# Van C. Mow Medal (cont.)

An exceptional mentor and teacher, Delp's past doctoral students occupy faculty and leadership positions at leading universities and research institutions, and have been recognized with numerous honors and awards.

Delp has published over 200 scientific articles and conference papers. He serves on the editorial boards of four international scientific journals and is currently a reviewer for eight publications.

An ASME member, Delp has served as ad hoc session organizer and session chair for various Summer Bioengineering Conferences.

Delp is a Fellow of the American Institute of Medical and Biological Engineers; and a member of the Biomedical Engineering Society, the Orthopaedic Research Society, the International Society of Biomechanics and the American Society of Biomechanics.

His honors include a National Science Foundation Fellowship (1985–88) and National Young Investigator Award (1992–98), a Technology Reinvestment Program award from President Clinton (1993), the International Society for Computer Assisted Orthopaedic Surgery's Maurice E. Muller Award (2003) and Colorado State University Engineering School's Distinguished Alumnus Award (2005).

Delp graduated summa cum laude with a bachelor's degree in mechanical engineering from Colorado State University, Fort Collins, in 1983. He earned his master's degree and his Ph.D. in mechanical engineering at Stanford University in 1986 and 1990, respectively.

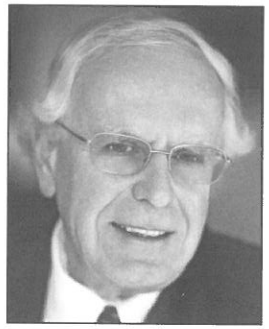
# Nadai Medal

**ZDENĚK P. BAŽANT**

*Conferral at the President's Luncheon,*
*2008 International Mechanical Engineering Congress and Exposition*

THE NADAI AWARD was established in 1975 to recognize significant contributions and outstanding achievements which broaden the field of materials engineering.

ZDENĚK P. BAŽANT, Ph.D., McCormick Institute professor and W. P. Murphy professor of civil engineering, Northwestern University (Evanston, Ill.), *for demonstrating spurious localization instability in strain-softening models of quasibrittle materials, devising a remedy by crack-band and nonlocal damage formulations, discovering and experimentally validating the energetic size effect law for such materials, and showing applications to particulate and fiber composites.*



Dr. Bažant joined the faculty of Northwestern University (Evanston, Ill.) in 1969 as associate professor of civil engineering. He was promoted to full professor in 1973 and has been W.P. Murphy professor since 1990 and, simultaneously, McCormick Institute professor since 2002.

Although Bažant has made major contributions to fracture mechanics, structural stability, plasticity, creep, constitutive modeling and probabilistic mechanics, he is best known for his size effect law. His impressive publication record includes almost 500 refereed journal articles and six books.

Prior to 1984 all the experimentally observed size effects on structural strength were attributed to material strength randomness and described by Weibull

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# Nadai Medal (cont.)

statistics. Bažant is known worldwide for showing, beginning with his two landmark papers in 1976 and 1984, that this was not true for brittle heterogeneous materials. He introduced the novel concept of size effect caused by stress redistribution with a release of stored energy due to stable growth of large fractures or large damage zones prior to failure. Using asymptotic matching techniques, he derived a simple size effect law bridging the power-law scalings of classical fracture mechanics and plasticity. With his assistants, he verified his law experimentally for fiber composites, concrete, rocks, sea ice, toughened ceramics, rigid foams, etc.; demonstrated its use for experimental identification of cohesive fracture characteristics; and generalized it (1991, 2004) for combined energetic-statistical size effect. His crack-band model (1976, 1983) is now widely used to simulate the size effect computationally. He initiated (in 1984) the nonlocal and second-gradient models with material characteristic length, overcoming spurious mesh-size sensitivity and capturing the localization of distributed softening damage.

An ASME member, he served on various technical committees. In 1997 he received the Worcester Reed Warner Medal.

Bažant is a member of the National Academy of Sciences, National Academy of Engineering and American Academy of Arts and Sciences; and an honorary member of the American Society of Civil Engineers (ASCE). He is also a Fellow and past president of the Society of Engineering Science (SES); a Fellow of the American Concrete Institute; past president of the International Association of Fracture Mechanics for Concrete and Concrete Structures; and a member of the American Chemical Society, the International Association for Bridge and Structural Engineering, the American Institute of Aeronautics and Astronautics, and RILEM-the International Union of Laboratories in Construction Materials, Systems and Structures.

Among his honors are SES's Prager Medal (1996); and ASCE's von Karman Medal (2005), Newmark Medal (1996), Croes Medal (1997) and Lifetime Achievement Award (2003). With ca. 8,700 citations and the H-index of 43, he has been among the original top 100 ISI Highly Cited Scientists in Engineering since 1991.

Bažant received his Ing. degree in civil engineering from Czech Technical University (CTU) in Prague in 1960. He earned his Ph.D. at the Czech Academy of Sciences, Prague, in 1963; and in 1967 he earned his Docent Habil. at CTU. He holds six honorary doctorates. Bažant is a registered structural engineer in Illinois.

# Burt L. Newkirk Award

**MICHAEL NOSONOVSKY**

*Conferred at the International Joint Tribology Conference,*
*Miami, Fla., October 2008*

THE BURT L. NEWKIRK AWARD was established in 1976 and is presented to an individual who has made a notable contribution in tribology research or development, as evidenced by important tribology publications prior to his or her 40th birthday.

MICHAEL NOSONOVSKY, Ph.D., visiting scientist, Stevens Institute of Technology (Hoboken, N.J.), *for outstanding theoretical research in nanotechnology, adhesion, and tribology of functional bio-inspired surfaces, including the scale effect on friction and patterned nonadhesive surfaces using the Lotus effect.*

Dr. Nosonovsky earned his Ph.D. in mechanical engineering at Northeastern University, Boston, in 2001 and was honored with a Best Teaching Assistant Award. His research involved analytical and numerical investigation of friction-induced

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