

NORTHWESTERN UNIVERSITY
ROBERT R. McCORMICK SCHOOL OF ENGINEERING AND APPLIED SCIENCE
MINUTES OF THE FACULTY

December 5, 2005

1. Approval of Minutes

The meeting was called to order by Dean Julio M. Ottino at 1:30 p.m. The Minutes of the September 19, 2005, meeting were approved, as amended.

2. Announcements

Faculty appointments and honors in the several departments were announced by the department chairman or representative as follows:

Engineering Sciences and Applied Mathematics

William L. Kath has been named co-director of the Northwestern Institute on Complex Systems.

Mary C. Silber has been elected to serve a two-year term as Vice Chair of the Society for Industrial and Applied Mathematics (SIAM) Activity Group on Dynamical Systems starting January 1, 2006.

Sascha Hilgenfeldt was a plenary speaker at the 6th Liquid Matter Conference in Utrecht 2005 and will be a plenary speaker at the upcoming 6th Euromech 2006 Conference in Stockholm.

Materials Science and Engineering

Monica Olvera has been appointed a member of the Advisory Committee of the Mathematics and Physical Sciences Directorate of the National Science Foundation.

Industrial Engineering and Management Sciences

Gordon B. Hazen was appointed Decision Analysis Area Editor of Operations Research.

Tito Homem-de-Mello was appointed Associate Editor of Operations Research.

Wallace J. Hopp was named the Winner of the Society for Manufacturing Engineers (SME) Education Award.

Vadim Linetsky was elected Council Member of the Bachelier Finance Society. He was also appointed Associate Editor of Operations Research.

Sanjay Mehrotra was elected Vice President INFORMS (Chapters) and Vice Chair, INFORMS Optimization Society (Computational Optimization and Software). He also received the INFORMS 2005 Moving Spirit Award.

Barry L. Nelson was elected Fellow of INFORMS. He has been also named Editor-in-Chief of Naval Research Logistics.

Mechanical Engineering

Ted B. Belytschko gave the Newmark Distinguished Lecture at the University of Illinois at Urbana on October 10, 2005.

Sridhar Krishnaswamy has been appointed an Associate Editor of the ASME Journal of Applied Mechanics.

Wing Kam Liu and co-authors had three papers in the October 2005 listing of Science Direct's TOP25 articles downloaded from Computer Methods in Applied Mechanics and Engineering, including the number one slot.

Richard M. Lueptow was the lead organizer of the American Physical Society Division of Fluid Dynamics meeting in Chicago on November 20-22, 2005. This was the largest of such meetings ever held, with 1460 abstracts and 1800 participants. The meeting included a special address by Nobel Laureate Leon Lederman.

John W. Rudnicki (with Jim Rice from Harvard) gave the Invited Geodynamics Lectures November 10-11 at Purdue University. He is also giving an Invited Presentation at the Fall Meeting of the American Geophysical Union in San Francisco on Monday, December 5.

Civil and Environmental Engineering

Surendra P. Shah has been selected as the recipient of the 2006 Philleo Award for pioneering developments in high-performance concrete and fiber-reinforced cement-based materials, and for leadership in the conduct of inter-disciplinary research. The Award will be presented to him at the Opening Session and Awards Program on Sunday, March 26, 2006, at the ACI Spring Convention in Charlotte.

Raymond J. Krizek presented the lecture titled "The Trichotomy of Civil Engineering" at the 29th Annual G. Brooks Earnest Award and Lecture Dinner on November 10, 2005. This event was held by the Cleveland Section of the American Society of Civil Engineers.

Chemical and Biological Engineering

Harold H. Kung and William M. Miller have been elected Fellows of the American Association for the Advancement of Science.

Vassily Hatzimanikatis has been elected to the Editorial Board of Bioprocess and Biosystems Engineering, and named Associate Editor of Biotechnology and Bioengineering.

Electrical Engineering and Computer Science

Thrasyvoulos N. Pappas has been elected a Fellow of IEEE.

Jorge Nocedal has been appointed to the Editorial Board of SIAM Review.

Pierre-Yves Delaunay, one of Manijeh Razeghi's graduate students, received a special prize from Ecole Polytechnique in Paris, France, for his research project work during his internship period April-July 2005 undertaken in the Center for Quantum Devices under her supervision. The award presentation ceremony at Ecole Polytechnique was held on November 17, 2005.

Biomedical Engineering

Phillip B. Messersmith was elected to the College of Fellows of the American Institute of Medical and Biological Engineers (AIMBE).

3. Approval of Degree Candidates

Stephen H. Carr, Associate Dean, moved that the students on the list provided with the Call be approved for the several degrees, including both undergraduate and graduate, subject to the completion of course work in progress. The motion was seconded and passed.

4. Report of the Curriculum Committee

Dean Carr briefly reviewed the ABET visit, stating that all of our ten undergraduate degree programs passed. Under the new system, two are approved for six years and eight for two years, at the present time, and we are now dealing with some of the issues the evaluators came up with. They recognized that we had outstanding faculty, outstanding students, outstanding facilities. They liked our freshman courses and our design courses. And they cited us as having best practices in measuring learning outcomes. During this due process phase we will be improving documentation to change the two year periods to six years. If there are two year continuations, we will need another report or another visit.

Dean Carr reviewed the Fall Quarter Final Report of the Curriculum Committee (a copy of which accompanies these Minutes). He moved its approval, and the motion passed.

5. Report on Graduate Studies and Research

The report is included in Item 8 below.

6. Committee Reports

There were no committee reports.

7. New Business

There was no new business.

8. Report from the Dean

The Dean said that our vision is excellence at all levels, that our number of faculty will not increase significantly, that we must be collectively good in all three things – teaching, research, and service. There are consequences to excellence, our reputation increases which means better recruiting, better retention, added funding, adding value to the degree, and more influence.

What are our goals? We need to have a story and departments have to have a mission. What are the forces we must respond to? The time it takes for an idea to become realized is becoming shorter and shorter. Technology is penetrating all of society. We have to be aware of the changes in society, in the shift from manufacturing to service, knowledge is becoming a commodity. We need to promote interdisciplinarity, foster adaptability, encourage innovation, rethink our education portfolio, and promote broad based education. We need to go deeper.

In order to address the future, we need to count people more than once. Our strategy is strengthening the core, enlarging the periphery, “changing the rules” define future core and make periphery count, attract the necessary resources to take risks and support excellence. We have a list of activities and implementations, a list similar to that presented in September.

We need to improve our relationships with the media, and we will have a workshop on this area. And we should do this with Placement and Human Resources. We are working towards this goal in development, and Roger Williams, Director of Development, will be the quarterback. We have started workshops to encourage ideas from the bottom up. We have a wish list of development priorities for faculty, education, infrastructure, and cross-cutting.

He then called upon Senior Associate Dean Joseph T. Walsh.

Dean Walsh said that he would cover some things which are a little more nitty gritty than the big picture just presented. Graduate studies; you are in the midst of recruiting, and there are changes that are coming. I have talked with the Admissions Director. We will have some additional Murphys coming. There will be no change in Cabells, but a significant change in Murphys with a three year allocation. There will be an earlier application deadline, with more time to recruit, and it will be more in line with peers. Get your offers out as early as you can.

In research, the new Director starts in a week. We are working on recruiting research administrators to work in the departments, three this year. Your effort reports must be certified as required by the Central Administration.

With respect to space, we are working out some problems with the Ford building, and we are in a continuing dialogue about the temperature recycling in this building.

Dean Ottino said there was time for questions, and a short question and answer period occurred.

9. Adjournment

The meeting was adjourned at 3:50 p.m. upon a motion duly made, seconded and passed.

Respectfully submitted,

Charles W. N. Thompson, Secretary