

The Trend

News and Notices from the departments and programs

Aeronautics and Astronautics

The **F.K. Kirsten Wind Tunnel** is celebrating its 50th anniversary this year. From its opening, the UW wind tunnel has been intimately involved in the development of all Boeing airplane models, and many aircraft and vehicles of other manufacturers.

Run by undergraduate students, primarily of the department of aeronautics and astronautics, it has provided valuable industrial experiences and training. Former employees of the tunnel have made, and continue to make, valuable contributions to the field of aerodynamics, as well as many other engineering disciplines.

A dinner gathering of present and past employees, customers, and friends of the Kirsten Wind Tunnel is planned for Monday, July 25, 1988 at the UW center for urban horticulture. During this time we hope many of our old associates will pay us a visit and join in the festivities. Also, anniversary tee shirts and sweat shirts have been designed and produced by one of our present student employees.

For information, please contact Professor **William H. Rae, Jr.**, Associate Director, Kirsten Wind Tunnel, University of Washington, FS-10, Seattle, Washington 98195, (206) 543-0439.

James C. Hermanson joins the faculty as a research assistant professor. In 1977 he received his B.S. from the University of Washington; in 1980 he earned a M.S. followed by a Ph.D. in 1985, both from the California Institute of Technology. His areas of specialization include: fluid mechanics, propulsion, combustion, propeller-hull interaction, turbulent reacting shear flows, and bubbly ship wakes. His expertise has led to an association with the Applied Physics Laboratory as Engineer IV.

Bioengineering

Dale Johnson, professor of bioengineering and adjunct professor of materials science and engineering, was appointed Associate Dean for Academic Programs and Research in the University's graduate school. Johnson took over the position last August from **Joe Norman, Jr.**, who is now the Dean of the College of Arts and Sciences. In 1976, Johnson joined the UW faculty and spent the past three years as assistant director of the Center.

Alan Mackenzie, research associate professor, is involved in an embryo-freezing program at Swedish Hospital Medical Center, not Harborview Medical Center, as stated in the Autumn issue of the Trend. The editors regret this error.

The Center held its **20th anniversary party** on November 23 and 24. The festivities included a luncheon for faculty, students, staff, and friends of bioengineering and the first annual lecture in the

Robert Rushmer Lectureship series. **David Auth**, affiliate professor and director of Biophysics International, spoke on "The Fantastic Voyage of Catheter Based Surgery." The lecture series is open to the public and admission is complimentary. Another lecture will be scheduled for Fall of 1988.



At the poster session, **Ann DiMarco** describes her research to **Alan Kagonov**, **Baxter Healthcare Corp.**

Chemical Engineering

E. James Davis, professor of chemical engineering, and **Michael Pilat**, professor of civil engineering, hosted the 1987 meeting of the American Association for Aerosol Research at Kane Hall in September. Pilat served as general chair and Davis chaired the technical program.

The meeting attracted nearly 340 professionals from all over the world, and over 250 papers were presented. Discussions and papers covered a wide range of topics from tobacco smoke to nuclear winter.

The **Polymeric Composites Laboratory (PCL)**, directed by **James Seferis**, professor of chemical and polymer engineering, increased its repertoire of research activities recently, when it acquired a new injection molding machine manufactured by Battenfeld of Austria. **Jan-Anders Manson**, research assistant professor, who has had several years' experience in industry and who holds several patents related to injection molding, will be co-directing this new area of research in the laboratory.

Injection molding is an established manufacturing technique that has great potential in upgrading for processing advanced structural materials used chiefly in the aerospace industry. The PCL team will be using the technique to study the manufacturing of high performance, advanced structural composite parts.

The basic injection molding machine was purchased by Seferis' group from Battenfeld for a joint project with Boeing Manufacturing Research and Development division. Battenfeld has also joined the PCL list of industrial sponsors and is expected to assist with equipment support and expertise in what promises to become a novel area for injection molding technology development.

Civil Engineering

Colin Brown was appointed chair of the department of civil engineering in September. Last year he served as chair of the faculty senate and has been a member of the faculty since 1969. During his tenure, Brown has taught and conducted research in structural engineering and mechanics and probabilistic design methods.

Brown succeeds **Ronald Nece**, former acting chair, who is currently on sabbatical leave in England.

G. Scott Rutherford, associate professor, has stepped down as the Washington State Department of Transportation (WSDOT) research director. In 1983 Rutherford received his appointment as both research director for WSDOT and Washington State Transportation Center (TRAC) director. The joint selection was a move to help establish a rapport between WSDOT staff and researchers from UW and WSU.

Under Rutherford's direction both organizations experienced such growth that full-time directors are now required for each. Rutherford remains the TRAC director, while John Doyle, formerly WSDOT's chief economist succeeds him as director of WSDOT. "The challenge," said Doyle, "is to keep the momentum going that was established by Rutherford."

Joining the faculty as assistant professor is **Charles Jahren**. He earned a B.S. in 1977 and an M.B.A. in 1982 from Minnesota, followed by a Ph.D. in 1987 from Purdue. An expert in waterfront and marine construction and temporary structures, he teaches classes in construction engineering and management.

H. David Stensel received the 1987 Harrison Prescott Eddy Award, of the Water Pollution Control Federation (WPCF). His research paper, "Aeration and Substrate Utilization in a Sparged Packed Bed Biofilm Reactor," was judged as the best paper published in the Federation's journal in the previous year. The article appeared in the November 1986 issue of the WPCF journal. Stensel received his award at the WPCF annual convention held in October in Philadelphia.

The Workshop on Modeling Physical Oceanography of Puget Sound was co-organized by **Wen-sen Chu**, associate professor; William Lavell, National Oceanic and Atmospheric Administration (NOAA); and Roy Walters, United States Geological Survey. Fourteen speakers and seventy participants attended the workshop held in November at the NOAA Western Regional Center in Seattle. Experiences in field observation and analytical, physical and numerical modeling works related to Puget Sound were presented by the speakers.

In December, Chu visited the National Taiwan University (NTU) in the Republic of China (ROC) for three weeks. He acted as the visiting principal investigator for a research project on the real-time operation of the two major water supply reservoirs in

northern Taiwan. This research will be conducted along with professors Jan-Tai Kuo and Nien-sheng Hsu of NTU from 1987 until 1990 and is funded by the ROC's Water Resources Commission.

Nancy Nihan, professor, traveled to Washington, D.C. in February, to attend a meeting at the U.S. Department of Transportation (DOT). The meeting was held to establish a Regional Transportation Center for the states of Alaska, Idaho, Oregon, and Washington. Nihan will serve as director of the center, which will be doing research in intermodal transportation. The center expects to receive \$1 million per year for four years from the DOT, plus matching funds from local sources.

Electrical Engineering



Robert Porter receives naval research appointment

Robert Porter, chairman, has accepted a two-year appointment to the prestigious Naval Research Advisory Committee. The committee serves as an advisory group to the Secretary of the Navy, the Chief of Naval Operations, the Commandant of the Marine Corps, and the Chief of Naval Research.

James H. Webb, Jr., Secretary of the Navy, explains that Porter's participation will entail, "not only developing the Navy's research and development program, but also providing advice on significant challenges confronting the Navy."

In December 1987, **S.S. Venkata**, professor, spent five weeks in India. During his stay there he spoke and presented papers at several events in Calcutta and Bangalore. Upon his return, he was elected to a two-year term as Region 6 North (Pacific Northwest Region) Chapter Representative of IEEE Power Engineering Society. His term will run through January 1990.

Akira Ishimaru, professor, was one of 500 participants in Moscow's *Space Future Forum* last October. Scientists from around the world were invited to attend the event, which was sponsored by the Soviet Institute of Space Research. *Time* magazine featured the "extravaganza" as the cover story in the October 5 issue. The major focus of the forum was on international cooperation in space.

Robert Spindel, professor of electrical engineering and adjunct professor of oceanography, was appointed director of the Applied Physics Laboratory (APL) this past summer. Prior to his appointment at the UW, Spindel was the chair of the Department of Ocean Engineering at Woods Hole Oceanographic Institution, Massachusetts.

Spindel oversees a diverse staff, many of whom hold joint appointments in various colleges and schools across campus. The major areas of expertise on the APL staff include ocean science, ocean acoustics and ocean technology. The lab is now a part of the College of Ocean and Fishery Sciences. The facilities are unique and coordinate research both at the lab and in the Arctic polar region.

The Optical Society of America now has an official Puget Sound Chapter, thanks to the efforts of **Robert J. Marks II**, professor; **Leung Tsang**, professor; and **R. Aaron Falk**, from Boeing Aerospace. Marks is serving as president of the new chapter. Anyone interested in information about the Society should contact Secretary/Treasurer David Capps at Boeing Aerospace Co., P.O. Box 3599, M/S 87-50, Seattle, WA 98124.

Marks has also been named chairman of the IEEE Circuits and Systems Society's Technical Committee on Neural Computing. He will be attending the International Symposium on Circuits and Systems in Helsinki in June, where special sessions and tutorials will be devoted to neural networks.

David Johnson, professor, is on sabbatical at the University of Nantes, France from March 15 until June 15. His work there will include lectures, symposia, and colloquia related to the University's efforts to establish an artificial intelligence curriculum.

Industrial Engineering

Woodrow Barfield has joined industrial engineering as assistant professor, becoming the College's primary human factors engineering faculty member. He received a bachelor's degree in engineering psychology from UCLA in 1976 and a master's degree in engineering psychology from California State University at Los Angeles in 1980. Barfield earned his Ph.D. in industrial engineering in 1986 from Purdue University, and taught for two years at George Washington University, in Washington, D.C., where he was director of the laboratory for human factors research. Most recently he received the Presidential Young Investigator award. (See related article under Other College Activities)

Barfield's specialty is human/computer interaction. Other University faculty members involved in human factors studies are Theus Doolittle, associate professor in the Department of Environmental Health; Beth Kerr, associate professor; Earl Hunt, professor; and John Palmer, assistant professor, all of the Department of Psychology; and Mark Haselkorn, associate professor and director of the Program in Scientific and Technical Communication.

Materials Science and Engineering

The second phase of the **Roberts Hall** renovation is still underway with the completion planned for July. The 1920s building is being redesigned and reinforced to meet the current seismic codes. The \$6-million project was designed to retain the appearance of the building, while making it safer and more space efficient.

Ilhan Aksay, professor, was recently presented the Richard M. Fulrath Award from the American Ceramic Society. The award is for his contributions to the microdesigning of ceramics using colloidal techniques.

Richard Bradt, professor, will be awarded the 1988 T.J. Planje-St. Louis Refractories Award on May 20 at the St. Louis Refractories Symposium. The award is the most prestigious honor available in the field of refractories. Bradt will predict future trends in refractory materials in his acceptance speech.

Bradt, who is also the Kyocera professor of ceramic engineering, delivered the keynote address at the Canadian University-Industry Council on Advanced Ceramics on February 25 in Toronto.

The Materials Research Society sponsored a conference on Atomic and Molecular Processing of Electronic and Ceramic Materials last Fall. **Tom Stoebe**, professor and chair, chaired the conference which attracted about 100 scientists and engineers from both industry and academia.

Ilhan Aksay and **Bill Scott**, professors, and **Michael Kaufman**, assistant professor, were members of the organizing committee. Some of the main topics included: surface structural chemistry applied to microelectronics, epitaxial growth and processing of III-V compounds, and the current understanding of unique materials such as superconducting ceramic oxides.

Mechanical Engineering

The 22nd International Symposium of the Combustion Society will be held August 14-19 in Kane and Meany Halls. Among the topics of special interest to be discussed during the colloquia are: reaction kinetics in combustion, turbulent reacting flow, combustion generated particulates, and combustion diagnostics.

Information regarding the symposium can be obtained from the Department of Continuing Education, (206) 543-5539.

Albert Kobayashi, professor; **Minoru Taya**, associate professor; and **Richard Bradt**, Kyocera professor of ceramic engineering, were awarded a Department of Energy Instrumentation Grant of \$235,291 plus University matching funds. The grant will be used to build a high-temperature impact testing system, to

OPTICAL SOCIETY *of* AMERICA

EXECUTIVE OFFICE
1816 JEFFERSON PLACE, N. W.
WASHINGTON, D. C. 20036
202-223-8130

May 6, 1987

Robert J. Marks, II
President Pro Tem.
Dept. of Electrical Eng., FT-10
University of Washington
Seattle, WA 98195

Dear Robert:

On behalf of the Board of Directors of the Optical Society of America, congratulations to you and the other officers and members of the new Puget Sound local section upon being officially recognized as a local section of the Optical Society of America. The Board approved your constitution on May 2, 1987. I will order for your local section an engraved gavel, to be passed on from president to president.

Please note that regular correspondence from our office will go to your local section secretary, currently Leung Tsang. It is his responsibility to appropriately share these materials to other officers and section members.

Once again, congratulations on becoming the 27th local section of the Optical Society of America.

Sincerely Yours,



William A. Borrelle
Technical Activities Manager

WAB/lse
05067mar

cc: Paul S. Angello
Leung Tsang