

Daniel P. Maki

It was natural for Dan Maki to select Michigan Technological University for his undergraduate work: a high quality university where he could pursue his interest in mathematics and its applications located in familiar territory, the Upper Peninsula of Michigan. He continued with graduate work at the University of Michigan, where he completed his Ph.D. in 1966. During these years he developed a lifelong interest in UM athletics, and he continues as an avid fan, attending at least one Michigan football game each year.

He joined the Indiana University faculty in 1966 and during his 40-year career he has made superb contributions in many ways: as an outstanding classroom teacher; a helpful and willing mentor to students at all levels; a nationally recognized figure in teaching and guiding undergraduates in mathematical modeling and the applications of mathematics to problems arising in government, business, and industry; a scholar with a knack for working with people in other fields to identify and do research on interesting problems; a leader in the mathematics preparation of public school teachers—curriculum development for undergraduates and in-service training and professional development for experienced teachers; and an unselfish colleague who has provided years of dedicated service to the university and his profession.

Dan's talent for classroom teaching was evident from the time he joined the department. His ability to make mathematics accessible to students has been confirmed by departmental and university-wide awards, and by many invitations to give departmental colloquium talks, invited addresses at meetings of professional societies, and workshops at colleges and universities throughout the country. As a result of his broad interests in the applications of mathematics to problems arising in other fields, many graduate students majoring in other departments whose research involved mathematical concepts and methods have asked him to serve as a member of their doctoral committees. He has been extraordinarily effective in this role, and he viewed this work as an essential part of the role of a faculty member at a research university.

In the late '60s and early '70s the Department of Mathematics hosted a series of NSF-sponsored Institutes for Teachers of Mathematics in Traditionally Black Colleges. After the NSF support ended, a number of the institute participants continued working on graduate degrees here, and Dan played a key role as advisor/mentor and member of the dissertation committees for many of them. With this mentoring and encouragement, quite a few of them completed doctoral degrees at IU, and several of those went on to leadership positions in the mathematics community at their institutions and nationally. He continues to follow their careers and have contacts with them.

At about the same time, Dan began what turned out to be a continuing interest in teaching applications of mathematics to problems arising outside mathematics from the perspective of modeling. He was one of the pioneers in this approach, a co-author of the text that helped define the field, and he remains one of the most visible, active, and well-known contributors in the area. In the 1980s, after a year at the Claremont Math Clinic at Harvey Mudd College, he expanded his interests to include guiding undergraduate students working on real-world projects arising in government, business, and industry. In recent years this activity has formed the core of a Junior Seminar on Analytical Problem Solving in the Liberal Arts and Management Program (LAMP). A few years ago a team of visitors was late for lunch with the chancellor because they found the seminar given by one of the LAMP students so interesting.

Also during his visit to Claremont he became interested in theoretical and applied problems in speech recognition, and this interest led to collaborative research with faculty in the Department of Speech and Hearing Sciences here in Bloomington. Dan and his colleagues soon recognized the potential for the development of commercial products based on the research, and they obtained federal funding to launch a business venture to make new and improved speech recognition systems and related products and services available to a wide audience.

Recently, through an interdisciplinary seminar group associated with the Center for Genomics and Bioinformatics, Dan became interested in a set of mathematical problems arising in computational areas of genomics. He followed up these interests by

participating in a seminar hosted by the Institute for Mathematics and Its Applications at the University of Minnesota in the fall of 2003.

Dan has been very successful in attracting large amounts of external grant and contract support—primarily from NSF—for research, Research Experiences for Undergraduates programs, curriculum development (Math Across the Curriculum), modeling institutes for high school teachers, and the ongoing Mathematics and Science Partnership program. The confidence the funding agencies have in Dan's vision and administrative skill is evidenced by the breadth of the programs supported and the high level of financing, totaling over \$15 million.

Finally, but by no means least, he has served the department and university in many ways: director of graduate study, five years as department chair, a term as chair of the University Athletics Committee, and a large number of the usual and ad hoc university committees. He has also contributed vast amounts of time and energy to the profession as Mathematical Association of America (M.A.A.) section chair, governor, and currently as a member of its executive committee. In 1996 he was awarded a Distinguished Service Award by the M.A.A. In 2002 Michigan Tech recognized his contributions in many dimensions with a Distinguished Alumni Award. And in 2004 he received a President's Award in Recognition of Distinguished Teaching from IU for his distinguished teaching.

Dan takes pride in his Finnish ancestry, and he spent a year in Finland in 1968–69 as a Fulbright scholar. He also enjoys the forests and lakes of the Upper Peninsula of Michigan. Although his professional interests and commitments will continue, it is likely that he will find ways to spend more time at his lakeshore property, on the shore of Lake Superior of course!

Maynard Thompson