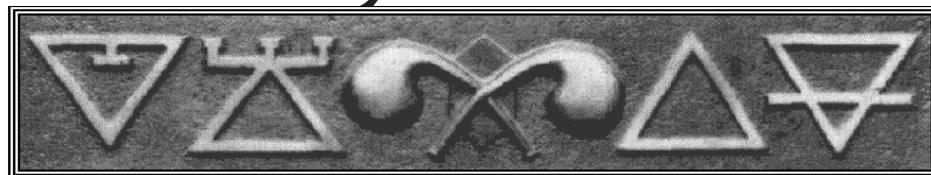


Chemistry Alumni News



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FRONTIERS IN MEDICINAL AND NATURAL PRODUCTS CHEMISTRY

This past spring term a course titled "Frontiers in Medicinal and Natural Products Chemistry," organized by **Dr. James White**, brought five distinguished speakers from the pharmaceutical industry to campus. Each visitor spent a week in the Department and gave three lectures on his specialty. The lectures ranged over the entire research and development activities that lead to drug discovery in today's competitive world of pharmaceuticals.

Dr. David Coffen described a new approach at ArQule that takes combinatorial synthesis, with assistance from robots, to a new level of efficiency and precision. **Dr. M. C. Kang**, a former OSU PhD, gave an account of the

search for anti-HIV agents being carried out at Glaxo-Wellcome and now at his new company Trimeris. Pfizer, represented by **Dr. John Dirlam**, has an extremely active program in the area of antibacterial and antiparasitic agents, and the three lectures presented by Dr. Dirlam provided an exciting glimpse of how natural products are isolated and transformed into important medicinal agents.

This theme was continued by **Dr. Herb Kirst** of Eli Lilly, who gave a lucid account of fermentation-derived antibiotics and their semisynthetic derivatives, and how the successful candidates make their way through clinical trials to market. The final three

lectures by **Dr. Ed Grabowski** on process research as practiced at Merck brought home the importance of the synthetic organic chemist to the pharmaceutical enterprise, particularly that aspect of creativity that transforms a breakthrough in the laboratory into a commercially viable synthetic drug.

This lecture series, part of an Organic Special Topics Course, was the second offering of this type. The first, held three years ago, was popular with students and participating industrial speakers alike, and this year's series received an equally enthusiastic endorsement. We hope to continue offering an advanced course of this type on an occasional basis in the future.

NEW COMPUTER LABORATORY FOR COMPUTATIONAL CHEMISTRY

Computational chemistry and molecular modeling software are revolutionizing the way chemists think about the role of theory and the course of chemical reactions. The feasibility and reliability of high-level calculations has increased dramatically to the point that a PC on a chemist's desk can now accomplish what only mainframes could do a few years ago. **Joe Nibler** and **Chris Pastorek** received a grant from the University along with support from the department that helped establish a high level computer facility for use in teaching. This facility opened in Gilbert Addition in the winter of 1997 with the installation of six Pentium Pro computers equipped with modern software. More than 250 students have since gained first-hand experience in computational chemistry through newly designed assignments and experiments. The in-house computer lab



Dr. Hedberg and Scott Dobson compute bond angles.

has also served students in several chemistry courses that have been developed with a Web element.

Dr. Kevin Gable ran a Distance Learning course between Oregon State University and the University of Oregon during winter term. This graduate-level special topics course, Computational Organic Chemistry, focused on applications of new computational software (e.g., Wavefunction's Spartan(c)) to problems in organic chemistry. A classroom at each site was equipped with two-way video and audio so that students at both sites could ask questions and receive answers during the lecture. As part of the graded portion, students worked exercises using Spartan on SGI workstations and submitted the output via the Internet. This is the first distance learning course the Department has offered; we are exploring the use of distance learning in other selected topics courses.

A Message from the Chair...

Dear Alumni:

The academic year 1996-97 brought many changes to the department and the campus. The Valley Library construction continues and the building is starting to take shape. The new library will provide better facilities for both staff and students. We look forward to its completion in December 1998. The CH₂M Hill Alumni Center, adjacent to LaSells Stewart Center, is now complete and provides a modern, spacious resource to the campus for meetings.

Darrah Thomas and **Jim Krueger** both retired this year; Darrah at the end of March and Jim at the end of June. They will both be missed. Darrah has had a very successful research, teaching, and administrative career. He served as chair of the department from 1981 to 1984 and also as the first Director of the Materials Science Program. He was appointed Distinguished Professor by the Provost in 1989. Those of you who were his students will recall his lucid lecture style.

Jim Krueger retired after serving the department for 36 years, the last 17 years as associate department chair. All of you who were teaching assistants during Jim's tenure know his superb skills in assigning just the right TA to the right course, so that students, TAs, and faculty were all pleased. Jim worked hard at teaching: he especially enjoyed teaching the freshmen. He was responsible for developing a complete honors general chemistry course, including laboratory. He introduced computers to the honors course and spent hours developing suitable experiments. We are very pleased that on University Day in September 1997 Jim will receive the Senior Faculty Teaching Award.

Perhaps the best-known retiree is Bill Taylor. Bill has been the purchasing agent and lecture demonstrator for 39 years in this department. This is a record unmatched by anyone else in this department. Bill started in 1958, the year I was a sophomore in College! He has always worked hard for Chemistry and has provided the faculty with many excellent demonstrations over the years. One could always count on Bill to have materials ready for the demonstration and to be well-prepared. He made us look good! As a purchasing agent he squeezed every nickel. There is no doubt that the state and the nation always received good return for money spent when Bill was buying. Fortunately for us, Bill is continuing in a part-time capacity as a lecture demonstrator.

Dean Johnson also retired June 30, 1997. Dean was our laboratory preparator and made certain all reagents, compounds, and solutions were always ready for all the laboratories. He was meticulous in his work and always prompt. Students and faculty benefitted from the careful work that Dean always did to have the laboratories ready to go each day. We will miss him.

In July, the department decided to make a fundamental change in its administrative structure. We were pleased to add Professors Doug Barofsky and Max Deinzer to our faculty and our department became a shared department with the College of Agricultural Sciences. This administrative change gives the department easier access to research problems and opportunities in the College of Agricultural Sciences.

I am proud to announce that Joe Nibler will receive the Elizabeth P. Ritchie Teaching Award on University Day, September 1997. Joe has been an exceptional teacher at all levels; in the last few years he has worked especially hard in the integrated laboratory and in his spectroscopy course. Those of you who have taken his spectroscopy course know that even though you had to work until dawn, you really came to understand spectroscopic methods and techniques. His Physical Chemistry Laboratory Textbook, written with Shoemaker and Garland, is the standard in the area. This award is well-deserved.

We were saddened by the untimely death of Ed Piepmeier. He will be missed by all who knew him. Jim Krueger and Jim Ingle have contributed a short obituary (see page 4).

Two new instructors will teach general chemistry and organic chemistry this year. **Jennifer Travers** comes to us after teaching for a year at the University of Puget Sound. She received her PhD from Colorado State University. OSU alum **Rick Nafshun** received his PhD with Mike Lerner in 1996 and was hired beginning in July 1997. He spent a year teaching general and analytical chemistry at Piedmont College in Demorest, Georgia. We are very pleased to have both of them aboard.

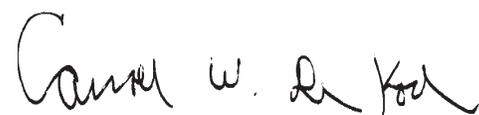
Jim White ran an exciting Ch 538 course for graduate students last term. This special topics course (described on page 1) provided our students with a cutting-edge look at current chemistry programs in industry, and we are pleased and grateful to the speakers for the time they spent in our department.

Art Sleight and Doug Keszler collaborated successfully on proposals to the NSF and to the Murdock Trust for a new X-ray facility. As a result, we are pleased to report that new equipment is being installed and an important new

lab is taking shape in the basement of Gilbert Hall (see page 8 for details).

It has been a pleasure to hear from some of you during this past year. We like to hear from our former students, so please take a few minutes to tell us how you are doing. If you are in the area, be sure to stop by.

Have a great year!



We are very pleased with the number of alumni, corporations, and friends who have remembered the Department of Chemistry during fiscal year 1996-97. From your generous support, travel to conferences, fellowships, new equipment, and graduate recruitment were made possible. Your gifts allowed students and junior faculty members to attend scientific meetings. It also funded exciting speakers for our seminar program and for a new class which incorporated speakers from industry. Your support has made a big difference in the kinds of programs available to our faculty, graduates and undergraduates.

In a few weeks you will be receiving a brochure from the OSU annual fund request. Please consider a gift to benefit the Department of Chemistry. The full amount of your gift will be used for the department in any of the exciting programs we have mentioned.

Alumni commitment continues to grow in its support of excellence in Chemistry at Oregon State University.

The Benedict Award this year was awarded to Brian Logue, who came to OSU from South Dakota State University. This award goes to the second-year graduate student who has made the most progress on his or her thesis research. Dr. Westall confirms that Brian is off to a great start; he presented a poster session on his work at ACS meetings in San Francisco this past spring and will soon have an article in print. This award carries a monetary stipend



Brian Logue

The Ingram Award honors outstanding academic achievement among the first-year graduate students. This year's awardee was Moo Young Kim, who holds an MS from Yonsei University in Seoul. He is working with Dr. Deinzer and received a stipend of \$500.



Moo Young Kim

The Merck, Inc. Outstanding Senior in Chemistry for 1996-97 is Mike Conway. Mike is a chemistry major who transferred to OSU from Chemeketa Community College. Last year he was awarded the Outstanding Analytical Student Award in the department.



Mike Conway

Honors and Awards

The Freshman Chemistry Achievement Award was presented to Luke Lavis, a freshman from Jacksonville, Oregon. Luke received the 1997 CRC Handbook of Chemistry and Physics.



Luke Lavis

Tom Whitehead has earned the **Outstanding Analytical Student Award** this year. The honor includes a year's subscription to *Analytical Chemistry*.



Tom whitehead

Tartar Summer Research Fellowships for this year were awarded to 8 graduate students to provide funding for their work in areas related to human health. The following students received this award: Scott Allen (working with Dr. Gable), Jelena Dacres (under supervision of Dr. Freeman), Joshua Hansen (in Dr. White's lab), Sharon Maley (working for Dr. Freeman), Cheryl Moody (mentored by Dr. Field), James Pugh, Lonnie Robarge, and Kurt Sundermann (all from Dr. White's laboratory).



Front row: Cheryl Moody, Jelena Dacres, Sharon Maley. Back row: Kurt Sundermann, Jim Pugh, Scott Allen, Josh Hansen, Lonnie Robarge

Jason Pilcher has earned the **American Institute of Chemists Outstanding Scholar Award**. Jason, a graduating senior from Grants Pass, will go on to graduate school in the medical field.



Jason Pilcher

The David P. Shoemaker Memorial Fellowship was awarded for the first time this year. Peter Hrciar, who has made giant strides in his research this year, was its first recipient. Dr. White comments that Pete's "recently completed morphine synthesis is astounding" and his "ability to learn new techniques is impressive." At the presentation tea, Dr. Clara Shoemaker added her congratulations and a few special insights about the award and its namesake.



Pete Hrciar

Jim Pugh of Boise, Idaho, has been awarded **Oregon Sports Lottery Scholarship**. This honor is based on academic merit and carries a cash award of \$3,000. This is the second time Jim has earned this award. Congratulations, Jim!



Jim Pugh

(Cont'd p.7) 3

More Honors....

The College of Science recognized its **Mortar Board Top Professors** during its annual meeting, May 28th. Among those honored was Jim Krueger, for his role as teacher and scholar in the Chemistry Department.

Two University-wide honors were awarded to Chemistry faculty members. Joe Nibler has earned the **Elizabeth P. Ritchie Distinguished Professor Award** and Jim Krueger was the recipient of the **Richard M. Bressler Senior Faculty Teaching Award**. The Chemistry Department takes great pride in a strong teaching program and is pleased to congratulate these two honorees.

College of Science Scholarships were awarded to Paul Forster, a junior from Eugene, Oregon, who won the **Dean's Scholarship**,



Paul Forster

Ryan Moser, a sophomore from Fall Creek, Oregon, who won the **Jesse Hanson Scholarship**,



and Kristin Zeibart, a junior from Sioux Falls, South Dakota, who won the **Colleen Spurgeon Scholarship**.



Further teaching awards were made at the departmental level. **Fall Harris Laboratory Teaching Assistant Award** winners were Nick Vulpanovici, Engelene Chrysostom, and Cheryl Moody. The **Winter Harris Lab TA Awards** went to Tammy Amos and Tom Gannon. **Spring Harris Lab TA Awards** went to Scott Allen, Rebecca Hanson, and Kurt Sundermann.

The **American Women In Science** has granted an award of \$1,000 to Lissa Zyromski for her research on fusion enhancement with radioactive nuclear beams.

The Niobium Chapter of **Iota Sigma Pi National Chemical Honor Society for Women** initiated five new members this year. Four are first-year graduate students in Chemistry: Tammy Amos, Karen Franks, Rebecca Hanson and Cheryl Moody.

1950s remembered.....

Last winter Gunnar Bergman made a donation to OSU Chemistry with a personal note explaining why. His comments reflect David Shoemaker's role in chemistry and the state of the scientific community during the 1950s. He comments:

"I met David by chance in March 1949 when I made a brief visit to Caltech where David was then an assistant professor. David took an interest in me and introduced me to Linus Pauling who offered me a position as a research assistant. I accepted and in the fall I became a graduate student, David's first graduate student. I got my Ph.D. in 1951...[and] stayed at Caltech until 1958. My years there were immensely important to me. They enriched my life both then and later more than I can say. I owe David a great debt of gratitude."

The science of the 50s brought us Sputnik and the double helix. Just to be a player in those times was exciting. As Dr. Bergman indicates, the graduate years play a very important role in a

RAVE REVIEWS FOR INDUSTRY FORUM

A special panel meeting was held in January. Participants from industry came to talk about chemistry in the private sector. Kathleen Schaffers of Lawrence Livermore National Laboratory, George Pubanz from Tektronix, and Casey Bennett from Intel are all alumni of the OSU Chemistry graduate program. They presented "A View From The Other Side." Graduate students who attended were ecstatic.

Pooya Tadayan elaborated, "Based on the number of people who attended, the Pubanz/Schaeffer/Bennett forum was by far the most popular event in the chemistry department during the four years that I've been here. Panel members each spent 10-15 minutes discussing their background and their current positions. The floor was then opened to the audience for questions. Most questions were related to how to go about finding a job and/or making yourself noticeable to employers. Many helpful suggestions were given about creating a network and building a functional resume. The event was quite useful to students looking for jobs in industry. By sharing their unique knowledge and experiences, the panel members gave the graduating students much hope."

Mike Orlov commented that he found the discussion helpful, "It helped me a lot to prepare my resume and cover letters. Thanks!"

New X-Ray Facility

Thanks primarily to the efforts of Art Sleight with assistance from Doug Keszler, the Department is in the process of establishing a new X-ray facility. Grants received from the National Science Foundation and the Murdock Foundation have been used to purchase two Inel curved, position-sensitive X-ray detectors. One of these detectors has been placed on a conventional X-ray generator for use in variable-temperature and real-time analyses of powder samples. The other detector will be attached to a high-intensity, rotating-anode X-ray generator for examining the structures of thin films. The new instruments will provide capabilities that were previously unavailable at OSU.

Each of the instruments, along with our Rigaku single-crystal machine, will be housed in a fully renovated room in Gilbert Hall. Upon completion, the new, centralized X-ray facility will serve as a focal point for the development of interdisciplinary materials research projects

Peter Freeman is studying the photochemistry of polyhaloarenes in organic solvents and micellar media and photochemistry induced by electron transfer reactions in host guest complexes and is also working on the chemistry of reactive intermediates, in particular the structure and rearrangements of carbenes, strained allenes, and bridgehead radicals.

Stephen Hawkes, Professor Emeritus, was invited to be plenary speaker on chemical education at a conference held in February of the Puerto Rico division of ACS. He described the parts of the introductory chemistry curriculum which were either incorrect or of little usefulness and the neglected aspects of chemistry that should replace them.

Kenneth Hedberg is proud to note that Alan Richardson received his doctorate in June. This was an unintended consequence of his first joining Dr. Hedberg's group as a hired assistant to do some computer programming. He became interested in the research, and, with the consent of the department, enrolled as a PhD student. He is presently continuing as a post-doctoral research associate.

The past year has seen a number of visitors to the Hedberg lab, namely Professor Grete Gundersen from Oslo, Professor Marit Traetteberg from the University of Trondheim, Professor Kolbjorn Hagen and Dr. Kirsten Aarset both also from Norway, and Professor Quang Shen from Colgate University.

In June Dr. Aarset and Dr. Hedberg travelled to Prague to attend the Seventh European Electron-Diffraction Symposium. People whose research involves the structures of molecules in the gas phase from the UK, Norway, Germany, Czech Republic, Russia, and several other countries attended these meetings. Dr. Hedberg presented a paper.

In April, **Jim Ingle** took part in the national tour speaker program for the Society of Applied Spectroscopy and presented seminars about chemical sensors at St. Louis, Georgia Tech, Ohio State, and University of Buffalo in four consecutive hectic days.

Doug Keszler gave an invited talk entitled "Eu Luminescence: New Findings" at the National Meeting of the Materials Research Society in Boston. He was also a co-organizer of the Symposium on Solid-State Chemistry and Materials Science held at the National Meeting of the American Chemical Society in San Francisco. At the same meeting, he presented a talk entitled "A New Family of Aluminum Borates." In June, Doug was elected to membership in the International Centre for Diffraction Data,

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an organization that sets standards for the collection and dissemination of diffraction data.

Michael Lerner began developing and programming Chemistry web sites in 1995 with help from an L.L. Stewart Faculty development award. The extensive Chem 411/511 site, located at www.chem.orst.edu/classes/ch411/ch411hp.htm, contains a complete set of lecture notes, a syllabus, interactive pop-ups, questions, figures, and links to current research projects. Much of the information in the on-line lecture notes does not appear in the traditional course textbook. Dr. Lerner has added 3-D graphics of crystal structures and complex molecular structures to the figures section.

The general chemistry web course was designed with four different simultaneous tracks that contain a syllabus and assigned problems, plus four Java-created interactive practice exams. These combine multiple choices with hints and essays with pop-up answers.

E-mail plays a strong role on both sites. Next on the list of Web goals is to launch a fully functional Chemistry lab course with a staffed "resource room." Do we hear any volunteers? Dr. Lerner is currently on sabbatical leave through December 1997.

John Loeser has been working on techniques for melding traditional electronic structure calculations with the methods of dimensional perturbation theory and dimension scaling. During the past year he has also been working with colleagues at SMU, Los Alamos National Laboratories, and Harvard University on other applications of dimensional continuation.

Joe Nibler and his students presented research papers at two conferences during the year, one the Western Spectroscopy Association Conference in Asilomar, CA. While in the Bay area, they enjoyed a guided tour through the Advanced Light Source facility at Berkeley by Dr. John Bozek, a seminar speaker in the department this year. Three members of Nibler's labs, Marshall Crew, Steve Mayer, and Darren Williams, successfully defended their PhD theses during the year.

John Ogilvie from the Institute of Atomic and Molecular Sciences in Taipei, Taiwan spent the 1996-97 year as a visiting research professor at OSU, working with **Joe Nibler**.

Christine Pastorek was invited to review proposals for the Instrumentation and Laboratory Improvement Program at the National Science Foundation, where she served as a panel chair. She also travelled to Cal Tech in April to present the Phi Lambda Upsilon Fresenius Award on behalf of the National Honorary Chemistry Society. Dr. Pastorek is serving a second term as National Vice President for the Society.

Dick Thies continues as Associate Dean of the College of Science. One part of that job is to try to attract quality students into chemistry (and other sciences) through mailings and annual events such as The Visual Cascade of Science and da Vinci Days. The latter is a celebration of Science and Art held on a weekend in the middle of July. It is a fun and informative event that alumni would enjoy. Check it out on the web: <http://www.davinci-days.org>

With funding from the Research Corporation and NSF, **Philip Watson** has started a new project that investigates the nature of the surfaces of molecular liquids. The role of a liquid surface in the dissolution and release of gases and the transport of solutes is very poorly understood. Dr. Watson's goal is to better understand whether such processes have important consequences for pollution problems, electrode processes, and the interaction of cellular fluids. His novel experiment bombards a liquid surface with noble gas ions. The ions can scatter off the atoms in the topmost atomic layer of the liquid or cause atoms to be ejected (recoiled) from the liquid surface. The scattered ions or recoil atoms can be identified in the time they take to arrive at a detector. As this only samples the topmost atomic layer of liquid, the orientation of molecules can be inferred by the variation of the detected signal as the angle of incidence of the ion beam is varied.

Tom Gannon and Michael Tassotto have constructed the first spectrometer of this type and recorded spectra for a number of low vapor pressure liquids. Preliminary analysis of data from glycerol supports other experiments that suggest that the molecule is oriented with its carbon backbone perpendicular to the surface. The method is presently limited to low vapor pressure materials but we hope to extend the technique to aqueous solutions.

Hesham Adel-Samad, Post-Doc in Dr. Watson's lab, has returned to Egypt after a successful 2-year stay studying the interactions of pollutants Cr, Pb, and trichloroethylene with the surfaces of iron oxide minerals typically found

alumni news

Rainer Beck, PhD '90, and his wife, Susanne, announced the arrival of their daughter, Julia, on May 9, 1997. Julia is already computer literate and has her own home page: <http://dcwww.epfl.ch/icp/ICP-1/Julia.html>. Rainer is on the faculty at the University of Lausanne in Switzerland and he and his family spent two weeks in August visiting the Niblers and other friends and favorite places in Oregon and Washington. His e-mail: Rainer.Beck@dcqm.epfl.ch.

Steve Bolkan, BS '82, PhD '86, presently holds a senior R & D position with Church & Dwight, Princeton, NJ. Steve and his wife Marlene live in Hopewell, NJ with their two sons, while their daughter is attending UVA in Charlottesville, VA.

Kirk Brown, PhD '92, and family have recently moved to Camas, WA, where he has joined Wafertech, a new semiconductor chip manufacturer that is funded to the tune of \$1.5 billion by several large companies around the world. He will be helping them through the setup and startup of a new fabrication facility and then next year will head up the R & D group that will develop a 0.18 micron photo process using excimer lasers. Kirk's e-mail address is KBrown@wafertech.com.

Scott A. Chambers, PhD '78, was recently elected Fellow of the American Vacuum Society "for the development of auger and X-ray photoelectron diffraction as useful probes of surface structures, and their application to a broad range of problems involving metals semiconductors, and metal oxides." He is currently a staff scientist and technical group leader at Pacific Northwest National Laboratory in Richland, WA.

Yoon-Seok Chang, PhD '90, has a new position as professor at Pohang University of Science and Technology in Pohang, Korea.

David Coles, a fourth generation eastern Oregonian, came to OSU in 1969 to work on the Apollo soil samples with Dr. Roman Schmitt. After completing his BS and MS degrees in Nuclear Chemistry, he worked 9 years at Lawrence Livermore National Laboratories. After working on another degree in Geology at California State University, Hayward, he was recruited by Battelle Pacific Northwest National Laboratories and stayed for 7 years. He and his wife returned to Oregon, where they operate Coles Environmental Consulting out of their home in West Linn.

Marshall Crew completed his PhD in February 1997. He, his wife, Lan, and daughter, MacKenzie, are in Bend, Oregon, where Marshall works for Bend Research. His e-mail address is crew@bendres.com.

Dale Crouse, MS '67, completed his PhD in organic chemistry at the University of Delaware in 1970. He worked for 24 years at DuPont, retiring in 1980. Janet (Wellhousen) Crouse, grad student under Dr. Yoke, completed her Ph.D. in history from the University of Delaware in 1980. She has enjoyed a career as an "advocate for children," involved with PTA and the school board, and has been a part-time professor.

Iver W. Duedall, BS '63, who was a classmate of our very own Joe Nibler, went on to earn an MS in Chemical Oceanography in 1966 at OSU and a PhD in Oceanography in 1973 from Dalhousie University in Nova Scotia. He is currently a Professor in the Division of Marine and Environmental Systems at Florida Institute of Technology in Melbourne, FL. He chairs the Coastal Zone Management and Environmental Science Programs.

Dr. Duedall has two grown sons. Last year he and his oldest son, a lawyer specializing in asbestos litigation, co-authored a paper dealing with environmental technology. Iver and his wife, Mary, are from Albany, OR.

Eric D. Erickson, PhD '77, is Chair of the Mojave Desert Section of the American Chemical Society. He keeps busy with chromatography and mass spectrometry, and his spare time is spent with youth activities from scouting to chess club. Eric gave a seminar at OSU this summer about chemistry in the "real world."

Kent Hancock, PhD '69, is currently the director of the Office of Pollution Prevention, U.S. Department of Energy.

Rebecca Hansing, BS '96 has taken a position with Bend Research in Oregon.

Paul R. Johnson, MS '82, is now a Research Scientist in the Structural Chemistry section of Glaxo Wellcome, Inc., in North Carolina.

Francis W. Karasek, PhD '52, was head of the automated analytical instrumental group at Phillips Petroleum Research Centre for 15 years before moving to Waterloo, Canada, in 1968. He was promoted to full professor in 1973, and in 1988 the Board of Governors of the University conferred upon him the title Distinguished Professor Emeritus.

In 1989 the Francis W. Karasek Award for Achievement in Environmental Analytical Chemistry was established at Waterloo by a generous donation from Dr. Karasek. This award is presented annually at the Ontario Ministry of the Environment Technology Transfer Conference. The awardee presents an address at

this symposium and receives a \$1,000 cash stipend. Dr. Karasek, still active in environmental research, resides in Sun Lakes, AZ.

Steve Mayer finished his PhD in the Nibler lab in August 1997. He and wife Shannon will move to Seattle, where Steve will be a postdoc at University of Washington, Shannon is an assistant professor of physics at Pacific Lutheran University.

Jennifer Niven Shepherd, BS '93, was a fourth-year PhD candidate in Chemistry at UCLA this year. She has been a part-time teacher at Santa Monica College and has won the DuPont 1996 Excellence in Research Award at UCLA. In June 1997 she won the University Disertation Year Fellowship for '97-98.

Duane Starr, PhD '73, has worked at Oak Ridge National Laboratory for about 20 years. The first 10 years were spent developing large computer models of the Molecular Laser Isotope Separation (MLIS) and Atomic Vapor Laser Isotope Separation (AVLIS) processes for the separation of uranium isotopes. For the past 10 years he has worked with the National Security Program Office (NSPO), a small organization within Lockheed Martin Energy Systems. His special concern is in limiting the proliferation of nuclear weapons. This has entailed a number of visits to the International Atomic Energy Agency in Vienna, as well as export control discussions in a few former Soviet Union countries and two IAEA inspections in Iraq. His e-mail address is nq6@ornl.gov.

Donald E. Thomas, BS '50, completed an M.S. in Education at USC in 1957 and is now retired in Agoura, CA.

Jun-Ming Tu, PhD '95, is now the senior engineer in the HID/Halogen Development Lab at Philips Lighting Co.

Darren Williams finished his PhD in Physical Chemistry with Joe Nibler in July 1997. He and wife Jennifer moved to Canyon, TX, where Darren is assistant professor at West Texas A & M University.

Ming Yang, PhD '91, and his wife, Lei, are both employed in the semiconductor division of Texas Instruments in Texas. They have two sons, Calvin and Eric, to occupy them in their leisure moments. Ming's e-mail address is m-yang1@ti.com.

Mansour Zahedi, PhD '94, is an assistant professor of chemistry at Shahid Beheshti University in Tehran, Iran, where he lives with his wife, Ezzat, and sons, Amin and Ali. Contact Mansour at m-zahedi@beheshti.sbu.ac.ir.

1996/97 chemistry degrees

PhD's

<u>graduate</u>	<u>Major Professor</u>	<u>Thesis Title</u>
Tara Lin Couch	P.K. Freeman	The Photodebromination of Polybromobenzenes
Marshall Crew	J.W. Nibler	High Resolution Ionization-Detected Stimulated Raman Spectroscopy
Anthony Diaz	D.A. Keszler	Fundamental Structure-Property Relationships in Luminescent Materials
Michael Matthews Hall	A.W. Sleight	A Search for New Substrate Materials for High Temperature Super-conducting Thin Films
Chris Herring	E.H. Piepmeier	A New Glow Discharge Detector for Carbohydrates in Aqueous Chromatography
Ok-Hee Kim tin Exchange-	M. Deinzer	Probing Structural Elements and Structural Fluctuations in Melitin and Bovine Pancreatic Trypsin Inhibitor (BPTI) by H/D HPLC-Electrospray Ionization Mass Spectroscopy
Phil Minarik	J.W. Nibler	CARS Studies of Acetylene Nanoclusters
Richard Nafshun	M.M. Lerner	The Synthesis and Characterization of Novel Materials for Use in Secondary Lithium-Ion Batteries
Alan Richardson OsF ₆ IV.	K.W. Hedberg	Gas-Phase Electron-Diffraction Investigations of I. WF ₆ , ReF ₆ , PtF ₆ , O ₂ ⁺ PtF ₆ ⁻ , II. 3-Aminoacrolein III. 3-Chloro-1-proponol 2,2',5'-Tetramethyl-1, 1-distibaferrocene
Glenn Tinseth	P.R. Watson	Modeling Catalytic Hydrodeoxygenation in Ultra-High Vacuum: Furan on Clean and Sulfided Mo (110)
Jahansooz Toofan	P.R. Watson	New Collection/Analysis Techniques for LEED; Surface Structures of Mo/S and Sapphire
Shan Wang	J.D. White	Synthetic Studies on the Macrolide Antibiotic Rutamycin B
Pat Woodward	A.W. Sleight	Structural Distortions, Phase Transitions, and Cation Ordering in the Perovskite and Tungsten Trioxide Structures

masters

Eric Clark	J.D. Ingle	Studies of Ammonia Gas Transplant and Fluorometric Detection in an Aqueous Solution
John Jones	J.C. Westall	Study of the Acid-Base Properties of Humic Acids
Kartik Ramachandran	M.M. Lerner	Synthesis and Characterization of Novel Materials for Electrochemical Devices
Mahadevan Thangaraju	A.W. Sleight	Study of Precious Metal-Oxide Based Electrocatalysts for the Oxidation of Methanol
Kenneth Vandenberghe	D.A. Keszler	Solid State Luminescent Materials: New and Improved

bachelors

Loren Dwayne Beaber	Maki Imoto	Zachary W. Robinson
Colette Ruth Boots	Young-Min Kwon	Deanna Marie Webber
Carla Jean Hinrichs	Jason Clayton Pilcher	

SMILE... Comes to the Chemistry Department.

More than eighty middle school students and their teachers visited the chemistry teaching labs on March 8 and 15 as part of the Science and Math Investigative Learning Experiences (SMILE) program's Middle School Challenge Weekend. Chris Pastorek organized several hands-on activities for the visitors. Several of the more advanced students analyzed soda pop for Aspartame using HPLC with the help of Karen Radakovich and Nadja Orlova, graduate students in the analytical division.

Other students made and played with polymers and learned what happens to rubbery polymers at -196°C. Students also learned about the ISP codes for recycling plastics and explored structures for 8-mers for several polymers using HyperChem molecular modeling software. Dr. Susan Cady, a Research Associate in the Organic division, helped supervise the activities.

An important part of the experience for SMILE participants comes from meeting and talking to real college students. A terrific group of Chemistry undergraduates volunteered their time, which made it possible to break up into groups of 3 or 4 students. Mike Conway, Carla Hinrichs, Dave Meads, Daisy Peel, Jason Pilcher, Mike Wetherell, Tom Whitehead and Kristin Ziebart interacted well with the younger participants.

Molly Bloomfield, one of the SMILE directors, reported afterwards that the feedback from students was tremendous and that they had really enjoyed coming to the chemistry lab. The SMILE program at OSU draws minority students from rural Oregon communities.

Russell E. Curtice, Ph.D. '63, passed away last year and remembered his *alma mater* in his will. Dr. Curtice was a strong supporter of OSU and regular donor to the department. He stayed in contact with several faculty members throughout his career at Rutgers University.

Dr. Curtice came to OSU as a high school teacher during a summer workshop and stayed on to complete his Ph.D. thesis, *The Luminescence of Thallium (I) Halide Complexes*, in 1963 under Dr. Al Scott. He was remembered by his major professor as a devoted, hard-working student and a very successful classroom teacher. Dr. Curtice was in Oregon to visit Dr. Scott 5 years ago.



Edward H. Piepmeier 1937-1997

Edward H. Piepmeier, Chemistry Professor at Oregon State University for 31 years, died on his sixtieth birthday, June 6, 1997, in Santa Barbara.

Ed was born and raised in Saint Louis and received his BS in Engineering Science at Northwestern University and his PhD in analytical chemistry with Howard Malmstadt at the University of Illinois. He served as a Lieutenant in the Naval Reserve, working on the U.S. Naval Space Surveillance System in Virginia. Ed joined the OSU Department of Chemistry

in 1966 and was promoted to Professor of Chemistry in 1979.

Ed served as a consultant to several corporations and as advisory editor of three analytical spectroscopic journals. He gave many national and international invited lectures in addition to numerous presentations for a variety of professional societies. Ed worked with the following graduate thesis students who are now engaged in professional work: Roxie Rhodes, Paul Flugstad, Ken Ash, Don Osten, Dewey Murdick, Gary DeJong, Dick Reid, Ron Manabe, Arnold Lewis, Gerhard Beenen, Bill Pesklak, Bob Eierman, Terry Mattoon, Jay Shields, Debra Van Engelen, Gae Ho Lee, Scott Hein, Joe McGuire, Hyo Jin Kim, Xiao Chen, Guang Xiao, Dale Govier, Diane Smith, Zhu-Biao Zhu, Chris Herring, and Susanna Baur. Jeannette Hovermale and Kevin Cantrell will finish soon. From these collaborations came sixty-two scientific papers, seven books or chapters, and innumerable meeting presentations.

Ed Piepmeier leaves a legacy of achievements in our department and in the international analytical chemistry community. Throughout his career, Ed was a leader in recognizing the most useful technical and theoretical developments in his field and bringing these both into his research and into the day-by-day instruction in the department. A notable example is bringing microelectronics into the chemistry curriculum. Together with colleagues here, he set up programs that benefitted many students and led to a series of highly successful summer NSF programs that brought academic and industrial professionals to the OSU campus. Ed was also a leader in adapting the powerful capabilities of the spreadsheet to teaching, not in just a peripheral way, but as a main vehicle within the course. His primary research interests revolved around atomic spectroscopy, lasers, and plasmas. He was an internationally recognized atomic spectroscopist who made significant contributions in laser plume spectroscopy and saturated atomic fluorescence spectrometry.

One of Ed's last professional tours was an extensive visit to analytical chemistry groups in South Korea in 1994. Traveling with his wife, Karen, he lectured at several universities and laboratories there and met with former students.

After learning that he had aggressive prostate cancer, Ed retired in June of 1996 to battle the disease. In doing so, Ed used his investigative abilities to study and became a very active and well recognized source of information on the international websites for this disease. He brought the best of analytical theory and practice to the difficult task of assessing PSA test values in relation to possible courses of action. MDs in the field were impressed with and made use of the results of Ed's efforts. [See website <http://rattler.cameron.edu/prostate> and select *Remembrance*, which details Ed's contributions.]

Ed Piepmeier is survived by his wife of 36 years, Karen, who now resides in Santa Barbara, California, daughter Kristen Sue Gose of Santa Barbara, son Edward Harmen Piepmeier, Jr. of Austin, TX, son Eric Swanson Piepmeier of Fort Smith, AR, four grandchildren and other family members. Karen and Ed were wonderful colleagues and friends in the OSU chemistry community. Ed's wit, warm and spontaneous laugh, and cheerful good humor filled these halls and classrooms and now their memory, and the memory of this good friend fills our hearts.

Jim Krueger and Jim Ingle

Retirements

Bill Taylor and **Dean Johnson** retired from the Chemistry Department after contributing years of dedication and patient, hard work. Both will be remembered for their diplomacy and willingness to help beyond the call of duty.

Bill came to Corvallis 44 years ago as an undergrad. The following anecdotes may sound familiar. He shared them with co-workers during his presentation at a retirement dinner in May.



"As a student in 1953 I signed up for Chem 204 with Dr. William Caldwell as lecturer. I had a very good introduction to chemistry and chemistry demonstrations by the end of the year. When I started working in the lecture prep lab in 1958, I was able to remember a lot about the different demonstrations. All of the fellows were very patient with me in explaining what it was that they wanted. All of the lecturers for general chemistry have been show people. Some maybe more so than others." Caldwell will be my first example. All of you are familiar with the bleaching powers of chlorine. The way we illustrate

this in a demonstration is a round bottom flask filled with chlorine and a piece of colored cloth. Dr. Caldwell's approach to this was: he tells the lecture prep person to bring the filled chlorine flask, a large pair of scissors, and--no cloth. He wears a bright tie that day. When it comes time to perform the experiment he looks around and mutters in a booming voice that the lecture prep person has forgotten the colored cloth. He hauls out the scissors, cuts off his tie, and drops it into the flask. Of course the class roars.

"I worked with Dr. Wendell Slabaugh. He was an excellent lecturer and showman, plus he developed a large number of demonstration apparatus. We are very fortunate that the ratio of oxygen in air is no higher than it is. To illustrate this, Dr. Slabaugh first used a corn cob pipe filled with tobacco. He might smoke it at the beginning of the lecture. He would clamp it on a ring stand and apply pure oxygen to the stem of the pipe. Of course sparks and flame came out of the bowl. The first pipes were almost destroyed. He upgraded to meerschaum pipes, which were better able to survive the heat!

"Dr. Darwin Reese was an outstanding lecturer and a character-and-a-half. He would request one or two large balloons of hydrogen and oxygen-mix. He would bring out an umbrella, set off the balloon, and ask the class, "Did you see the water form?" No? He then set off the other balloon. At least one time he came to class dressed in a heavy raincoat, rain hat, and rubber boots plus the umbrella. I recently was at a church meeting where the preacher used this particular performance of Reese in his sermon. This situation occurred maybe 25 years ago, however, this fellow remembered it as well as if it happened yesterday.

"In the 1950s, there were stockrooms on 1st, 2nd, and 3rd floors in Gilbert Hall. Each stockroom was managed by a lady. One of these ladies taught me the correct spelling of Erlen-meyer flask. You had to spell it correctly to borrow the flask from the stockroom. When I started to work in the department, Mrs. Fry, the 3rd floor stockroom lady, explained to me the details of standard taper glassware when I began to prepare my first standard taper order. I am certain that Dean Link, Violet Jonas, and Lynne Wylie also help in the training of the current group of students.

"I have enjoyed working in the Chemistry Department over the years. I can truthfully say I have had fun doing the lecture prep and purchasing. I want to wish each of you success, happiness and good health in the future. "



After thirtysome years with OSU, and fourteen of those in the Chemistry department, Dean Johnson, Laboratory Preparator for the teaching labs, has retired. There is unanimous praise for the fine work and outstanding service that Dean Johnson has provided for all the instructional laboratories in the Chemistry department. As one faculty member put it, "Dean is unflappable" - a quality definitely necessary to deal with the thousands of students who passed through the chemistry labs each year. Since his retirement, Dean and his wife Nancy have been doing even more exploring around Pacific Northwest waterways and Dean reports that the Sage rod and Orvis reel presented to him by the department is working very well.

The big news for **Darrah Thomas** is his so-called retirement on March 31, 1997. However, this has meant only a change in emphasis in his activities: less time in the classroom and more time on research and travel. He celebrated the beginning of retirement by taking a group to the Advanced Light Source at Berkeley to carry out some experiments in photoelectron spectroscopy at this state-of-the-art synchrotron. This was followed with a trip in July to an International Workshop on Photoionization in Chester (England) and another in September to the Seventh International Conference on Electron Spectroscopy in Chiba (Japan).

Retirement works for **Jim Krueger** who has begun by travelling a little this summer. He will return to the classroom in September to teach the honors chemistry class.

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"I give \$_____ to the OSU Foundation, Corvallis, Oregon, for the Chemistry Department (for scholarships, fellowships, or undergraduate laboratories, or to be used as recommended by the Chair of the Chemistry Department)."

For assistance please contact:

Maya Abels, Director of Development
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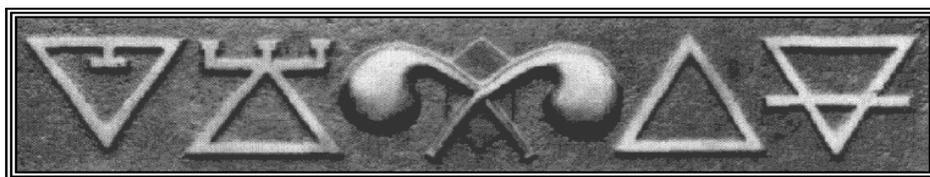
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