of Mathematical Sciences at New Jersey Institute of Technology (NJIT). He received his B.S. in Aerospace Engineering and M.S., and Ph.D. in Mathematics, all from New York University Polytechnic (NYU-Poly), in 1965, 1966, and 1971, respectively. Dr. Blackmore has taught at NYU-Poly and, since 1971, at NJIT. In addition to several NSF, ONR and DARPA research grants, he has been an Investigator on an NSF-ENGAGE grant to increase retention of undergraduate engineering students, especially females and underrepresented group members. He has received several undergraduate and graduate teaching awards, the most recent of which was the NJIT College of Science and Liberal Arts Award for Excellence in Graduate Teaching in 2013.

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The MAA-NJ section expresses its appreciation to Dr. Bruce Bukiet of the Department of Mathematical Sciences (DMS) at NJIT for nominating Dr. Blackmore for this Distinguished Teaching Award and to Dr. John Bechtold for composing the citation.

RECIPIENTS OF MAA-NJ DISTINGUISHED TEACHING AWARD

Sr. M. Stephanie Sloyan, Georgian Court College	1992
Eileen Polani, St. Peter's College	1993
Richard Bronson, Fairleigh Dickinson University	1994
Siegfred Haenisch, The College of New Jersey	1995
Andrew Demetropoulos, Montclair State University	1996
Roger Pinkham, Stevens Institute of Technology	1997
Virginia Lee, Brookdale Community College	1998
Amy Cohen, Rutgers University-New Brunswick	1999
Janet H. Caldwell, Rowan University	2000
Evan Maletsky, Montclair State University	2002
Stephen J. Greenfield, Rutgers University-New Brunswick	2003
Arthur Schwartz, Mercer County Community College	2004
Bonnie Gold, Monmouth University	2006
Bruce G. Bukiet, New Jersey Institute of Technology	2008
Thomas Osler, Rowan University	2009
Robert L. Wilson, Rutgers University	2010
Brian P. Hopkins, St. Peter's College	2011
Diana M. Thomas, Montclair State University	2012
Sarita Nemani, Georgian Court University	2013
Karen Clark, The College of New Jersey	2014

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MATHEMATICAL ASSOCIATION OF AMERICA
NEW JERSEY SECTION

Award for Distinguished College or University Teaching of Mathematics

Spring Meeting

Saturday, April 11, 2015
Monmouth University
West Long Branch, New Jersey