Power, Speed, and Form: Engineers and the Making of the Twentieth Century

by David Billington

Gordon Y. S. Wu Professor of Engineering, Princeton University

May 9, 2007

Reception & Book Signing • 3:15 p.m. • DuPont Hall Lobby
Lecture • 4:00 p.m. • Mitchell Hall Auditorium

Biography: A member of the Princeton University faculty for more than 40 years, David Billington was named the first Gordon Y. S. Wu Professor of Engineering in 1996. He also serves as Director of Princeton’s Program on Architecture and Engineering, a position he has held since 1990. Billington’s lectures and teaching exhibitions have earned him national and international recognition. He has taught undergraduate and graduate courses in structures to engineers and architects, and he introduced three permanent introductory courses on engineering at Princeton. One of these, Structures and the Urban Environment, has been given regularly since 1974 and has frequently had the highest enrollment of any course offered by the School of Engineering and Applied Science, including large numbers of liberal arts students. Billington is the author of a series of major books, including The Tower and the Bridge: The New Art of Structural Engineering (1983); The Innovators: The Engineering Pioneers Who Made America Modern (1996); and Power, Speed, and Form: Engineers and the Making of the Twentieth Century (2006). Billington is also widely recognized for his contributions to the design of thin-shell concrete structures, which is the subject of one of his early books. The recipient of numerous awards, Billington received the National Science Foundation Director’s Distinguished Teaching Scholar Award in 2003. He was elected to the National Academy of Engineering in 1986 and more recently was elected a Fellow of the American Academy of Arts and Sciences, an Honorary Member of the American Society of Civil Engineers (ASCE), and an Honorary Member of the American Concrete Institute. Billington has been named one of the five top educators in civil engineering since 1874 by Engineering News Record. At Princeton, he received the President’s Award for Distinguished Teaching in 1996 and the School of Engineering and Applied Science Distinguished Teacher Award in 2001.

Abstract: Co-authored with his son, historian David Billington Jr., Power, Speed, and Form tells the story of the engineering behind eight breakthrough innovations that transformed American life from 1876 to 1939 and continue to provide the foundations of our modern society: the telephone, electric power, oil refining, the automobile, the airplane, radio, the long-span steel bridge, and building with reinforced concrete. These innovations used simple numerical ideas, which the Billingtons integrate with short narrative accounts of each breakthrough. Like the book, this talk will show how the best engineering exemplifies efficiency, economy, and, where possible, elegance.

For more information, contact Marikka Beach (marikka@ce.udel.edu; 302-831-2442) or go to www.ce.udel.edu/kerrlecture.html

The Kerr Lecture Series honors Dr. Arnold D. Kerr, Professor Emeritus of Civil Engineering at the University of Delaware. The series brings distinguished scientists and engineers to the University of Delaware each year to speak on topics in engineering mechanics and design. An endowment established in Kerr’s name upon his retirement in 2004 provides funds for the lectureship.