

February 1, 2006

Professor Sammy Tin
MMAE Department, IIT

“Intelligent Alloy Design: Engineering Advanced Materials Amendable for Manufacture”

February 15, 2006

Professor George Huang
University of Kentucky

“A High-Order Space-Time Polynomial Adaptation for Discontinuity Capturing”

February 22, 2006

Professor Daniel Weihs
Israel Institute of Technology

“Micro and Nano Unmanned Aerial Vehicles”

February 28, 2006

Dr. Jason Rife
Stanford University

“Navigation Integrity: From Automated Aircraft Landing to Deep-Ocean Animal Tracking”

March 8, 2006

Professor George Karniadakis
Brown University

“Colloidal Microdevices and Dynamic Self-Assembly: Algorithms and Simulations”

March 15, 2006

Jerry Kegelman, Associate Director
Aerodynamics, Aerothermodynamics and Acoustics Research and Technology
NASA Langley Research Center

March 22, 2006

Dr. Soon-Jo Chung
Massachusetts Institute of Technology

“Synchronization Control of Multiple Dynamical Systems”

April 5, 2006

Dr. Dimitri Hatzivramidis
Dept. of Chemical and Environmental Eng. – IIT

“Pharmaceutical Engineering: A New Engineering Discipline in the Making”

April 12, 2006

Professor David Rosen
Georgia Institute of Technology

“Cellular Structures: A New Material Mesostructure for Multifunctional Applications”

April 19, 2006

Professor David Williams – *MMAE/IIT*
and Mr. Jerome Chiecchio, *Delta Airlines*

“Flying from Chicago to Latvia in a Cessna 182”

April 26, 2006

Professor Pedro Ponte Castaneda
University of Pennsylvania

“Effective Behavior, Microstructure Evolution and Macroscopic Instabilities in Porous and Reinforced Elastomers”

May 3, 2006

Dr. Ricardo Schwarz
Los Alamos National Laboratory

“Low Energy Vibrational Excitations in Metallic Glasses”

September 6, 2006

Professor Kenneth Christensen

University of Illinois, Urbana-Champaign

“Structural and Statistical Features of Turbulence in the Presence of Smooth and Highly-Irregular Rough Walls”

September 13, 2006

Dr. Jack Shapiro

Formerly of Inland Steel

“Optimizing the Use of Ultra High Strength Steels”

September 28, 2006

Michael Goulain

Research and Technology Dept. - AIRBUS

“Airbus R&T Strategy”

October 4, 2006

Professor Harrison M. Kim

University of Illinois, Urbana-Champaign

“Pseudo-Hierarchical Multi-stage Model for System of Systems Optimization”

October 11, 2006

Professor Thomas Kurfess

Clemson University

“Large Scale Computational Metrology for Large and Micro-Parts”

October 25, 2006

Professor Neelesh A. Patankar

Northwestern University

“Fully Resolved Simulation of Particulate Flows: From Macro to Sub-Micron Scales”

November 1, 2006

Professor Alan C. F. Cocks

Oxford University

“From Quantum Dots to Turbine Blades”

November 8, 2006

Professor Vinod Narayanan

Oregon State University

“Quantitative Characterization of Microchannel Heat and Mass Transfer”

November 15, 2006

Professor Urmila Ghia

Cincinnati University

“Physics-based Computational Simulation of Unsteady Separated Flows – A Catalyst for Flow – Adaptive Grid Generation”



James William Dally

1929 -

Sardis, Ohio

JAMES DALLY's specialties are experimental stress analysis, fracture mechanics and microelectronic packaging. He has published widely in the areas of photo elasticity, fatigue, fracture and experimental stress analysis. His most significant book is *Experimental Stress Analysis*.

From 1953 to 1958, the year he earned his Ph.D. at IIT, Dally worked for the university's Armour Research Foundation (now IITRI).

Among his honors are Fellow, American Society of Mechanical Engineers; Fellow, Society for Experimental Stress Analysis (SESA), now the Society for Experimental Mechanics; the M.M. Frocht Award, SESA, 1976, and Fellow, 1978; William M. Murray Lectureship, SESA; and Honorary Member, SESA, 1982. Dally is a member of Sigma XI and the U.S. National Committee of Theoretical and Applied Mathematics.



Cemal Eringen

1921 -

Kayseri, Turkey

CEMAL ERINGEN is best known for his work in continuum physics and applied mathematics. He was on the IIT faculty from 1948 to 1953.

In 1975, the Society of Engineering Science established a medal in his honor, which it awards to the best engineering scientist each year.

Eringen was named Best Engineering Scientist at Michigan Technological University in 1983 and received an honorary degree of Doctor of Laws, University of Glasgow, Scotland, 1981; a Certificate of Appreciation, 1974 and 1975; a Distinguished Service Award, 1973; a Sigma XI Award for outstanding research, 1962-63, from the Society of Engineering Science; and a Certificate of Achievement, Polytechnic of Institute of Brooklyn, 1957.



Philip Gibson Hodge, Jr.

1920 -

New Haven, Connecticut

PHILIP HODGE specialized in plasticity and numerical analysis. He authored five books, including *Limit Analysis of Rotationally Symmetric Plates and Shells*, and was the technical editor of the *Journal of Applied Mechanics* (1971–76).

Hodge was professor of mechanics at IIT from 1957 to 1971 and a consultant at Armour Research Foundation (now IITRI) from 1957 to 1968. After leaving his faculty post at IIT in 1971, he went to the University of Minnesota, where he served on the faculty until his retirement 20 years later.

Hodge was selected to the National Academy of Engineering in 1977. Among his honors and awards were the Worcester Reed Warner Medal of the American Society of Mechanical Engineers (ASME), 1975; ASME honorary membership (1977); the Euler Medal from the Academy of Sciences of the USSR (1983); the Distinguished Service Award of the American Academy of Mechanics (1984); the Theodore von Karman Medal from the American Society of Civil Engineers (1985); and the ASME Medal (1987).



James Cimon Peebles

1880-1954

Dreghorn, Scotland

JAMES PEEBLES specialized in heat transfer, commercial and domestic insulation, and heating by solar radiation, particularly in designing houses that made maximum use of solar heat. He designed and built the guarded hotplate for measuring heat flow. This device was adopted as a standard by the American Society for Testing Materials and used as standard equipment in research laboratories throughout the world.

A 1904 alumnus of Armour Institute, a predecessor of IIT, Peebles began what would become a 40-year teaching career at IIT and its predecessor institutions. Among his roles were acting head of the Department of Mechanical Engineering (1939 to 1943) and dean of engineering (1942 to 1948).

Peebles devoted his retirement years to the compilation and preparation of a history of Armour and Lewis institutes



John Ingel Yellott

1908-1986

Bel Air, Maryland

JOHN YELLOTT'S principal expertise was solar energy uses and control, including solving problems of steam flow through nozzles, eliminating noise from high-pressure reducing valves, developing a coal-burning gas turbine for locomotive use and developing methods for estimating solar heat gain through windows.

During World War II, he served as Director of the Institute of Gas Technology and was professor of mechanics at IIT.

Among Yellott's honors are the Henry Heff Award, American Society of Mechanical Engineers (ASME, 1939); Pi Tau Sigma Gold Medal, 1940; Distinguished Fellow Award, the American Society of Heating, Refrigerating, and Air-Conditioning Engineers, 1979; Centennial Medallion, ASME, 1979, and the Stephens Institute Honor Award, 1980. He became a member of the Order of the British Empire in 1966.

IN MEMORIAM

MMAE Announces Passing of Dr. Isaac Ginsburg

The Mechanical, Materials and Aerospace Engineering Department faculty is saddened to announce the sudden passing of Professor Isaac Ginsburg on August 26, 2006. Services were held on August 28 at Sunset Memorial Lawns Chapel in Northbrook, IL. He was 70 years old.

Dr. Ginsburg completed his BS degree in Mechanical Engineering (1958) at Kharkov Polytechnic Institute (Ukraine); MS degree in Applied Mathematics (1968) at Kharkov State University and PhD degree in Applied Mathematics (1968) at the Engineering Academy at Kharkov. He had been a part-time lecturer for the MMAE

Department since 1992 specializing in the areas of mechanics, statics and dynamics, mechanics of solids and mechanical vibrations.

Dr. Ginsburg was a great teacher. He was the recipient of the departmental Ralph L. Barnett Excellence in Teaching Award during the 2001-02 academic year. Dr. Ginsburg was highly respected by both students and colleagues and will be greatly missed.



MMAE Establishes



Professor Andrew Fejer

the Andrew Fejer Memorial Fellowship

IN RECOGNITION OF PROFESSOR ANDREW FEJER, and his many contributions to IIT and mechanical engineering education and research, the Mechanical, Materials and Aerospace Engineering department is establishing the *Andrew Fejer Memorial Fellowship*. This endowment supports new domestic graduate students who have achieved an outstanding level of academic excellence.

To remember Professor Fejer, please use the enclosed envelope to direct your contribution to this Memorial Fellowship Endowment.

MMAE Remembers Former Chair Andrew Fejer

On May 12, 2006, friends, family and colleagues gathered at Carr Memorial Chapel on IIT's Main Campus to reflect on the legacy of former MMAE Chair Andrew Fejer and to share some of the many memories about the "father" of modern Mechanical and Aerospace Engineering at IIT. Professor Andrew Fejer died on March 20 while being treated for pneumonia at Mount Sinai Medical Center in Miami Beach. He was 92.

Born in Hungary in 1913, Dr. Fejer served as an apprentice of aviation pioneer Theodore Von Karman of Budapest. He graduated from the Technical University of Prague, Czechoslovakia, in 1937, completed his Master's degree in aeronautical engineering 1939 at Caltech, and earned a PhD in aeronautical engineering and physics in 1945 while working for NASA's Propulsion Laboratory. He began his teaching career at the University of Toledo where he served as head of the Mechanical Engineering Department from 1946 to 1958. Later that year, Dr. Fejer joined IIT as Director of the Department of Mechanical and Aerospace engineering and served in that capacity until 1972. He continued as a full-time faculty member until 1978. He received the IIT Excellence in Research Award for his pioneering achievements in the areas of wind tunnel design, jet engines, turbines for power plants and wind engineering. Working with Professors Mark Morkovin and Peter Chiarulli, Dr. Fejer established IIT as a world leader in fluid mechanics.

Today, the oldest experimental wind tunnel facility in IIT's Fluid Dynamics Research Center is named in his honor.

In addition to his internationally recognized research activities, Dr. Fejer was a front-runner in engineering education. At IIT, he introduced numerous international student exchange programs and modernized many physical facilities, laboratories and processes, including a promotion and tenure document that essentially remains in effect today. The Engineering One Building, which has housed the department since 1968, was planned primarily by Professor Fejer and designed by Skidmore, Owings and Merrill architects Myron Goldsmith and Fazlur Khan.

A renaissance man at heart, Dr. Fejer introduced many of his students to photography and music, co-authoring an article with them that was published in the art journal, *Leonardo*. He began a trend to relate artistic value to scientific images that has become the annual Gallery of Fluid Motions event at the American Physical Society Fluid Dynamics Division technical meeting.

Dr. Fejer retired to Surfside, Florida, in 1994. He is survived by two sons, Mark and William; a daughter, Ilona Wiss; a sister, Klara Prec; and three grandchildren. His wife, Edith, died in 1997. Dr. Fejer will be greatly missed.