

# Roberts Hall Review

UNIVERSITY OF WASHINGTON  
**COLLEGE of ENGINEERING**  
*A Community of Innovators*

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## New Faculty Members join MSE!

MSE has just completed a national search to fill two positions in the area of organic/polymeric photonic/opto-electronic materials and devices. Funding for these positions comes from the Advanced Technology Initiative (ATI) and the NSF Science & Technology Center (STC)-funded Materials & Devices for Information Technology Research Center (MDITR). After examining more than 100 applications and bringing several finalists to campus for in-person interviews, offers were made to Christine Luscombe and Vitaly Podzorov who are joining our Department as tenure-track Assistant Professors effective September 2006.



*Christine Luscombe*

Christine Luscombe completed her PhD in 2003 at the University of Cambridge in the field of organic and polymer chemistry. She comes to UW after two years as a postdoctoral researcher at Berkeley in the Department of Chemistry where her research interests lie at the interface of organic materials. Christine proposes a research program that builds on the expertise she has gained in organic synthesis, materials and surface chemistry, and focuses on the development of new materials for electronic devices while at the same time examining methods for altering the surface chemistry in order to control the nanoscale morphology of these materials within the device.

After completing his undergraduate and master's studies at the Moscow Institute of Physics and Technology, Vitaly Podzorov moved to Rutgers's University in New Jersey where he received a 2002 PhD in Physics. Since 2002, he has been a postdoctoral researcher at Rutgers. His plans for future research involve comprehensive studies of the charge carrier transport and photo physical properties of high quality organic semiconductor devices, including, but not limited to the novel single-crystal OFETs and photo-voltaic cells.



*Vitaly Podzorov*

The Department is excited about and committed to establishing a world-class research program in the area of organic devices for photonic and electronic applications. With the arrival of Christine and Vitaly, we are moving towards that goal and we know they will develop impressive interdisciplinary research programs that will add to our Department's growing reputation. In later issues of this newsletter, we will highlight their work after they have had a chance to establish themselves in the Department.



## Message from MSE Chair Alex Jen

I would like to take this opportunity to introduce myself. I accepted the position of Acting Chair in autumn 2005 following Raj Bordia's decision to step down after nine years as Chair. Raj did a wonderful job as Chair, guiding the department through a period of big changes, including a new, single degree, undergraduate curriculum and a shift of research focus from the traditional ceramic and metallurgical to bio- and nano-technology. We were all sorry to lose Raj's leadership as chair, but he made the decision that he wanted to refocus



Our faculty continues to achieve recognition for their accomplishments and those honors are highlighted in this issue. Also, the Department has made large gains in research funding and you can read about the past year's impressive \$17 million in new grants, most of which fund important new research directions in photonics, molecular electronics, nanotechnology, magnetism, biomaterials, crystal growth and fuel cells. On page 5, I think you will enjoy reading about two, new interdisciplinary research centers that call MSE home and which have been created as a result of the efforts of our faculty members.

I would like to add that our academic programs continue to improve along with the quality of our student body, and that is being reflected in our national standing in polls such as that conducted by U.S. News & World

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*"I am excited to introduce two, new faculty members who are joining us this September"*

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his energies on building his research and student group.

I am excited to introduce two, new faculty members who are joining us this September as tenure-track assistant professors. Christine Luscombe and Vitaly Podzorov come to us as a result of the very successful conclusion of our national search in the field of organic/polymeric photonic/opto-electronic materials and devices. These positions were created with funding from Washington State's Advanced Technology Initiative and the UW NSF Science & Technology Center. We expect that Christine and Vitaly will develop impressive interdisciplinary research programs that will add to our Department's growing national reputation.

Report where we have moved up to 19th place among material departments in the latest grad school rankings.

Finally, I would like to announce the establishment of the Institute of Advanced Materials Science and Technology, of which I will serve as director. This multidisciplinary Institute will focus on four important areas that are relevant to urgently needed technologies: 1) multifunctional materials and devices for photonics and optoelectronics; 2) biomaterials for imaging, detecting and nanomedicine; 3) materials for energy (photovoltaic, fuel cells, bio-fuels, thermoelectrics, solid-state lighting and catalysis); and 4) smart composites for aerospace. Look for more information in a future issue of this publication.

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## Raj Bordia Steps Down as Chair

Effective September 2005, Raj Bordia stepped down after nine years as head of the MSE department, two as acting chair and seven as chair. During his tenure as chair, Raj accomplished much and helped the department successfully meet many challenges including a new, single degree, undergraduate curriculum and a major shift of research focus from the traditional ceramic and metallurgical to bio- and nano-technology.

Having established a strategic plan that identified four major objectives in 1998, Raj



was able to lead the department in achieving each goal. The Undergraduate and the Graduate Programs are strong, and the development and implementation of the single-degree curriculum for undergraduates has been a resounding success. The department's research portfolio has significantly broadened into exciting new areas of bio- and nano- materials and technology. Interdisciplinary collaborations with other departments and institutions have been deepened and expanded, and the research grant awards have increased substantially.

*continued on last page*

# MSE Graduation 2006

On June 10, 2006, the Department of Materials Science & Engineering held its annual Graduation Recognition Ceremony and Reception, recognizing 41 Bachelor of Science degrees, 4 Master's of Science degrees, and a record number of 12 Doctor's of Philosophy degrees. The event was attended by over 300 graduates and guests.

MSE Acting Chair Alex Jen presided over the morning's agenda, kicking things off by inviting all in attendance to partake of the brunch prepared by the MSE staff. Following



Tom Delimitros

brunch, the program opened with the presentation of the Distinguished Service Award to metallurgical engineering alum and longtime Boeing employee Dr. Alan G. Miller for his outstanding professional accomplishments and contributions to the university.

Alumnus Mr. Tom H. Delimitros delivered this year's graduation address. Tom

is the Founding General Partner of AMT Venture Funds and serves as an investment advisor and board member for several corporations. At the UW, Tom and his wife

Jeannette have been highly active as advocates and supporters and, in 2004, established the Tom H. Delimitros Fellowship for Excellence to aid MSE graduate students. Tom received his engineering degrees in ceramic engineering, with a BS in 1963 and an MS in 1966, as well as a Master's Degree with Distinction in Business Administration from Harvard University.



In his remarks, Tom discussed the complex world engineers face in their careers, practicing in a world that is both "flat" and "round." Tom focused on the community of innovators that alumni are entering, where they will be increasingly globally focused, and focused to win in a profession that will prove to be both challenging and rewarding.

Following Tom's speech, each graduating student was introduced and presented with gifts as remembrances of their time in the Department. The day's program ended with the traditional graduation cake and adjournment in time for the UW Commencement ceremony in Husky Stadium.

## Distinguished Service Award to Alan G. Miller

At this year's MSE Graduation Reception, alumnus Dr. Alan G. Miller (1971 B.S., 1977 Ph.D., Metallurgical Engineering) was recognized with MSE's Distinguished Service Award for his outstanding professional accomplishments and contributions to the department. Alex Jen, MSE Acting Chair, presented Al with a certificate and engraved award commemorating the occasion.



Al is the Director of Boeing's 787 Technology Integration, where he oversees efforts to develop and transition to practice key technologies for aerodynamics, structures, materials, systems, payloads, noise, environment, quality, and manufacturing for the 787 program. Prior to his current position, Al was Senior Manager of Manufacturing and Quality Technology & Product Development for Boeing Commercial Airplane. He earlier served as Chief Engineer

for Boeing Materials Technology, which defines all of the materials and their processes used for Commercial Airplanes.

Al also plays the key role of Boeing Focal contact with UW, helping to develop and maintain an interactive, mutually beneficial, strategic partnership that builds upon Boeing's strengths and the strengths of the Department of Materials Science & Engineering, the College of Engineering and the UW. Al's passion for education, research and the field of engineering shows that the drive behind his service to the UW goes far beyond his role of Focal. He also sits on the Executive Board of the University's FAA Center of Excellence (Advanced Materials for Transport Aircraft Structures). Al's professional affiliations include Sigma XI, ASM, SAMPE, and SAE International; National Materials Advisory Board of the National Academies of Engineering, Science and Medicine; Boeing Product Standards Management Council.

After accepting his award, Al shared a message with our graduates about the need for engineers to provide service and give back to their communities, the world and, of course, their alma mater.

# Research Grant Success for MSE Faculty

During a one year period from spring 2005 to spring 2006, the Materials Science & Engineering Department has secured close to \$18 million in research funding. Recent grants to MSE faculty members by high-profile funding agencies show how fast the department's star is rising. Research ranges widely from design of electro-optic materials, to new spintronics materials and devices, next-generation polymers and composites, nanostructured and genetically engineered materials, and biomedical work. According to acting chair Alex Jen, "Our people have always competed on the national stage with other leaders in the field. These results show that we're doing it at a greater volume with increasingly greater success." The major grants obtained in the past year are listed here by faculty member:

## **Raj Bordia**

"Nanoscale Reinforced Polymer Derived Ceramic Matrix Coatings." National Science Foundation, PI, \$199,250 over 3 years.

## **Guozhong Cao**

"Nanostructured Electrode Materials for Electrochemical Supercapacitors." NSF, PI, \$288,883 over 3 years.

"Integrated Multifunctional Systems for Energy Harvesting and Storage." Air Force Office of Science and Research, Co-PI, \$336,479 over 5 years.

"Coherent Carbon Cryogel -- Hydrite Nanocomposites for Efficient H<sub>2</sub> Storage." NSF, PI, \$298,261 over 3 years.

## **Brian Flinn**

"Improving Adhesive Bonding of Composites Through Surface Characterization." Federal Aviation Administration, PI, \$73,303 for 1 year.

"Novel Method for Detection of Barely Visible Damage." The Boeing Co., PI, \$71,900 for 1 year.

"Edge Geometry Effect on Fatigue Life." The Boeing Co., PI, \$102,595 for 1 year.

"Autoclave for Composite Processing." American Autoclave Co. and The Boeing Co., PI, \$39,000 (equipment donation).

## **Alex Jen**

"Rational Design of Ultimate Electro-optic Material." Defense Advanced Research Projects Agency, Co-PI, \$3.8 million (Jen's share is \$1 million) over 1½ years.

"Material Optimization of High Performance Electro-optic Materials." DARPA via Lumera, \$423,000 over 2½ years.

"High Performance White Light Polymer Light-Emitting Diodes for General Lighting", Washington Technology Center and AES Corp., PI, \$96,000 for 1 year.

"Bio-inspired Multi-component Nano-patterned Substrates as Platform for Efficient Photoelectrochemical and Photovoltaic Cells." AFOSR, \$600,000 over 3 years.

## **Kannan Krishnan**

"Physical Properties Measurements Laboratory." Murdock Foundation and UW, PI, \$665,000 for 1 year.

"Metallic Core-shell Nanostructures: Synthesis, Stability, Coupled Properties and Novel Devices." NSF, PI, \$420,000, 4 yrs.

"Dilute Magnetic Dielectrics: New Spintronics Materials and Devices." NSF, PI, \$239,648 over 3 years.

## **Fumio Ohuchi**

"Intrinsic Vacancy of Chalcogenides for Spintronics Applications." NSF, Co-PI, \$589,708 over 3 years.

"The Micron Foundation Laboratory for Combinatorial Materials Exploration." Micron, PI, \$900,000 for Phase I (Phase II and III are pending, \$1.4 million).

## **Mehmet Sarikaya**

"Genetically Engineered Materials Science and Engineering Center." NSF-MRSEC Program, \$6.5 million over six years.

"Elucidation of the Structures and Biological Activities of Huntington Oligomers." NIH, Co-PI, \$2.2 million.

## **Miqin Zhang**

"Nanotechnology Platform for Pediatric Brain Cancer Imaging and Therapy." NIH/National Cancer Institute, PI, \$1.5 million over 4 years.

"Microelectrode Arrays of Single Cell Biosensors." NIH/National Institute of General Medical Sciences, PI, approximately \$1.4 million over 5 years.

"Molecular Imaging of Neurons in Brain for Diagnosis of Huntington Diseases." High Q Foundation, PI, approximately \$300,000 over 1½ years, renewable subject to research progress.

# NSF Center for Genetically Engineered Materials

In August 2005, the National Science Foundation awarded a Materials Research Science and Engineering Center (MRSEC) to the University of Washington. Named the Genetically Engineered Materials Science and Engineering Center (GEMSEC),

MSE Professor Mehmet Sarikaya is the director of the new center which involves the interdisciplinary collaboration of 10 faculty members, from 6 departments representing the College of Engineering, School of Medicine, and the College of Arts and Sciences.



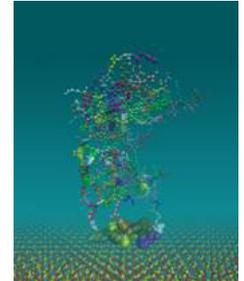
Mehmet Sarikaya

The total initial funding is \$7.5M for 6 years. The MRSEC program is the oldest of the center programs at NSF and the most prestigious, and therefore, extremely challenging and competitive. Once started, NSF may choose to award the program a renewal every six years.

In 2005, only two universities were awarded new MRSEC centers and three existing ones (out of 28) were eliminated. Utilizing the unique setting at the UW campus with strong engineering and medical departments, support by the

university administration, and established close collaboration of the expert co-investigators in multidisciplinary fields, the new Center is expected to accomplish the true integration of materials science and biology with a new approach, and lead the field nationally and internationally. The center has established shared experimental laboratories to facilitate the cross-disciplinary research.

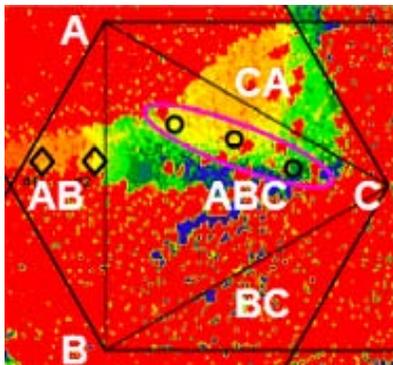
The focus of the new center is to establish teaching and research platforms to marry biology and materials science at the highest possible level of sophistication and educate next generation engineers and scientists in the highly competitive new fields of molecular biomimetics and nanobiotechnology. The goal of GEMSEC is to develop next generation practical materials and systems for materials science, engineering, and medicine using mother nature's molecular ways combined with the latest developments in physical sciences and technologies.



The creation of GEMSEC at UW is a very significant accomplishment for Prof. Sarikaya and his team and you can expect to hear more about GEMSEC's work in the future.

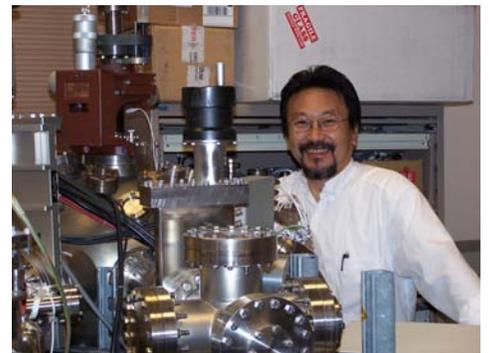
## Micron Combinatorial Materials Exploration Lab

The Materials Science & Engineering Department and Professor Fumio Ohuchi are the recipients of a major Micron Technology grant to establish a new cutting edge laboratory in the area of *Combinatorial Materials Exploration (CME)*. This lab is part of a global expansion in the search for new combinatorial materials, an area of research which has received significant attention and financial support from Japan in recent years. The Micron Technology CME Lab will help UW compete more effectively for those dollars. Scientists worldwide expect that this area of research will do for materials science what the human genome project has done for biotechnology.



Micron Technology, Inc. and the Micron Technology Foundation have committed \$1 million to support the first of three phases in creating the new lab. They will provide \$550,000 in cash and about \$450,000 in in-

kind equipment and support for the 2006-07 year. Prof. Ohuchi has already overseen the purchase of a new two-dimensional X-ray diffraction mapping system, a rapid thermal annealing



Fumio Ohuchi

furnace, and an atomic layer deposition/molecular beam epitaxy (ALD/MBE) system attached to x-ray photoelectron spectroscopy (XPS). Installation of this equipment took place in July and August and the first operating phase of the CME lab will start in autumn 2006.

This lab will be an excellent example of interdisciplinary collaboration and, besides Prof. Ohuchi, includes MSE professor Raj Bordia, Electrical Engineering professors

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## Faculty Honors

**Prof. Fumio Ohuchi** been selected by the American Vacuum Society Trustees to receive the honor of “Fellow of the Society”. The Fellowship recognizes AVS members who have made sustained and outstanding scientific and technical contributions in research, engineering, technical advancement, academic education, or managerial leadership for at least ten (10) years. This honor reflects the profound impact of Prof. Ohuchi’s accomplishments as judged by his colleagues and concurred by the AVS Trustees, and recognizes Prof. Ohuchi’s advances in the surface and interface science of chalcogenide and oxide thin films, along with educational leadership in nanoscience and nanotechnology. The honor will be officially bestowed at the AVS Awards Assembly on November 15, 2006, during the AVS Symposium in San Francisco.



techniques, and for education of the next generation of materials scientists. Prof. Krishnan was also selected as a 2006 Professor-at-Large by the Institute of Advanced Studies at the University of Western Australia. His initial appointment is for a period of two years and he is involved in the departments of Engineering, Physics and Chemistry. He made his first visit to UWA in March of 2006.

**Prof. Raj Bordia** received honorable mention after being selected as one of only four finalists for the 2006 Marsha L. Landolt Graduate Mentor Award. This UW award recognizes faculty who have made outstanding contributions to the education and guidance of graduate students.



**Prof. Alex Jen** has been elected a 2006 Fellow of SPIE (International Society for Optical Engineering) for his outstanding contributions in the field of optical engineering. He was also named a Fellow of the American Association for the Advancement of Science in October 2005 for his work which is focused on the synthesis and characterization of organic functional materials and polymers that possess novel optical, electrical and biological properties. For the AAAS honor, he was cited for pioneering contributions to the field of molecular photonics and for the development of novel materials with unprecedented characteristics that have enabled new photonics devices.



**Prof. Tom Stoebe** was elected as 2005-06 Chairman of the ASM Materials Education Foundation Board of Trustees at its annual Board meeting. The Foundation is the sponsor of the successful “Materials Camp” program for high school students and teachers, which helps focus attention on materials science and technology through hands-on activities related to everyday applications of science. The Foundation also administers scholarship programs for students in materials science and engineering. Dr. Stoebe has been active in education and outreach programs throughout his entire UW career. He has taught materials science concepts to high school teachers since 1967 and was funded by NSF for this effort until 2003. More recently, the ASM Foundation has taken over the teacher training effort in their Teachers Camp program, which held 6 camps nationally in 2004. Dr. Stoebe also founded the Seattle Materials Camp program for students, held in our Department since 2001. Dr. Stoebe plans to lead the Foundation, created in 1953, into new endeavors, building on its current strong programs in order to continue building on the Foundation’s purpose: “To excite young people in materials, science and engineering careers.”



**Prof. Kannan Krishnan** was awarded the distinction of Fellow of the American Association for the Advancement of Science in October 2005. The central theme of Prof. Krishnan’s work is the systematic exploration and design of fundamental materials properties and phenomena as a function of size and dimensionality. For the AAAS honor, he was cited for establishing fundamental correlations of magnetism, transport and microstructure in technological materials, for developing novel electron microscopy



## Welcome the New Dean

Matthew O'Donnell is the new Dean of the College of Engineering starting August 2006. He holds the Frank and Julie Jungers Endowed Deanship in Engineering. Created by a \$4 million donation from the Jungers and \$1 million in UW matching funds, this is the first major endowment of this kind at the UW.

O'Donnell comes to UW from the University of Michigan where he was chairman of the Department of Biomedical Engineering. Starting with a PhD in solid-state physics from Notre Dame University, O'Donnell spent 10 years in industry before going to Michigan in 1990 as a professor in Electrical Engineering & Computer Science. An expert in ultrasound imaging, he has made cutting-edge explorations of new imaging modalities in biomedicine, including ultrafast optics, in vivo microscopy, catheter imaging of coronary arteries, optoacoustic arrays, and elasticity and molecular imaging. O'Donnell's career demonstrates his commitment to interdisciplinary collaboration, a key element of his plans at UW.



We all look forward to the new era in the College. In the words of UW Provost Phyllis Wise, "Matt is one of the leading visionary engineering educators who understands the changing landscape in engineering and how important it is to the future competitiveness of America in the global economy and what contributions engineering can make to improving the quality of life of people around the world. We are very fortunate to be able to bring him to the northwest and the UW."

### *CME Lab, cont. from pg. 5*

Bruce Darling and Scott Dunham, and Physics professor Marjorie Olmstead.

Professor Ohuchi has already begun collaboration with counterpart CME facilities at the National Institute of Materials Science and the Advanced Institute of Science and Technology in Tsukuba, Japan. It is hoped that various institutes will participate in building a globally shared materials database called "material informatics", as suggested by Professor Ohuchi in the interest of expediting production of data needed for next generation technologies in several industries.

This lab will be one more area wherein the research at UW has global impact at the very cutting edge of technology.

## Alumni News

### Ravi Mikkelsen Jumpstarts a Green Career

Ravi Mikkelsen (BS MSE 2005) reversed the usual order of things by founding his own company and then completing his BS studies. He serves as President and COO of TruDiesel Fuels LLC, which he started in late 2004 with a business partner. TruDiesel, located in Southern California, is dedicated to producing renewable energy sources that can help break our dependence on fossil fuels and the immediate goal to is become a major producer of bio-diesel fuel.

Ravi developed an early interest in bio-diesel and founded French Fry FuelFools, a student group at UW which collects waste oil from fast-food restaurants and turns it into biodiesel. He also volunteered time with the Breathable Bus Coalition.

Ravi's biodiesel ventures while a student drew the attention of

local and national media and now that he has his BS in hand, he can focus on pursuing his aggressive business plan for building his company into an alternative fuels leader and devoting his life to improving the environment. To quote Ravi from an 2005 interview in Washington Engineer, "It's the right time, the right place, and I'm the right person. A lot of other people are interested in biodiesel, but don't have the motivation to do anything serious. I really connected with this idea and am putting all my energy into it."

TruDiesel is focusing on trucking companies and municipal bus systems as a core market for biodiesel fuel. Having spent his junior year in China as part of the UW-Sichuan University exchange program and having witnessed the extreme pollution there, Ravi has also set a goal of building a biodiesel plant in Beijing that can fuel buses for the 2008 Olympics. Prof. Raj Bordia calls Ravi "a stellar example of the new breed of engineers we are training . . . he is set to use his education to solve big problems in the areas of energy and the environment". (photo by Mary Levin, University Photography)



### Alan King, BS CerE 1960

Alan King grew up in Olympia, Washington, and served in the Navy before attending the University of Washington on the G.I. Bill. He was elected to Tau Beta Pi and named outstanding senior in the College of Engineering in 1960, the year he graduated. In 2005 he returned to campus to deliver the MSE Graduation Address. King has contributed the following update of his life and career since leaving UW.

"I joined Corning Glass Works after graduation and worked in the Electronics Division in Corning, NY, Bradford, PA and Raleigh, NC in product development and product marketing assignments. In 1965 I transferred to Signetics Corporation (then

a subsidiary of Corning) in Sunnyvale, CA as a package development engineer. I was employed for 18 years at Signetics (later acquired by Philips Semiconductor) in a wide range of engineering, operations and general management assignments in the US and Europe. My last position at Signetics was VP&GM of a \$120M product division.

"I joined Crystal Vision, an unsuccessful flat panel display start-up company in 1983 as President

and COO. In 1985 I joined Avantek, (now a division of Agilent) served as VP&GM of the semiconductor division. In 1986 I was appointed President and CEO of Precision Monolithics, an analog semiconductor company. Analog Devices acquired Precision Monolithics in 1990. I served as a vice president of Analog Devices after the acquisition. In 1991 I was named President and CEO of Silicon Systems, a manufacturer of mixed signal integrated circuits for the computer peripheral and communications markets. Texas Instruments acquired Silicon Systems in 1996.

"In the last eight years I have contributed to the development of several early stage companies in the technology sector. I served as chairman of Arithmos, a display driver semiconductor company from 1995 until 1999. I also served as chairman of Alien Technology, a developer of nano-block semiconductor technology from 1997 to 1998. I have also served on several public and private company boards. I am currently chairman of Volterra, a power management semiconductor company, having served as CEO from the company's founding in 1996 until 2000. I am also an advisor and director of three early stage companies.

"My wife and I have lived in Saratoga, California for many years. We have three accomplished daughters and four wonderful grandchildren. I volunteer with The Friends of the Saratoga Library and the Girl Scouts of Santa Clara County."

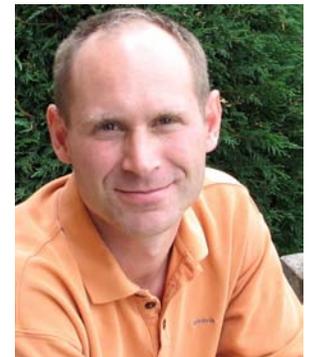


**Bonnie J. Dunbar** (BS Cer E 1971, MS Cer E 1975) is now president and chief executive officer of The Museum of Flight in Seattle.

Bonnie is a former NASA astronaut, a veteran of five space flights and 50 days in space, including shuttle missions to the Mir Space Station. As deputy associate director of biological sciences and applications at the Johnson Space Center, Bonnie was NASA's highest-ranking woman. She was named the University of Washington's Alumnus Summa Laude Dignatus for 2004. This award, first bestowed in 1938, honors the former University of Washington student whose achievements have earned her national and international prominence. This award is the highest honor the University can bestow upon any graduate. (photo by David Waltman Studios)



**Stephen Sofie** (BS CerE 1996, MS MSE 1999, PhD MSE 2002). After completing his PhD in 2002, Stephen worked as a postdoc in MSE for a year, then joined the NASA Glenn Research Center in Cleveland. Stephen stopped by the department recently for a visit and to let us know that he is now an assistant professor in the Mechanical & Industrial Engineering Department at Montana State University, Bozeman.



**Nathaniel Price** (BS MSE 2004) stopped by the MSE office recently during a visit to Seattle and let us know that he is now working as Plant Metallurgist at Pasadena Refining System in Houston, Texas. He is also enrolled in the the Master's program at the University of Houston and reports that he is "doing well and happy to be alive".

# Alumni News

**Fritz Wolff** (MS CerE 1964). Retired from Boeing in June 2000 and is now working for the Washington State Department of Natural Resources (Division of Geology) as Project Manager for the Abandoned Mine Lands Program. Wolff has written a book titled “A Room for the Summer” which was published by the University of Oklahoma Press in spring 2005. It is a memoir of his summer jobs in Idaho’s Silver Valley where he spent his breaks from college working as a miner’s helper at the Bunker Hill Mine.

**Tom Delimitros** (BS CerE 1963, MS CerE 1966) and wife, **Jeannette Delimitros** (BS Educ 1965) have been recognized

as UW Benefactors for their generous financial support of the Department of Materials Science & Engineering including the recent establishment of the Tom Delimitros Fellowship endowment. It is



also recognition of Tom’s long-time service to both the Department and the College of Engineering through his work on educational programs and development efforts. Tom was the recipient of MSE’s 2001 Distinguished Service Award. Their name’s have been engraved on the Benefactor’s plaque on display in the Roberts main lobby. (Photo by Chip Van Gilder for Team Photogenic)

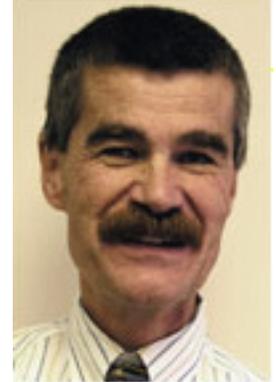
**Mr. & Mrs. Frank E. Wagstaff** have also been recognized as University of Washington Benefactors for their generous financial support of the Department of Materials Science & Engineering

including the recent establishment of the Wagstaff Fellowship Fund. Wagstaff was the recipient of MSE’s 2003 Distinguished Service Award for his contributions to the Department. Their



names have been engraved on the Benefactor’s plaque on display in the Roberts main lobby.

**Edwin Wilmot** (BS CerE 1971, MS CerE 1972) was named the manager of the Los Alamos Site Office of the National Nuclear Security Administration in April 2004. Wilmot was previously manager of NNSA’s Savannah River Site Office, where he was responsible for all defense program activities at Savannah River. From May 2000 to December 2003, Wilmot was NNSA deputy assistant administrator for military applications and stockpile operations. He also has worked at Department of Energy facilities in Idaho, the Yucca Mountain Project in Nevada, the Office of Civilian Radioactive Waste Management, and at Sandia National Laboratories in Albuquerque among others.



**Shelley Kirchoff** (BS MetE 2001) has lived happily on the Big Island of Hawaii for the past 4 years. “My engineering

education has given me a great background for whatever I decide to do,” she states, especially for her current career as a real-estate agent in Kailua-Kona. Prof. and



Mrs. Stoebe have visited Shelley recently in Kona, “paradise on earth”, in the words of Prof. Stoebe.



## John A. Schwager Endowed Fund for Excellence

John A. Schwager, Sr. has established the John A. Schwager Endowed Fund for Excellence in Materials Science and Engineering to provide support for the Materials Science and Engineering Department at the University of Washington. Income from this endowment will support the Department in a variety of ways including much needed financial support for graduate students in the area of aerospace materials, allowing the department to attract and retain the best and brightest graduate students in this field. In addition, the fund may provide materials for design projects,

send students to professional conferences to develop their leadership skills, provide laboratory equipment upgrades, or other vital needs that enhance interaction with the aerospace industry.



*l-r, Jan Labyak, Steven Schwager, Carkolyn Schwager, John Schwager Sr., Bruce Schwager, Raj Bordia, John Schwager Jr.*

Mr. Schwager is a native and life-long resident of Seattle. At the University of Washington, he pledged Psi Upsilon, rowed with the freshman crew, and graduated in 1935 with a Bachelor's degree in Economics. He worked at his father's Nettleton Lumber Company during the 1930's depression, and then joined the US Navy in 1941. His four years of service included surviving the Japanese attack at Pearl Harbor in December 1941. Early in the 1950's Mr. Schwager developed a keen interest in real estate development, and over the next forty years built several homes and apartment buildings in Seattle and surrounding communities.

Mr. Schwager has established this new endowment because he is a firm believer in education and research for the betterment of our society and our economy. He is eager to assist young scholars, to promote American technology, and to support the University, which has meant so much to him. The John A. Schwager Endowed Fund for Excellence in Materials Science and Engineering will serve as great encouragement for teaching and research and will directly impact the work of the department.

Mr. Schwager's family has been closely involved with this gift and to mark the occasion of the new endowment, the MSE Department and the College of Engineering hosted a reception on May 27, 2004, to honor Mr. Schwager and celebrate the gift with his family. The Department of Materials Science & Engineering is grateful for Mr. Schwager's generous gift and his name has been added to the department's Benefactor plaque on display in the main lobby of Roberts.

## IN MEMORIAM John Sipe Memorial Fund

**Dr. John Joseph Sipe** (BS CerE 1965, MS CerE 1970, PhD CerE 1970) died on April 28, 2005, in Clinton Township, New Jersey, at the age of 69.

Dr. Sipe worked for The Boeing Company from 1964-1967 where he designed and developed an insulating collar for warhead and Minute-man missile. While working at Boeing, Dr. Sipe completed his BS in ceramic engineering at the University of Washington, which were followed by an MS and a PhD, also in ceramic engineering. After receiving his PhD, he accepted a postdoctoral position in the UW Bioengineering Program which would establish the focus of his career to come.

After leaving UW, Dr. Sipe worked at Smith Kline and French in Philadelphia, designing implant materials and devices. He then moved to Biosearch, Inc. of Somerville, NJ, where he developed technology that perfected the Dohboff-Feeding tube which was the market leader for 10 years, and he created monitoring and measuring devices for esophageal reflux disease. From 1986-1992 he formed and ran Sensatronix Inc., a company that manufactured pH-monitoring devices for esophageal reflux disease.

Dr. Sipe led a full life and, in the words of Joan McClure, "Joe's friends and loved ones will remember him for his personal charm, his affinity for telling stories, for playing the violin and for teaching, his love of fishing and of family, and his special gift for friendship." Dr. Sipe is survived by his wife Catherine and a brother Gary.

As a memorial to the life and accomplishments of Dr. Sipe, McClure, a close friend of the Sipe family, coordinated the establishment of the John Joseph Sipe Fund in Materials Science & Engineering. The goal of the fund is to encourage the best and brightest students to pursue and conduct research in biomaterials and to promote the exposure of MSE students to new ideas in bioengineering research. The fund will help the MSE Department continue the tradition of engineering educational excellence at the UW.

## IN MEMORIAM

**H. William Kirschner** (1939 B.S. Mining Engineering), passed away on April 22, 2006. Born in 1918 in Seattle, Bill attended Roosevelt High School, then received a BS degree in Mining Engineering from UW in 1939. After marrying his wife Barbara in 1940, he settled on Vashon Island.

Bill is remembered as the inventor of the fiberglass ski and founder of K2 Corporation, the Vashon Island institution that has become an international leader in the world of skiing and other sporting equipment. At the time of his inspiration, Bill was working for the family business, Kirschner Manufacturing, a Vashon



Island company that made splints and animal cages out of reinforced plastic. Although they had become a leader in the field of research cage manufacturing, the Kirschners were not content to rest on that success. In 1961, Bill made a pair of fiberglass skis and the result was a revolution in the skiing industry and the creation of K2 Corporation which became the largest ski manufacturer in the United States. Bill ran K2 from its beginnings in the early 1960s to retirement in 1982. In 1991, Bill was inducted into the U.S. National Ski Hall of Fame which called him “one of the great ski entrepreneurs of the 1960’s, the golden years of the United States ski business”. Beyond skiing, Bill was a lifelong, passionate Husky fan. He once recalled that he pursued a degree in Mining Engineering because of his father’s lifelong involvement with mining and he credited Dean Milnor Roberts for providing inspiration to excel. Bill was a generous donor to the MSE Department and May 11, 2004, was declared as “Kirschner Day”. In June 2005, he was presented with the department’s Distinguished Service Award. Bill is survived by his wife of 66 years, Barbara, his sons, Bill and Bruce, his daughter Becky as well as many grandchildren and great grandchildren.

**George Middleton** (BS CerE 1933, MS CerE 1934) passed away on February 12, 2004, at the age of 93. Middleton’s career started at Gladding McBean in Hermosa Beach, California. Over the years he moved on to Metlox Pottery, L.H. Butcher and Sierra Talc (later United Sierra), all in Southern California. In 1968, he moved to the New Jersey operations of United Sierra which later became Cypress Industrial Minerals. Middleton was active in the American Ceramic Society where he was named a Fellow in 1965, an Emeritus Member and Fellow in 1973, and in 1978 he was made an honorary Life Member of the Southern California Section. He retired from Cypress Industrial Minerals in 1975 and returned to California, living in Manhattan Beach until his death.

**Ashok K. Dhar** (MS MetE 1971, MS Radiological Sci 1974) died on May 12, 2005, at the age of 58, following a brief illness. Dhar was Senior Director for Quality and Regulatory Management at CTI Molecular Imaging in Knoxville, Tennessee, and was recognized for his expertise in nuclear regulatory issues and personal dosimetry. As a graduate student at MSE, Dhar was a member of Prof. Tom Stoebe’s group, working in the areas of solid-state radiation dosimetry. After receiving an MS degree from this department and a second from Radiological Sciences, Dhar embarked on a notable career in radiopharmaceuticals and health physics that included stops at Abbott Laboratories in Chicago, King Faisal Hospital & Research Centre in Saudi Arabia, Mallinckrodt Inc. in St. Louis, PETNET Pharmaceuticals in Knoxville and, finally, PETNET’s parent company, CTI Molecular Imaging. He is survived by his parents, his wife of 27 years, two sons, and a brother and sister.

It is also impressive that these objectives were accomplished while maintaining the traditional strengths and atmosphere of the Department. Under Raj's leadership, the Department has reinforced its commitment as a student-centered learning community with deep appreciation of our students and alumni. One external recognition of our achievements was the university's very positive Ten-year Review of the Department, which was completed in 2004. Raj's legacy is a solid foundation for future growth.

We are sorry to lose Raj's leadership as chair, but he made the decision that he wanted to refocus his energies on his research group and students. His influence will continue to be felt as a senior faculty in the department and as a leader in the college and the university.

Prof. Alex Jen accepted the position of Acting Chair following Raj Borida's resignation as Chair. Alex joined our faculty as the Boeing-Johnson Professor in December 1999, with a joint appointment as Professor of Chemistry. He has amassed a considerable amount of expertise from both industrial and academic research in the areas of organic/polymer synthesis and several new types of physical phenomena in organic functional polymers. The focus of his interdisciplinary research group is on the synthesis and characterization of organic functional materials/polymers that possess novel optical, electrical, and biological properties.

Alex came to UW from Northeastern University in Boston. Before embarking on his academic career, he spent over a decade in industry with ROI Technology, EniChem America, and Allied-Signal Inc.. As acting chair, he brings exceptional leadership and collaborative skills that will enhance our research and education programs, and his vision and focus on excellence will serve the department well in the next phase of growth.

### *Roberts Hall Review*

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