

Archived Information

Speaker biographies

Third Meeting, February 2-3, 2006

The Secretary of Education's Commission on the Future of Higher Education

Session 6

"Innovative Teaching and Learning Strategies"

Tom Magnanti

Thomas L. Magnanti is the Dean of the School of Engineering and one of fourteen Institute Professors at MIT where he has been a faculty member since 1971. He has devoted much of his professional career to education that combines engineering and management and to teaching and research in applied and theoretical aspects of large-scale optimization.

Professor Magnanti was a founding co-director of MIT's industry-university collaborative research and educational program, Leaders for Manufacturing Program, and its on-campus off-campus graduate program, System Design and Management. He has previously served as head of the Management Science Area (about one-third) of the Sloan School of Management and as co-director of MIT's interdepartmental Operations Research Center. He is a past President of the Operations Research Society of America (ORSA) and of the Institute of Operations Research and Management Sciences (INFORMS) and has been Editor-in-Chief of the journal *Operations Research*.

Dr. Magnanti currently serves on the International Advisory Board of Linköping University in Sweden, President's Council of Olin College, and the advisory boards of the Harvard Business School and the Stanford School of Engineering. He has previously served as a member of the National Research Council's Manufacturing Studies Board and on the board of the Lemelson-MIT Prize Committee.

Professor Magnanti received an undergraduate degree in Chemical Engineering from Syracuse University (1967) and master's degrees in both Statistics (1969) and Mathematics (1971) from Stanford University, where he also received his doctorate in Operations Research (1972).

On two occasions, Professor Magnanti has been a research fellow at the Center for Operations Research and Econometrics at the University of Louvain in Belgium. He has been a visiting scholar at the Harvard Business School and has held visiting scientist appointments at Bell Laboratories and at GTE Laboratories. He has also previously served as a member of the corporate manufacturing staff of Digital Equipment Corporation, on the Science and Technology Council of Inland Steel, and as a consultant to Sabre Technology Solutions. He currently serves on the Boards of the Ford Design Institute and Emptoris, Inc.

Professor Magnanti's research and teaching interests focus on the theory and application of large-scale optimization, particularly in the areas of network flows, nonlinear programming, and combinatorial optimization. He has conducted research on such topics as production planning and scheduling, transportation planning, facility location, logistics, and communication systems design. Dr. Magnanti has served on thesis committees for approximately 70 doctoral students, supervising over 25. His publications include co-authorship of two textbooks, *Applied Mathematical Programming* and *Network Flows: Theory, Algorithms and Applications*, and the co-editorship of two other books.

In addition to his editorship of *Operations Research*, Professor Magnanti has served on the editorial board and as an advisory editor of several journals and book series in the fields of management science, transportation, applied mathematics, and computer science.

He has received the MIT Billard Award and the ORSA Kimball Medal for distinguished service, as well as the Irwin Sizer Award for significant innovations in MIT education. He has also received the 1993 Lanchester Prize for best publication in the field of operations research and has received honorary doctorates from Linköping University, the University of Montreal, and the Université Catholique de Louvain. Professor Magnanti is a member of the National Academy of Engineering and the American Academy of Arts and Sciences.

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Joel Smith

Joel Smith is the Vice Provost and Chief Information Officer for Computing Services at Carnegie Mellon. He is responsible for the strategic evolution of the university's central computing infrastructure and support for academic programs. He also directs Carnegie Mellon's Office of Technology for Education.

Smith came to Carnegie Mellon in January 2000 to strengthen and coordinate the university's educational computing initiatives and to support the university's strategic focus on information and communication technology.

Under his leadership the Office of Technology for Education (OTE) has deployed and supported a campus-wide course information system now used in about 800 courses, provided consulting for a number of faculty technology-enhanced learning projects, and pursued a number of projects to use technology to support teaching and learning. Smith is the principle investigator on Carnegie Mellon's Open Learning Initiative (OLI) which resides in OTE. OLI is a project funded by the William and Flora Hewlett Foundation to develop high quality web-based courses and course materials.

Smith has extensive experience in teaching, research and administration of instructional and general computing. He has focused on innovation in teaching throughout his career, creating sustainable support models that made it easier for faculty and staff to find the services they needed. He has held tenure track and lecturer positions at Indiana University, Allegheny College, Claremont Graduate University and the University of California at San Diego. He is a member of Apple Computer's University Executive Forum and has served as an expert consultant for the National Science Foundation, the Organization for Economic Cooperation and Development, UNESCO, the Hewlett Foundation, and a number of colleges and universities.

A native of Waco, Texas, Smith earned bachelor's degrees in philosophy and physics and a master's degree in physics from Baylor University. He holds master's and doctor's degrees in history and the philosophy of science from the University of Pittsburgh. He is an adjunct member of Carnegie Mellon's Department of Philosophy.

Dave Wiley

David Wiley is deeply interested in using technology in innovative ways to advance educational opportunity around the world. An Assistant Professor of Instructional Technology at Utah State University, Prof. Wiley's work in reusable educational materials, social support for learning, and open access policies have won him numerous awards and recognitions.

In 2002 the National Science Foundation granted Prof. Wiley a CAREER award for his promising work in alternative models of digital educational material use and reuse in informal, online learning communities. This work and his passion for increasing access to educational opportunity have resulted in formal partnerships with several groundbreaking projects, including MIT's OpenCourseWare Initiative, the joint MIT/Microsoft iCampus project, and Rice University's Connexions project, for which Prof. Wiley's team provides social software enabling distributed, informal learning support.

The author of over 40 scholarly articles and book chapters, Prof. Wiley's work has been written about in The New York Times, The London Financial Times, The Hindu, WIRED, and other media outlets. Dr. Wiley is also an active consultant, whose past clients include the Institute for Defense Analyses and PBS.