James Johnson Duderstadt  
*University of Michigan*

**BIOGRAPHY:**

Dr. James J. Duderstadt is President Emeritus and University Professor of Science and Engineering at the University of Michigan. He also serves as Director of the Millennium Project, a research center concerned with the future of higher education.

Dr. Duderstadt received his baccalaureate degree in electrical engineering from Yale University in 1964 and his doctorate in engineering science and physics from the California Institute of Technology in 1967. After a year as an Atomic Energy Commission Fellow at Caltech, he joined the faculty of the University of Michigan in 1968 as Professor of Nuclear Engineering. Dr. Duderstadt became Dean of the College of Engineering in 1981 and Provost and Vice President for Academic Affairs in 1986. He was appointed as President of the University of Michigan in 1988, and served in this role until July, 1996. He currently holds a university-wide faculty appointment as University Professor of Science and Engineering.

Dr. Duderstadt’s teaching and research interests have spanned a wide range of subjects in science, mathematics, and engineering, including work in areas such as nuclear systems, computer simulation, science policy, higher education, and information technology.

During his career, Dr. Duderstadt has received numerous national awards for his research, teaching, and service activities, including the E. O. Lawrence Award for excellence in nuclear research, the Arthur Holly Compton Prize for outstanding teaching, and the National Medal of Technology for exemplary service to the nation. He has been elected to numerous honorific societies including the National Academy of Engineering, the American Academy of Arts and Science, Phi Beta Kappa, and Tau Beta Pi.

Dr. Duderstadt has served on and/or chaired numerous public and private boards. These include the National Science Board; the Executive Council of the National Academy of Engineering; the Committee on Science, Engineering, and Public Policy of the National Academy of Sciences; the Nuclear Energy Research Advisory Committee of the Department of Energy; the Big Ten Athletic Conference; the University of Michigan Hospitals, Unisys, and CMS Energy.
ABSTRACT:

The basic structure of today’s academic research enterprise was set out fifty years ago in the seminal report, Science, the Endless Frontier, produced by a post-war study group chaired by Vannevar Bush. The central theme of the document was that the nation’s health, economy, and military security required continual deployment of new scientific knowledge and that the federal government was obligated to ensure basic scientific progress and the production of trained personnel in the national interest. It insisted that federal patronage was essential for the advancement of knowledge.

The resulting partnership between the federal government and the nation’s universities has had extraordinary impact. It has made America the world’s leading source of fundamental scientific knowledge. It has also produced the well-trained scientists and engineers capable of applying this new knowledge. This academic research enterprise has played a critical role in the conduct of more applied, mission-focused research in a host of areas including health care, agriculture, national defense, and economic development.

Unfortunately, in recent years the basic principles of this extraordinarily productive research partnership have begun to unravel. Scientists and universities are questioning whether they can depend on the stable and solid relationship they had come to trust and that has paid such enormous dividends in initiative, innovation, and creativity.

At the same time powerful forces, including obsolete cost structures, changing societal demand, and rapidly evolving information technology, are driving a massive restructuring of the American higher education enterprise, similar to that occurring in other critical industries such as health care, telecommunications, and energy. Although the great diversity of our colleges and universities will dictate an array of different strategies in the years ahead, all must cope with a future of unprecedented change, presenting both unusual challenges and opportunities. This era of change will pose a particular challenge to the dominant institutional form of the 20th Century, the American research university.