

Prospectus

The original mission of the Millennium Project was to explore possible futures of the university through experimentation and discovery. Rather than simply contemplating possibilities for the future through abstract study and debate the aim was to explore actively possible paths to the future by building prototypes of future learning institutions as working experiments. The Millennium Project was located in the Media Union, a major new academic complex designed to explore the impact of information technology on learning. Rather than being simply a “think-tank”, where ideas were generated and studied, the Millennium Project was to be a “do-tank”, where ideas would lead to the actual creation of working models of the future.

Many of these original objectives have been achieved. The Millennium Project played an important role in the design and launch of Michigan’s first virtual university, the Michigan Virtual Automotive College and then assisted in its evolution into the Michigan Virtual University. It created an online academy, CyberCamp, to enable high school students to learn the powerful tools of information technology. It is utilizing virtual reality tools to explore new types of pedagogy in higher education. Furthermore, the Millennium Project has stimulated a number of key papers, policy documents, and books on the future of higher education and the American research enterprise.

While the Millennium Project continues to support faculty, students, and staff to continue such exploratory efforts, it has also served as a useful platform for my own personal efforts to better link together a number of themes related to technology, learning, and research. Several topics of recent interest include:

- Our evolution into a society of learning, in which advanced education becomes a pervasive need and activity of our society.
- The possible restructuring of the postsecondary education enterprise, along with information technology, telecommunications, and entertainment industries, into a global knowledge and learning industry.
- The study of new types of knowledge and learning structures, such as new forms of educational systems (e.g., liberal arts colleges linked together with research universities), core-in-cloud research university complexes, and knowledge networks.
- The relationship between rapidly evolving technologies (infotech, biotech, nanotech), social change (knowledge-driven economy, society of learning, sustainable growth and development), and intellectual change (reductionism to complexity, analysis to creativity, linkage of microscopic to macroscopic)
- The exploration of a 21st Century “Learn-Grant” Act to enable our universities to transform themselves into forms better capable of developing our nation’s human resources, just as a century ago the Land-Grant Acts enabled them to assist in developing our natural resources.
- The exploration of a major research mission for the Department of Education, similar to DARPA in the Department of Defense, that would focus the nation’s top research talent on the challenges of education in an age of knowledge.

My current portfolio of assignments as chair or member of an unusually broad array of national leadership groups in science policy, education, and industry provides an

opportunity to work on such projects. (A list of these activities is provided in Appendix A.) These diverse roles not only provide an unusually broad perspective of issues in technology, education, and public policy, but they allow me to serve both as a catalyst and link among normally disparate activities.

For example, my involvement with the National Academies and the higher education community allow me to link together efforts such as the NAS Committee on Information Technology and the Future of the Research University with Department of Education programs such as the National Center for Postsecondary Improvement. My involvement with federal agencies such as the Department of Energy and National Science Foundation enable me to explore how the policies and programs of these agencies can affect the evolution of American higher education during a period of rapid change. My activities in federal science and technology policy, higher education, state government, and corporate governance provide an interesting perspective of the balance between market forces and public policy in determining the evolution of education, research, and innovation in this nation.

Hence the Millennium Project serves not only as a laboratory to explore the impact of technology on higher education, but it also provides a platform for my personal involvement in a range of important issues concerning technology, education, commerce, and public policy. For the past several years, the core activities of the Millennium Project have been sustained by a modest block grant from State of Michigan resources amounting to roughly \$300,000 per year. Since this support was of a one-time nature and will expire during the next two years, the continued existence and activities of the Millennium Project will depend on obtaining external support from other sources such as foundations or the federal government.

This brief prospectus seeks to determine possible interest in providing either broad sustaining support for the Millennium Project or sponsoring one of its several activities.

Appendix A

Current Activities

- National Academy of Sciences Committee on Science, Engineering, and Public Policy (COSEPUP) (member)
- National Academy of Sciences Steering Group on the Federal Science and Technology Budget (chair)
- National Academy of Sciences Committee on Information Technology and the Future of the Research University (chair)
- National Research Council Panel on Scholarship in the Digital Age (chair)
- National Academy of Engineering Executive Council (member)
- Advisory Committee on Nuclear Energy Research, Department of Energy (chair)
- National Research Council Review Panel on the Triana Earth Observing Satellite Mission (chair)
- National Center for Postsecondary Improvement, Department of Education (Senior Scholar)
- Higher Education Associations (AAU, NASUGC, ACE)
- Advisory Committee on Education and Human Resources, National Science Foundation (member)
- National Partnership for Advanced Computation Infrastructure (oversight board)
- Committee for Developing Partnerships between Liberal Arts Colleges and Research Universities, Rackham School of Graduate Studies, University of Michigan (chair)
- A Strategic Plan for Technology-Driven Economic Development in Ontario, Council of Ontario Universities (co-PI)
- The Glion Group (Joint European-American Seminar exploring Leadership in Higher Education)
- The Salzburg Seminar – Universities Project (Russia and Eastern Europe)
- Consultant to numerous university, state, and federal organizations on issues concerning higher education and science policy

Recent Publications:

James J. Duderstadt, *A University for the 21st Century* (Ann Arbor: University of Michigan Press, 2000) 358 pp

James J. Duderstadt, *Intercollegiate Athletics and the American University: A University President's Perspective* (Ann Arbor: University of Michigan Press, 2000) 280 pp.

James J. Duderstadt, *Positioning the University of Michigan for the New Millennium: A Case Study in University Transformation*. (Ann Arbor: Millennium Project, 1999) 630 pp.

James J. Duderstadt and Farris W. Womack, *Beyond the Crossroads: The Future of the Public University in America*, manuscript submitted for publication

James J. Duderstadt, Daniel E. Atkins, and Douglas Van Houweling, *Higher Education Faces the Digital Age* (Washington: American Council on Education, in preparation)

(Other publications can be found on the website: <http://milproj.ummu.umich.edu>)

Appendix B

Biographical Profile

James Johnson Duderstadt

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 in Michigan's Media Union concerned with the impact of information technology on research and teaching.

Dr. Duderstadt received his baccalaureate degree in electrical engineering with highest honors 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 Postdoctoral 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.

He currently chairs several major national study commissions, including a National Academy of Science task force examining the impact of information technology on the future of the university, a National Research Council panel developing a guidebook concerning scholarship in the digital age, and a Department of Energy committee developing a long-range strategy for nuclear energy research in the United States.

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