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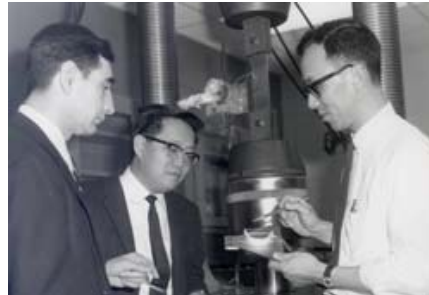
NEWS ARTICLE

Leading mechanics journal dedicates special issue to Fazil Erdogan

The current issue of the Journal of Applied Mechanics celebrates his life's work.

During half a century at Lehigh, Fazil Erdogan has earned a reputation as one of the world's foremost experts in fracture mechanics, a field vital to airplanes, bridges, buildings and other engineering systems.

Erdogan, professor emeritus of mechanical engineering and mechanics, has been elected to the U.S. National Academy of Engineering and has twice received Germany's Alexander von Humboldt Foundation Senior Scientist Award, one of the most prestigious awards in science.



Professors Fazil Erdogan, George Sih and Robert Wei (left to right) study fatigue crack propagation in a tensile specimen in a photo from the 1960s. The three helped launch Lehigh's international reputation in fracture mechanics.

Over a 30-year period, Erdogan, who is also a former dean of the P.C. Rossin College of Engineering and Applied Science, received continuous grants from NASA and the National Science Foundation. More than 40 of his students have earned Ph.Ds.

This month, Erdogan added another accolade when the *Journal of Applied Mechanics* published a [special issue](#) honoring his contributions to his field.

The September issue of the bimonthly journal is titled "Honoring Professor Erdogan's Seminal Contributions to Mixed Boundary-Value Problems of Inhomogeneous and Functionally Graded Materials." It contains 13 articles devoted to the analytical, computational, experimental and theoretical aspects of those problems. Many of the articles' authors are Erdogan's former students and research collaborators.

One article, titled "On the Singularities in Fracture and Contact Mechanics," was coauthored by Erdogan and Murat Ozturk, a professor of practice in Lehigh's department of mechanical engineering and mechanics.

The special issue of the *Journal of Applied Mechanics* grew out of a symposium held in Erdogan's honor in Hawaii in 2006. A foreword to the issue praised Erdogan for influencing several generations of engineers working on mixed boundary-value problems in inhomogeneous media.

"Source of inspiration to the mechanics community"

"The analytical approaches that Erdogan developed with his students in the 1960s and 1970s for the formulation and reduction of fracture mechanics problems...have motivated researchers working in this area throughout the world," the article said. The foreword was written by Marek-Jerzy Pindera, professor of structural and solid mechanics at the University of Virginia, and Glaucio H. Paulino, the Donald Biggar Willett Professor of Engineering at the University of Illinois at Urbana-Champaign.

"Professor Erdogan continues to be a source of inspiration to the mechanics community," the two professors wrote, "in leading the way in the area of mixed boundary-value problems in inhomogeneous and functionally graded media and also in providing selfless guidance to others."

Herman Nied, professor of mechanical engineering and mechanics at Lehigh and one of Erdogan's Ph.D. students, echoed the comments of Pindera and Paulino.

"Fazil Erdogan has made very significant contributions both to the mathematical and the experimental side of fracture mechanics," said Nied, "particularly to the fracture of pressure vessels and piping and to the behavior of material interfaces."

Erdogan was honored in 1998 when Lehigh held a three-day Symposium on Problems in Mechanics and Applied Mathematics. Forty researchers from the U.S., Europe and Japan—many of them Erdogan's former students—presented papers.

At the symposium, the late Ferdinand Beer, who for 20 years chaired the department of mechanical engineering and mechanics and its predecessor, the department of mechanics, credited Erdogan, George Sih and Paul Paris for bringing to Lehigh a "truly international reputation" in fracture mechanics. Sih is a professor emeritus of mechanical engineering and mechanics at Lehigh. Paris is a professor of mechanics at Washington University.

Two other Lehigh engineers, said Nied, deserve credit for the university's renown in fracture mechanics. The late George Irwin served as Boeing University Professor at Lehigh from 1967 to 1972. Robert P. Wei is the Paul B. Reinhold Professor of mechanical engineering and mechanics.

Erdogan's awards also include A.C. Eringen Medal of the Society of Engineering Science. He has served as a visiting professor at universities in Germany and at the Technical University of Denmark, and as a visiting research scientist for DuPont Co. He is also a Fellow of the American Society of Mechanical Engineers (ASME).

Erdogan received his Ph.D. from Lehigh in 1955 and joined the faculty in 1957.

--Kurt Pfitzer

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