

The Civil and Environmental Engineering and  
Mechanical Engineering Departments

## The Jan D. Achenbach Lecture What's Coming, Whether We Like It or Not

C.D. Mote, Jr.  
National Academy of  
Engineering

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Ford ITW



Predicting the future is unreliable. However, simply recognizing the “direction to the future,” especially when it is little changing, can be useful for planning purposes. Such was the case for university planning during the period of great stability from 1945 to 1990. However, when the direction to the future changes abruptly, as it did during the 1990s, the guidance for planning is provided by a new direction (whatever it may be) with consideration given to its stability.

This presentation addresses these 20th and 21st century directions to the future, and offers observations drawn from them that may be useful in university planning. Planning for the 21st century direction, and stepping away from planning for the 20th century direction that no longer exists, is surprisingly difficult but necessary to recognize and undertake. The 21st century direction opens planning to substantial changes not heretofore considered. As expected, some are substantially underway already.

C. D. Mote is President of the National Academy of Engineering. His science policy work includes serving on the committee that authored the National Academies’ “Rising above the Gathering Storm” report and chairing the committee on Global Science and Technology Strategies and Their Effect on the U.S. National Security that published the report “S&T Strategies of Six Countries” among others. He is internationally recognized for his research on the dynamics of gyroscopic systems and the biomechanics of snow skiing. He has produced more than 300 publications and is a Fellow of the American Academy of Arts and Sciences, the American Academy of Mechanics, the American Association for the Advancement of Science, the Acoustical Society of America, and an Honorary Fellow of the American Society of Mechanical Engineers. He is the 2005 recipient of the Founders Award from the National Academy of Engineering and the 2011 recipient of the American Society of Mechanical Engineers ASME Medal in recognition of his comprehensive body of work on the dynamics of moving flexible structures and his leadership in academia. He served as President of the University of Maryland for 12 years and on the University of California, Berkeley faculty for 31 years where he held an endowed chair in Mechanical Systems, was Chair of Mechanical Engineering, and served as Vice Chancellor.



Jan D. Achenbach

Born in the Netherlands, Achenbach became a member of Northwestern’s faculty in 1963. Since then, he has become highly respected for his work in the areas of wave propagation in solids and for pioneering the field of quantitative non-destructive evaluation.

The Jan D. Achenbach Lecture recognizes Achenbach for his extraordinary contributions to the field of mechanics, as well as his profound impact on McCormick’s departments of Mechanical Engineering, Civil and Environmental Engineering, and Engineering Sciences and Applied Mathematics.

Achenbach received a National Medal of Technology in 2003 for his contributions to engineering research and education and for pioneering methods for detecting dangerous cracks and corrosion in aircraft, advances that have led to improved air safety. He was also awarded a 2005 National Medal of Science, the nation’s highest honor for innovation in technology and science.

He was elected a member of the National Academy of Engineering in 1982, a member of the National Academy of Sciences in 1992, and a fellow of the American Academy of Arts and Sciences in 1994. In 1999, he was elected a corresponding member of the Royal Dutch Academy of Sciences, and in 2009, he was elected a fellow of the World Class Universities Program of the National Research Foundation of Korea. He is also an honorary member of the American Society of Mechanical Engineers and a fellow of ASME, ASA, SES, AMA, and AAAS. His awards include the 2012 ASME Medal, the Timoshenko Medal, the William Prager Medal, and the Theodore von Karman Medal. In 2011, he was awarded a rare honorary doctorate degree from China’s Zhejiang University.

Achenbach is founder of Northwestern’s Center for Quality Engineering and Failure Prevention, a state-of-the-art laboratory for quality control in structural mechanics.

We would like to thank the generous donations that have made the establishment of the Jan D. Achenbach Lecture possible:

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