



Department of Chemistry
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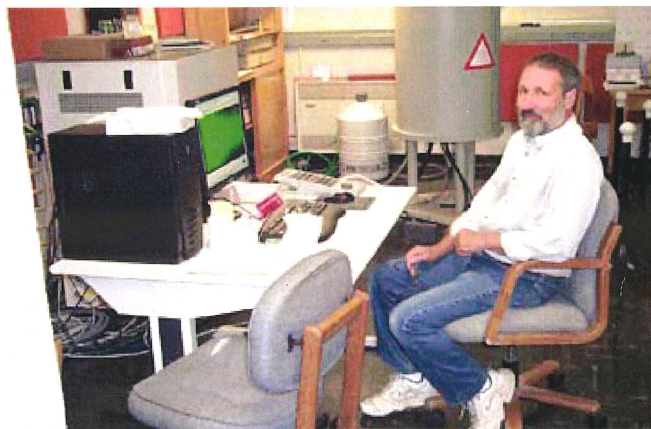
OSU Chemistry Newsletter

Volume 25 - Winter 2005

NMR Upgrades Benefit Department

A \$30,000 grant from the Provost's Office has enabled a significant upgrade of the OSU NMR Laboratory computing systems, the first since 1998. Components of the upgrade include

- Software upgrade from the older XWinNMR program to a new acquisition and processing package called Topspin. Bruker (the instrument vendor) has ceased development of the former and has incorporated a large number of technical improvements to Topspin.
- Two new workstations for running the instruments, replacing the aging SGI workstations that had previously provided instrument control.
- Two additional workstations for data processing.
- A central server for file sharing, account coordination, and remote access.
- Firewall protection of the server and workstations.



Rodger Kohnert working at the DPX-400

One significant aspect of the upgrade involves moving from the SGI platform to commodity PC hardware running the Linux operating system. This will allow the Department to more readily keep the facility up to date by decreasing the cost of replacement hardware in the future. Because the licensing of the software is not locked to a single workstation, but can be shared, there is a great deal of flexibility for adding additional workstations (as either standalone computers or as "thin clients" working from the server) in the future to meet demand.

Another improvement is that the increase in computing power allows users to gain fully interactive remote access to the facility via "Virtual Network Computing" or VNC software. Users gain access to their NMR facility desktop from any internet-connected computer via Web browser, allowing researchers full interactive access to spectra without having to move to the NMR facility. This approach promises to allow more integration of "live" spectral interpretation into organic chemistry courses.

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From the Chair....

Greetings to our alumni and friends!

2005 has come to a close, and it was a strong year for the Department. We've welcomed two new faculty members, Paul Blakemore and Alexey Shvarev, providing new capabilities and adding to existing strengths in the organic and analytical areas.

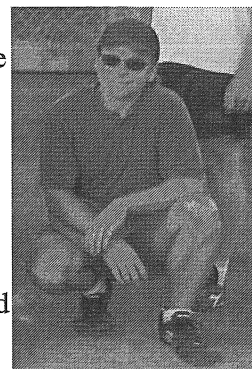
In acknowledgment of their internationally recognized research efforts and excellence in classroom instruction Dave Horne, Wei Kong, and Vince Remcho were promoted to Professor, and for his many contributions in our CH33x organic-chemistry sequence Jeff Walker was promoted to Senior Instructor.

Jim White received the 2004 Oregon Medical Foundation Discovery Award for his many contributions in organic synthesis, and Joe Nibler was elected Fellow of the Optical Society of America for leadership in high-resolution coherent-Raman spectroscopy and its application to studies of free radicals, plasmas, and ultracold clusters formed in free-jet expansions. In recognition of his many contributions to nuclear chemistry, Walt Loveland was awarded the 2004 F.A. Gilfillan Memorial Award for Distinguished Scholarship in Science on June 3rd and presented a lecture entitled, "The New Alchemy: Making Chemical Elements".

After more than 15 years as Harris Professor of Materials Science, Art Sleight moved to emeritus status in June. We are in the final stages of recruiting an outstanding candidate to fill the Harris Chair, and an announcement will be forthcoming in early 2006.

The Department continues to expand its collaborative activities, particularly through the Oregon Nanoscience and Microtechnologies Institute and the University of Oregon. Reciprocal adjunct faculty appointments are now in place with UO, several joint federal grants have been awarded, and cooperative educational activities have been established. In the latter area, I can highlight ROCK Camp, a week-long summer activity sponsored by Intel that is directed to introducing undergraduates in the early stages of their careers from the Northwest and North California to research in materials chemistry.

The benefits of the Department's research continue to be extended beyond the academic enterprise. Kosan Biosciences has licensed a patent held by Jim White and Rich Carter, examining a new epothilone in Phase I clinical trials for cancer treatment. And a new nonlinear optical crystal from my lab has been licensed by a Corvallis start-up Deep Photonics in support of new fiber-based, high-power laser systems.



I hope that you are experiencing your own successes, and I encourage you to share them with us at our website: <http://www.chemistry.oregonstate.edu/alumni.html>. As always, I encourage you to visit the Department on your travels to Corvallis.

All the best,

DOUGLAS A KESZLER

Symposium for Joe Nibler August 11-12, 2006

The Department and students from Joe Nibler's lab have planned a symposium and party to be held on August 11 and 12, 2006. The occasion is a delayed celebration of Joe's 65th birthday (May 9, 2006) and his recent Emeritus status. Although retired, he is still heavily engaged with his research program and he has continued to teach on an as-needed basis. He also remains physically active, continuing to snow and water ski and to play on the Chemistry Department softball team.

Please mark your calendar if you can attend. More details will be provided later on the Department website and by e-mail. Please contact Engelene Chrysostom-Oberdorfer (engelene@mailblocks.com), Joey Carson (carsonj@chem.orst.edu), or Karen Nibler (niblerk@comcast.net) with your e-mail or address if you would like further details.

Department News

Joe Nibler, Professor Emeritus, was elected a Fellow of the Optical Society of America for leadership in high-resolution coherent-Raman spectroscopy and its application to the study of free radicals, plasmas, and ultracold clusters formed in free-jet expansions. In August, he gave a lecture at the national American Chemical Society Meeting in Washington, D.C.

Doug Keszler was inducted into the Distinguished Alumni Hall of Fame at his undergraduate alma mater, Southwestern Oklahoma State University. He was the speaker and honored guest at the university graduation ceremonies.

Professor Emeritus, **Ken Hedberg**, and his wife, **Lise**, went to Blaubeuren, Germany in June to attend the "11th European Symposium on Gas Electron Diffraction" where Dr. Hedberg was invited to present a talk. "As the oldest person still in the business, I decided on a historical outline and titled the talk "Six Decades of Electron-Diffraction Research: A Personal Retrospective". He was awarded the International Barbara Mez-Starck Prize "for outstanding contributions in the field of structural chemistry" and a cash award of 3,000 Euros, which will be used to support Dr. Hedberg's program. Before the meeting, the Hedbergs spent 10 days in London, attending plays, a musical, a ballet, and visits to the reconstituted Globe theater and Stratford on Avon to see places that figured in Shakespeare's life.

Dave Horne was recognized with the Olaf Boedtger Award for Excellence in Academic Advising. One of his students has given him this wonderful praise, "my advisor always makes time for me to meet with him no matter what he is working on, whether it be a grant proposal, journal article, or classroom lecture, he will immediately drop everything to sit down with me to answer questions, lend advice, or just catch up. I could not have asked for a better advisor."

Chris Pastorek and **Alan Richardson** received an OSU Technology Resource Fund grant recently to upgrade and repair the network infrastructure in Gilbert Addition to T1000. This development will more than double the number of drops and ensure a robust network to serve over 4500 students each year in all levels of chemistry laboratory courses.

Graduate student, **Joa-Young Jeong**, and **Douglas Keszler** have co-authored a manuscript describing a significant advance in transparent and inexpensive inorganic electronics. A description of the work can be viewed at <http://msnbc.msn.com/id/6789938>.

Chris Pastorek was elected to serve a second term as the National Secretary for Phi Lambda Upsilon, the National Honorary Chemical Society. As part of her duties as National Secretary, Chris planned and organized the 34th Triennial Congress that met in Philadelphia. The Congress was attended by 30 PLU Chapter Officers and six National Officers from around the US. Chris is also the faculty advisor for the Alpha Beta chapter of PLU here at OSU.

Chris Pastorek, **Joe Nibler**, and **Mike Lerner** received an OSU Technology Resource Fund grant for 2005 to upgrade ten spectrometers in the advanced teaching laboratory. The spectrometers, which were left behind in the dust of Y2K, are now offering new functionality under updated operating systems. Some of the in-house instrument control is now being done with LabVIEW.

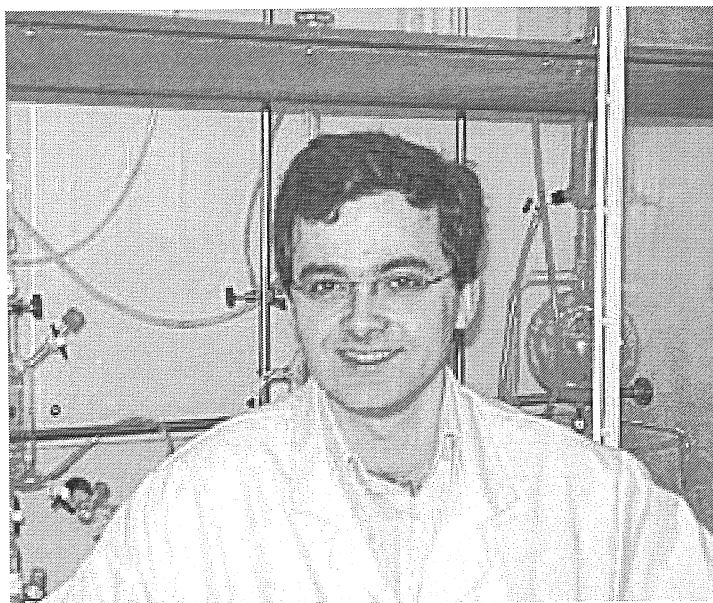
Emile Firpo was honored as a Mortar Board Top Professor in 2005 by one of his students, **Luke O'Rourke**, a chemistry major who plans to go to medical school.

Nick Drapela received the Lloyd Carter Award for Outstanding and Inspirational Undergraduate Teaching for his excellent work teaching a variety of courses including general and organic chemistry. Students describe Nick as someone who can make learning fun.

Wei Kong has returned from a six-month appointment in Maryland, where she was working as an NSF/NIH Scholar in Residence. The program's goal is to foster collaborations between the physical and biological sciences.

Sigrid Quay retired after working as Dr. White's assistant for 12 years. **Carolyn Brumley**, Graduate Coordinator, retired after 11 years working to recruit graduate students. We greatly appreciate all of their contributions.

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Two New Faculty

Paul R. Blakemore joined our department in January 2005 as an Assistant Professor. Prior to his arrival amongst us, Paul had been pursuing research and teaching at the University of Leeds, United Kingdom, as a Royal Society University Research Fellow (2001-2004). Paul was one of only two synthetic chemists awarded this prestigious and competitive fellowship in 2001. It is a delight to have Paul return after completing his fellowship with a wealth of experience and knowledge that will be an asset to our organic chemistry division. Two of his graduate students from the Univer-

sity of Leeds, **Selena Milicevic** and **Mark Sephton**, have also joined him here in our department.

Work within the Blakemore Group encompasses several broad themes concerning both the development of new methods for organic synthesis and the execution of target directed syntheses. So far this year, the group has reported a novel tandem oxidative dimerization process for the generation of a new type of axially chiral ligand (*Journal of Organic Chemistry*, 2005, 373-6), and recently disclosed a mild and generally applicable method for the synthesis of *a,b*-unsaturated esters (*Organic and Biomolecular Chemistry*, 2005, 1365-68).

Born in East London, Paul has been interested in science and mathematics as long as he can remember and became drawn to organic chemistry in particular during high school. He obtained his undergraduate education at the University of Southampton pursuing a double honors degree program in chemistry and mathematics. During summer vacations from university, he worked as a student in discovery chemistry at Rhône-Poulenc Rorer (now Sanofi-Aventis), synthesizing compounds for pharmacological evaluation and developing his laboratory skills.

After attaining his BSc degrees, Paul initially remained at the University of Southampton to begin graduate studies under the supervision of Professor Philip J. Kocienski. He later moved with Professor Kocienski to the University of Glasgow to complete his research and graduated from that institution in 1999. Paul's PhD work led directly to the introduction of an important new method for the preparation of *trans*-alkenes that has been widely cited.

Paul went on to spend over two years working as a postdoctoral research associate of Professor James White here at Oregon State University (1999-2001). At that time, his research with Dr. White focused on the total synthesis of biologically active natural products isolated from plant and marine sources. Paul enjoyed his time in the White Group immensely and found living in Corvallis a pleasant change from the more hurried way of life in Britain. Paul's post-doc years turned out to be productive in more ways than he bargained for, however. Aside from making several natural product molecules, he also met his future wife, Samantha, a native Oregonian!

Now Paul is back to join colleagues new and old, and has enthusiastically thrown himself into life at OSU. In a flurry of activity, he and his group (with recent additions **Heath Giesbrecht** (graduate student) and **Matthew Burge** (postdoctoral researcher)) set up their new laboratory and resumed research in earnest. He is arranging the seminars for the current academic year and has cheerfully assisted with every request for supporting recruitment efforts. Paul has re-adjusted to small town Corvallis life, quite a change after Leeds, and can be seen locking his bike up alongside the students. We wish Paul and his transferring students all a warm welcome!

Members Join Department

Alexey Shvarev joined our department this September as an Assistant Professor in the Analytical Division. He had been working as a postdoctoral fellow at Auburn University in Alabama since 2002 on bioanalytical applications of ion-selective electrochemical sensors. The research group at Auburn recently received an NIH grant for its work on reversible electrochemical sensors for the analysis of polyions: fundamental and applied aspects of the determination of anticoagulants such as high and low-molecular weight heparins in whole blood.

Alexey completed his MS at St. Petersburg State University in Russia and was awarded the St. Petersburg Governor Award for an outstanding undergraduate research project examining nonequilibrium electrochemical properties of ion-selective electrode membranes. After finishing his MS, Alexey pursued his PhD from St. Petersburg State University with a thesis titled "New sensor abilities of ion-selective electrodes with polymeric membranes". While working on his PhD, he was employed at Volta Corporation as a R&D chemist in the area of analytical equipment.

Before completing his PhD, Alexey began as a consultant on engineering projects at Aquaphor Corporation (a division of Electrophor Inc., NY). During this time, he studied the electrochemical properties of activated carbon fibers and led a project on the development of water purification systems and an experimental facility for production of ion exchange fibers.

Alexey's research encompasses the external photochemical and electrochemical control of ion-selective sensors. "Our research efforts are focused on the area of optical and electrochemical sensors based on highly selective ion carriers. We are exploring the applications of the ion-selective sensors relevant to medicine, biology and environmental analysis." He currently has four patents and one pending. This year he published two articles in *Analytical Chemistry* and *Chemical Communications*. He has been very busy setting up his laboratory and beginning research with a new graduate student, **Hasini Perera**.

We look forward to welcoming him and his family into our Department and community.



Spring Awards Banquet

In May, Kevin Cantrell was the featured speaker for the Honors and Awards Banquet for Chemistry students. Kevin obtained his PhD in June 2001 under the direction of James Ingle. For the last four years, Kevin has been an assistant professor at the University of Portland where he teaches analytical and environmental chemistry. He lives in Portland with his wife, Deanna, and their two children.

Kevin presented an entertaining and humorous talk about the best and worst parts of being a chemistry professor at a 4 year college. He also discussed some of the primary lessons he has learned about his job and life. We still see Kevin at least once a year at OSU as he continues to work on manuscripts from his thesis work and interact with Ted, the departmental machinist, about special research needs for undergraduates working in his lab.

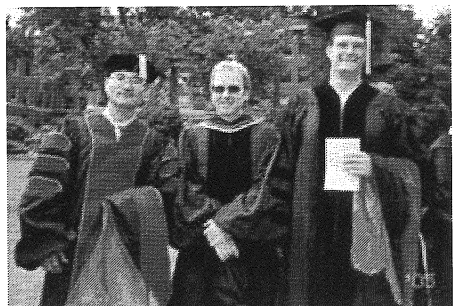
Advanced Degrees 2004/2005

Master of Science

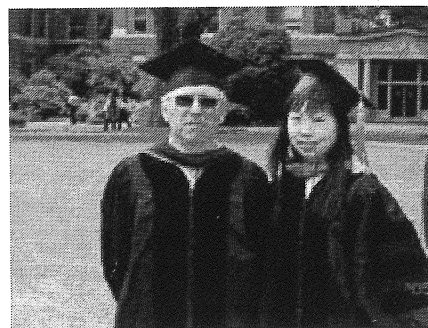
- Ben Figard** *The analysis of haloethylenes using Resonance Electron Capture - Mass Spectrometry and data analysis software* (M. Deinzer). Ben is working on his PhD in the Biochemistry department under the direction of M. Deinzer.
- Rajan B. Juniku** *Designing Chiral Rhenium (VII) Trioxo Complexes* (K. Gable). Rajan is working on his PhD under the direction of J. White.
- Laura Lessard** *Employing capillary electrophoresis as a separation method for pharmaceutical analysis* (V. Remcho). Laura is pursuing her PhD at the Univ. of VT.
- Cynthia Villwock** Cynthia completed her non-thesis MS and is now teaching at Chemeketa Community College in Salem, OR.

Doctor of Philosophy

- Stacey Clark** *RNA and DNA aptamers as affinity stationary phases for liquid chromatography and capillary electrochromatography* (V. Remcho). Stacey is working for International Flavors and Fragrances in NJ.
- Angela Doneau** *Monolithic Sorbents for Microscale Separation* (V. Remcho). Angela has moved to Seattle to join her husband, Catalin, on a postdoc at the Univ. of WA.
- Yonggang He** *Electronic Spectroscopy of Biological Relevant Species and Their Complexes with Solvent Molecules* (W. Kong) Yonggang is a postdoc in Ahmet Zewail's group at the CA Institute of Tech. researching femtosecond electron diffraction.
- Michael Hruschka** *A New Trigonal Huntite Material and Subgroup Relationships Between Crystallographic Space Groups* (D. Keszler). Michael is working for Hewlett-Packard in Corvallis.
- Kurt F. Sundermann** *Synthesis of Epothilones and Epothilone Analogues* (J. White). Kurt is employed at Kosan Bioscience in Palo Alto, CA, researching anti-cancer compounds.
- Jun Li** *Synthesis, Structure and Properties of Some Transition Metal Oxides* (A. Sleight). Jun began a postdoctoral position at UC, Santa Barbara this fall.
- Christopher Lincoln** *Asymmetric Synthesis of Cyclopropanes via a "Zipper Reaction"* (J. White). Chris is a postdoctoral researcher at the Roskamp Institute in Sarasota, FL, working on a drug to treat Alzheimer's Disease .
- Cheol-Hee Park** *Synthesis and Study of Transparent p-n-type Semiconductors and Luminescent Materials* (D. Keszler). Cheol-Hee has completed a six-month postdoctoral appointment in the Keszler lab and has returned to Korea to accept a position as a Staff Scientist at LG Chemical.
- Melissa Schultz** *Determination of Fluorinated Alkyl Substances in Aqueous Systems* (D. Barofsky). Melissa is working at USGS in Denver, CO as postdoctoral researcher and married an OSU engineering graduate in August.
- Wei Yan** *Synthesis, characterization, and structural modeling of graphite intercalation compounds with fluoroanions* (M. Lerner). Wei is working for a high-tech engineering company in Portland, OR.



Cheol-Hee Park, Doug Keszler, and Michael Hruschka



Art Sleight and Jun Li

2004/2005 Bachelor of Science

Summer 2004

Nathan Bonn-Savage (BS, ACS advanced chem) is attending graduate school at the University of Hawaii. He was working in R&D at AcryMed, a medical device research company in Portland, OR.

Amy Elaine Chan (BS, business) - is studying to be an orthodontist at the University of CO in Denver.

Michael Donnelly (BS, business)

Fall 2004

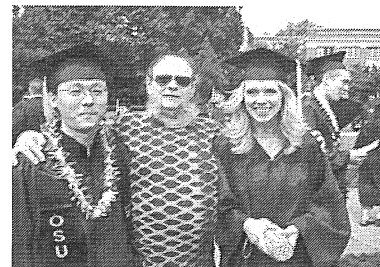
Absar Ahmad Faruqui (BS, business)

Winter 2005

Joel R. Burchfiel (BS, biochemistry) is working as a Laboratory Assistant at OSHU in Portland, OR.

Gerrick E. Lindberg (BS, ACS advanced chemistry) is attending graduate school at the University of Boston and studying Physical Chemistry.

Luke W. O'Rourke (BS, pre-medicine) is taking a year off and applying to medical school.



Sulistiono Herlambang, Emile Firpo, and Jessica Hewitt (Biochemistry)

June 2005

Jordan K. Boutilier (BS, biochemistry) is working at AVI BioPharma, Inc. in the peptide group.

Erika Gene Condos (BS, pre-medicine with double major Women's Studies) owns a catering business and got married in July. She plans to attend medical school.

Abdul Hackim (BS, ACS advanced chemistry) is pursuing graduate studies at the UC Santa Barbara in the Physical Organic division.

Rachelle M. Hasson (HBS, ACS advanced biochemistry) is attending Graduate School at OSHU in Portland, OR.

Sulistiono Herlambang (BS, business) is applying for work in industry.

Joel Andrew Klein (HBS, pre-medicine) is working at AVI BioPharma, Inc. and will attend medical school.

Christopher L. Koyama (BS, biochemistry) is moving to Las Vegas, NV.

Jessica Kaye Mc Elravy (BS, forensic science) is working at AVI BioPharma, Inc. in the oligomers group.

Eli Moore (BS, environmental chemistry with double BRR) will attend graduate school at the Univ. of MD.

Rona Kiyomi Nishikawa (BS, ACS advanced chemistry) is attending the Graduate School of Forensics at the University of New Haven, CT.

Nilesh Patel (BS, forensic science) is applying to Chiropractic School.

Spencer Hampton Porter (BS, ACS advanced chemistry option) is working in industry in Las Vegas, NV.

Nathan Gregory Starr (BS, chemical engineering) has accepted a position at Xerox in Portland, OR.

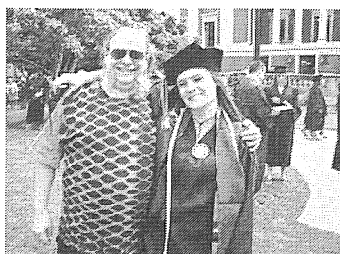
Ty Elliot Serrill (BS, pre-medicine) will be working and applying to medical school.

Amber J. Taylor (BS, forensic science with double BRR) is working at CH2MHill, Inc. in Corvallis.

Kristi A. Tompkins (BS, environmental chemistry) is working for the Water District of the City of Vancouver, WA.

Darlene R. Valencia (BS, forensic science) is traveling and applying to a forensic graduate program.

Katherine M. Van Wormer (HBS, ACS advanced biochemistry with Botany and Plant Pathology) is pursuing a graduate degree in Environmental and Molecular Toxicology.



Kathy Van Wormer and Emile Firpo

Biagio Michael Virde (BS, chem. engineering)

Andrea J. Voorhees (BS, advanced chemistry) is coauthor on a paper published on her under graduate research with J. Nibler. She has taken a position with HP, in Corvallis, until she attends graduate school.



Chris Pastorek and Luke O'Rourke

James White is Honored with the 2004 Discovery Award

The Oregon Health & Sciences University Foundation gives annual recognition to Oregon scientists who have made significant and original lifetime contributions in the field of biomedical research. The award was created in 1984 by the Medical Research Foundation of Oregon, founded in 1942, to promote the growth and development of biomedical research in Oregon. The department is very proud that our professor emeritus, James D. White, was the very first OSU chemist to be awarded this honor in 2004.

Professor Emeritus, James D. White, has been an asset to OSU's Chemistry Department since 1971 after teaching at Harvard University and he has contributed an enormous amount of work and energy into his research and the Department. He has received 15 prestigious awards honoring his contributions to the synthesis of biologically active compounds found in nature, and he has been successful in demonstrating the method to construct 45 complex molecular structures.

Retirement has not slowed him down, and he continues to enjoy ground-breaking research and recent publications, including the most recent articles titled, "Total Synthesis of (-)-7-Epicylindrospermopsin, a Toxic Metabolite of the Freshwater Cyanobacterium *Aphanizomenon ovalisporum*, and Assignment of Its Absolute Configuration" in the 2005 *Journal of Organic Chemistry*, Issue 70, which is currently in press, and "Stereochemistry of contiguous cyclopropane formation from cascade cyclization of a skipped dienyl homoallyl triflate" published in the 2004 *Chemical Communications*, Issue 1.

The Discovery and Mentor Awards were presented at a reception on November 29, 2004 at the Multnomah Athletic Club of Portland. Jim received a commemorative crystal plaque and a cash award of \$5,000 at the annual award dinner.

Loveland Receives 2004 F.A. Gilfillan Memorial Award

Professor Walter Loveland was awarded the 2004 F.A. Gilfillan Memorial Award for Distinguished Scholarship in Science. This award is the highest honor that the College of Science awards its faculty to recognize scholarly work that has made a lasting impact on both the field and the University. Dr. Loveland received a \$1,500 honorarium and an invitation to present the F.A. Gilfillan Memorial Lecture on June 3, 2005. His lecture was titled "The New Alchemy: Making Chemical Elements".

Dr. Loveland's science career began at the Massachusetts Institute of Technology, where he received his bachelors degree. He then proceeded to the University of Washington for his doctoral degree. After completing his PhD, Walt worked as a postdoctoral fellow at the Argonne National Laboratory, and has since returned there to present seminars on his research for their Physics Division Colloquium.

OSU has benefited from Walt's contributions and enthusiasm for 37 years. An active member in various committees around the University, Loveland is always on the move whether traveling for an experiment or whisking across campus for a meeting, generally clad in a brightly colored shirt. He has enjoyed a productive career with more than 150 publications. He continues to explore the "study of fusion enhancement with neutron-rich radioactive projectiles, the study of fusion enhancement with halo nuclei, the generation of new neutron-rich and proton-rich nuclei by intermediate energy projectile fragmentation, the study of "hot fusion" path to the heaviest nuclei and why it works, the study of angular momentum transfer in intermediate energy nuclear collisions, and the study of fusion-like residues produced in intermediate and relativistic nuclear collisions and the QSAR of organically bound metals". The Department is very proud of the contributions of this distinguished nuclear chemist, and it is always a treat to hear his stories about the history of the Department.

Contributions

We wish to thank the following donors whose generous contributions during the 2004/05 year funded the seminar series, the Pauling Lecture Series, graduate recruiting, and scholarships and fellowships for chemistry students. The department benefits in the best possible way from your donations.

3 M

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Elaine S. Yunker

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Bert Christensen Fund

Chester A. & Hannah L. Schink
Thomas R. Webb

Carroll DeKock Scholarship

Roger A. & Carol A. Crawford
Carroll W. & Gerry A. DeKock
Barbara J. Koch
Lyle V. McAfee
Ralph E. Miller
PPG Industries Foundation
Daberath Ryan
Edith M. Schrader
Earl P. & Judith J. Seitz
Junming Tu

Molecular Probes Fellowship

Molecular Probes, Inc.

Arnold Johnson Jr. Fellowship

Sharon E. Johnson

James H. Krueger Fund

Claudia M. & Scott J. Hein
Thomas R. Webb

Laser Lab Fund

Joseph W. & Karen Nibler

Linus Pauling Lectures

Junming Tu

Colleen Spurgeon Scholarship

Colleen J. Spurgeon

L. Stout Memorial Fund

Carol C. Stout

D. Wong Chemical Research Internship

Eli Lilly & Company Foundation
David Taiwai & Christina Wong

Linda May Oleson Scholarship

Jennifer Niven Shepherd

Chemistry MRF Fund

Peter K. and Judith Freeman

Chemistry Education Research

Stephen & Pamela Hawkes

Graduate Education

James E. Billigmeier
Andrew P. Butler
Ralph E. Miller
Frend J. Miner
Junming Tu

Hach Scientific Chemistry Teacher Scholarship

Hach Scientific Foundation

Ken & Lise Hedberg Graduate Student Fund

Kenneth W. & Lise Hedberg

David A Horne Research Fund

Molecular Probes, Inc.

J. D. White Scholarship

Roger J. Butlin
Douglas A. & Dena Keszler
Oregon Health & Sciences University
Foundation
Wolfgang Wenger
White Symposium

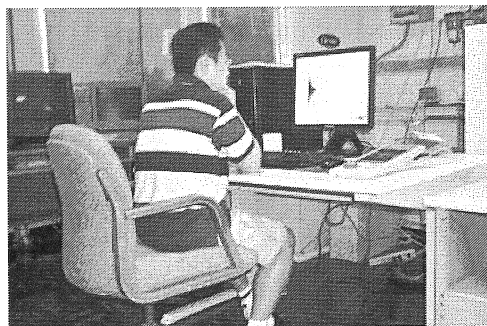
Microseparations Research Lab

Taxolog, Inc.

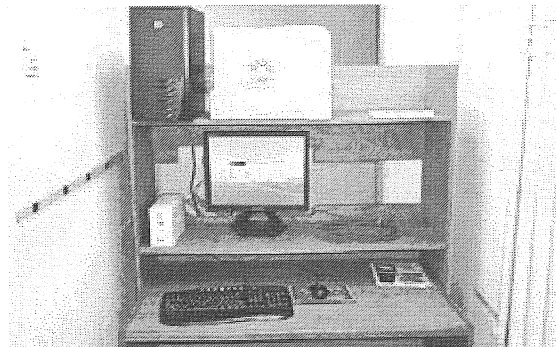
NMR Upgrades Benefit Department (Continued from page 1)

Finally, improvements to data and system security have been implemented via firewalling the facility network from the campus internet. This approach allows fine-grained control over access to the facility and is more adaptable as new internet security threats arise. Further, the facility network benefits from modern gigabit ethernet speeds.

David Horne and Kevin Gable coauthored the proposal; Rodger Kohnert and Kevin Gable coordinated installation of the new systems.



Tae-Hee Lee working
at the DPX-300



The third floor workstation facility

Alumni News

Chuck Hamilton, '79 BS, of Aculite Corporation gave an invited lecture on "Optical Parametric Oscillators and Fiber Lasers" in a course on Nonlinear Optical Interactions in Materials. This interdisciplinary graduate course is taught by J. Nibler, Bill Hetherington (Physics) and Tom Plant (Electrical Engineering).

Rudy Situmeang, '94 MS (Thomas), is a lecturer at the University of Lampung, Indonesia and has completed his PhD on heterogeneous catalysts at the Universite de Louis Pasteur in France, 2000.

Roger Adams, '95 BS, is the Lab Coordinator at the Providence St. Vincent Medical Center of Oregon's Medical Laser Center and responsible for the smooth functioning of multiple research activities including: vascular tissue engineering (e.g. elastin biomaterials from E. Coli with vascular bioassembly and inner layer seeing with adipose derived stem cells), laser tissue fusion, and hemorrhage control dressings (chitosan bandage).

Marc Kirchmeier, '98 PhD, (Gould) is working as a Senior Research Fellow at Merck's Biologics and Vaccine division in West Point, PA and is currently focusing on the innovative delivery and formulation of biologicals. He was glad to have attended Dr. White's retirement symposium and catch up with old friends. He and his wife, Tonja have three children – Kyle 21, Cole 6, and Madeline, 4.

Paul Forster, '98 HBS, finished his Ph.D. in Materials Engineering at UC Santa Barbara and started as a postdoctoral researcher at Stonybrook in March.

Darren Williams, '98 PhD (Nibler), has left Pantex Corporation to return to the academic world as an Assistant Professor in the Chemistry Department at Sam Houston State University in Huntsville, TX. His email is dlwilliams@shsu.edu.

Karen Castle, '00 PhD (Kong), has been an assistant professor of chemistry (tenure-track) at Bucknell University for the past three years.

Kay Johnson, '00 BS, completed her Masters in Organic and Chemical Education at Purdue University in August 2002. Kay is teaching chemistry at the

Rock Creek Campus of Portland Community College in Beaverton.

Andrew Ramage, '00 BS, had a book published on classic television (volume 2 is on its way). He worked at TCI America as an Analytical chemist from 00-02 and is now employed at a software company in Chatsworth, CA. "Probably won't do chemistry again, but will always treasure the years I spent at OSU, the chem faculty is so wonderful, especially Dr. Pastorek".

Jim Tyser, '00 MS (Ingle), recently returned from Turkey where he taught high school chemistry for one year and was supported by a Fulbright Fellowship. Jim and Sara Ingle enjoyed spending over a week in Turkey with Jim and his wife, Bonnita.

Matthew Cranswick, '01 BS, is currently working on a PhD at the University of Arizona with Dr. Enemark and Dr. Lichtenberger on modeling the active site of sulfite oxidase and helping in the construction of a new gas-phase photoelectron spectrometer for the Center for Gas-Phase PES.

Engelene (Chrysostom) Oberdorfer, '01 PhD (Nibler), and her husband Georg are proud parents of a daughter, Amelie, born in Vienna, Austria. Her email is engelene@mailblocks.com.

Lindsay (Bader) Pranger, '02 BS, is working as a research assistant at the Oregon National Primate Research Center in Beaverton. She reports that her position is really interesting and she gets to "play" with monkeys all day.

Xiumei Xun, '02 MS (Sleight), is presently working on nano-assembly materials, organic monomer synthesis, and nylon surface modification.

Cristian Ion, '03 HBA/International Degree, graduated from the Monterey Institute of International Studies with a degree in International Policy in May 2005. He focused mainly on chemical and biological weapons. Cristian recently moved to Washington, D.C. and is a Research Associate at the Center for Strategic and International Studies and the Center for Nonproliferation Studies.

Honors and Awards

College of Science

Undergraduate Scholarships for 2005/2006

Peter C. Culter Memorial Scholarship

Ian G. Elliott Katy M. Fordyce

Carroll DeKock Scholarship

Stephanie A. Killen Caitlin P. Phillips

Jeff Wong

Colleen Spurgeon Scholarship

Elizabeth Spree

Linda May Oleson Chemistry Scholarship

Joshua C. Albus

Hach Scientific Foundation Scholarship

Education - Ryan M. Kanter

David F. Crawford

Chemistry - Maryam A. Moussaoui

Marcus A. Chiodo

Chemistry Department Awards, Sept. 2004

'03/'04 Employee of the Year Award

Greg Jones

'03/'04 Teacher of the Year Award

Chris Pastorek

James Krueger Excellence in Teaching Award

Glenn Evans

'03/'04 Harris Graduate Teaching Assistant Award

Bradley O. Ashburn Toby Primbs

Sorasaree Tonsiengsom

Chemistry Department Awards, June 2005

William J. Ingram Memorial Fellowship

Corey R. Koch Kai Jiang

Courtney & Dorothy Benedict Fellowship – Research

Radhika S. Naik

Fall 2003 Laboratory TA Awards

Brett K. Palama Susan A. Genualdi

Keith D. Schwartz

Winter 2004 Laboratory TA Awards

Morgan Ferguson Arkadiusz Piekarz

Jill Schrlau

Spring 2004 Laboratory TA Awards

Jie Zhang Carlos Gonzalez

Sorasaree Tonsiengsom

Shirley Kuse Fellowship

Lauren Rathbone

Molecular Probes Fellowship – Summer 2005

Yuelong Ma

N.L. Tartar Summer Research Fellowships

Bradley O. Ashburn Carl Isaacson

Juan Chavez Damien Kuiper

Heath Giesbrecht Keith D. Schwartz

Carlos Gonzalez

Milton Harris Summer Research Fellowships

Morgan Ferguson Hong Ji

David Shoemaker Award

Radhika S. Naik

Bruce Graham Memorial Scholarship

Xia Zeng

Minority Group Graduate Student Pipeline

Support Program

Annette Richard

CRC Press Freshman Chemistry Awards

James Admire (CH 221/222)

Tristan Wagner (CH224/225)

PLU Award

Marcus A. Chiodo

Analytical Chemistry Award

Sundara Rector

American Institute of Chemists Award

Luke W. O'Rourke

Merck Award

Katherine M. Van Wormer

Hypercube Scholar

Abdul Hackim

Alpha Beta Chapter of Phi Lambda Upsilon Welcomes New Members

At Woodstock's Pizza on May 28, 2005, Chapter Officers were announced for 2005-06.

President: **Carin Huset**

Vice President: **Keith Schwartz**

Secretary: **Peter Ruiz-Haas**

New Members:

Tony Tong

Johanna Perkins

Kirk Rensmeyer

Eli Moore

Ryan Kanter

Joshua Albus

Corey Koch

Sundara Rector

Marcus Choido

Elizabeth Spree

Rebecca Schutz

Preston Skaggs

Michael Naffziger

Heather Conway

Susan Genualdi

Damien Kuiper

Department News

(Continued from page 3)

Chris Pastorek and **Jim Ingle** received a grant from the Camille and Henry Dreyfus Special Grant Program in the Chemical Sciences to develop experiments using miniature spectrometers for the Integrated Lab. They coupled this with an Educational Grant from Ocean Optics, Inc. to purchase seven CCD spectrometers, dip probes and flow cells that use fiber optic technology. Jim has extensive experience using these miniature spectrometers in his research. The small footprint spectrometers will be used in CH 461 this fall to do an enzyme kinetics project and a coulometric titration experiment with more experiments to be developed that will capitalize on this new technology. **Kyle Hanson**, a junior double major in chemistry and computer science, was supported this summer to help update several of the interfaced experiments for the Integrated Lab to be controlled by LabVIEW.

The **Christensen fund** enabled many of our graduate students to attend conferences around the country. In March, at the American Chemical Society Meeting (ACS) in San Diego, **Selena Milicevic** presented a poster titled "7,7' - Dihydroxy -8,8' - biquinolyl: Investigation of a New Atropisomeric Chiral Entity", resulting in a collaboration with a research group from Georgia Institute of Technology. **Mark Sephton**, also attended ACS and presented 'Enantioselective Organocatalysis with Ambifunctional 6,6'-Disubstituted-2,2'-dihydroxybiphenyls". **Helmars Smits** presented "Studies Toward the Total Synthesis of (-) - Kendomycin at the ACS Meeting. **Hong Ji** attended the 28th International Symposium on Capillary Chromatography and Electrophoresis in Las Vegas, NV in May. Other students at the Symposium were: **Daniela Hutanu**, who presented "Porous Monolith Anchored Aptamer for Microscale Liquid Phase Separations", **Yolanda Tennico**, who presented "Electrokinetic Separations of Starburst Dendrimers", and **Myra Koesdjojo**, who presented "Imprinted Polymers Sorbents for Selective Extraction for the Active Pharmaceutical Ingredients in Pharmaceutical Formulations". Yolanda and Myra also brought their posters and participated in OSU's Memorial Union Poster Presentation. Daniela gave an oral presentation from her Symposium poster. **Ben Bythell** went to San Antonio, TX for the 53rd ASMS Conference

on Mass Spectrometry in June and presented "A preliminary study of factors affecting high energy CID in a MALDI TOF/ TOF mass spectrometer".

Many of our graduate students participated in OSU's Poster Presentation at the MU including **Peter Ruiz-Haas** with a poster titled, "Evaluation of Redox Conditions with Redox-Indicator Based Sensors in Soil and Microcosms Bioaugmented with Reductive Dehalogenating Bacteria". Some students gave oral presentations: **Elliot Ennis** - "Reductive Dechlorination of the Vinyl Chloride Surrogate 1, 2-Chlorofluoroethene in Trichloroethene Contaminated Waters" and **Jack Rundel** - "Embedded Polymer Waveguide".

The Atoms, the women's softball team placed second and received a trophy in the Corvallis Parks and Rec Women's D Team playoffs. The games were exciting and the team really rose to the occasion. Congratulations on a job well done!



With the help of the stellar women baseball champs, the department's co-ed team, **The Isotopes**, placed second with a 4-1 record!

Dr. Alfons Weber, from the National Institute for Science and Technology in Gaithersburg, MD spent several weeks at OSU this summer working on a research collaboration with J. Nibler.

The Department webpage was redesigned and updated to increase its visual appeal and make it more cohesive and informative. It has been a great tool for recruiting applicants and providing information about the Department. **Rich Carter** spearheaded this update. Visit our site at www.chemistry.oregonstate.edu.

Continued on page 14

Department News (Continued from page 13)

In May 2005, **Richard Nafshun** continued the development and facilitation of student-centered activities in the general chemistry curriculum. His collaboration with **Barbara Edwards** (Mathematics), **Corinne Manogue** (Physics), and **Ellen Momsen** (Engineering) has produced a freshman course requiring students to articulate simple physical relationships using mathematics. They have also developed a graduate course for teaching assistants in chemistry, engineering, mathematics, physics and science education to raise awareness of the problem of transferring mathematical knowledge to the physical sciences. One chemistry graduate is at Corvallis High School. The William and Flora Hewlett Foundation supported these projects, which were discussed at two national and one regional American Chemical Society conference. Richard participated in the First Year International General Chemistry Education Conference in Urbana, Illinois.

Margie Haak continues to be very engaged in facilitating outreach activities throughout the year. Discovery Days, a two-day biannual event, is attended by over 2000 children in grades K-8, many home-school students, and the general public. Graduate and undergraduate students from the department, as well as several advanced chemistry students from a local high school, present hands-on activities and demonstrations to enhance the grade school science curriculum. The Department is also a major participant in the Family Science Nights held at elementary schools throughout the Willamette Valley. OSU science and engineering students and faculty take hands-on activities and demonstrations to schools for an evening where parents and children can explore the many facets of science. Handouts are also available for teachers to take the activities back into their classroom. In addition, the Department hosts about a dozen groups each year for chemistry activities in the labs and offers classes aimed at middle school students through Saturday Academy. The Science and Math Investigative Learning Experience (SMILE) program brings groups from as far away as Newport and Bend to the labs during their middle school and high school challenge weekends. Each summer, two weeks of chemistry classes are attended by several hundred talented and gifted students in 4th - 9th grades through the Adventures in Learning, Outside the Box, and Expeditions programs.

The Department also participated in the piloting of Summer Science Camp this past year. Twenty middle school students spent four days in August investigating the effectiveness of sunscreens, using a photochemical reaction to create an art project, and making various polymers, in addition to activities in physics and biology. The camp was so successful that it will be expanded to two sessions in the summer of 2006.

The research groups of **Professor White, Carter, Blakemore** and **Horne** and guests enjoyed this year's rafting trip with beautiful weather on the MacKenzie River.



Gretchen Clark-Scannell, a PhD candidate in the analytical division, has developed an outreach website for disabled science students. Gretchen endures an intractable migraine and has worked hard to continue her progress in both her education and research. She is an inspiration and it is a testament to her strong spirit that she has created this website, <http://www.oregonstate.edu/~clarkscg>, to provide support other disabled students.

Congratulations to all the newest parents of the Department. In May, graduate student **Wei Zhang** and his wife, **Shuhong**, a graduate student in Chemical Engineering, had a baby boy, named David. In November, graduate students **Bin Cao** and **Guoqiang Wang** had a baby girl named Gina. Post Doctoral Research Associate, **Jongtae Yang** and his wife had a son named Ethan.

The Department is saddened by the loss of **Katie Tinnesand**, a microbiology graduate student, who worked as a teaching assistant for the Department and was killed in a climbing accident.

More from our alumni (Continued from Page 11)

Jeffrey Barber, '03 PhD (Nibler), and his wife, Megan, visited OSU in August. Jeff was a National Security Postdoctoral Fellow at the Lab in Los Alamos, NM and began a position as a Terahertz Research Scientist with Battelle Memorial Institute in Atlantic City, NJ in October.

Younggi Choi, '03 PhD (White), is working as a Senior Research Scientist at Boehringer-Ingelheim.

Tony Masiello, '03 PhD (Nibler), and Lisa Wiester (PhD, U. of Wash. '04) were married at Makena Cove, Maui, HI (photos at <http://www.maui.net/~friends/051505web/index.htm>). Both are postdoctoral researchers at the Pacific Northwest National Labs in Richland, WA. Tony presented some of this work at the Ohio State Molecular Spectroscopy Symposium in June.

Nicola Maynard, '03 BS, visited the department this summer. She will complete her MS in Biology at New Mexico Tech and has been working on the Pathogen Detection Program at NMT funded by the Office of Naval Research.

Mark Abel, '04 BS, and his wife **Triffid**, '04 BS, visited the Department in July. Both are working on their PhDs at Berkeley. Mark is a coauthor on a paper detailing his BS research with J. Nibler.

Betsy Camp, '04 BS, joined Patrick Walsh's group at the University of Pennsylvania, in Philadelphia and is working in organometallics on the asymmetric oxidation of sulfides to sulfoxides.

John Friehe, '04 BS, is coauthor on a paper published on his undergraduate research with J. Nibler. John took a position at Intel Corp, pending entry into graduate school at PSU this fall.

Susan Gino, '04 HBS, is working as a quality control/development chemist at Sierracin Corp., an aircraft window manufacturer in CA, and will become the lead person in the formulations lab. Susan began her Masters of Forensic Science in August. smgino@gmail.com <http://bonsaisue.blogspot.com>

Nick Lockard, '04, is working on a LightScribe project in R&D Chemistry at HP in Corvallis.

Stéphanie Melin, '04 MS (Nibler), and her fiancé **Arjan Stander**, '04 MS, will have a two-phase wedding next summer: civil in Holland (he is Dutch, and church in France (she is French). They are currently living in Belgium.

Josh Pan, '04 BS, attended the meeting of the American Society of Gene Therapy (ASGT) in June in St. Louis. Josh is in the Laboratory Directory at OHSU in Portland.

Sarah Robinson, '04 BS, was in Corvallis in June to attend a conference in pharmaceutical chemistry. She was en route to do some deep sea diving to collect samples for her PhD research in marine and natural products at UC Santa Cruz, CA.

Undergraduate Research Experience

Molly Waller worked for **J. Ingle** investigating the reaction of environmental redox indicators such as thionine with reduced hydroquinones and Vitamin B12.

Sunny Rector worked on the immobilization of redox indicators on 20-micrometer cellulose particles and on cellulose nonparticles under the direction of **J. Ingle**.

Jeremy Gersztyn worked for **D. Keszler** on borates (ScBO₃) for luminescent materials and sulfides and selenides for solar cell materials.

Joshua Albus, a junior Chemistry major, worked with graduate student, **Heather Platt** on synthesizing FeSb₂S₄ under the direction of **D. Keszler**.

Luis Monson worked on the calculation of the Helmholtz energy of a solid using the concepts of free volume under the direction of **G. Evans** working to determine conditions for fluid-solid coexistence.

Xiaoyu Shi, a Crescent Valley high school student, interned for the summer with graduate student, **Jack Rundel**. He began his senior year this September.



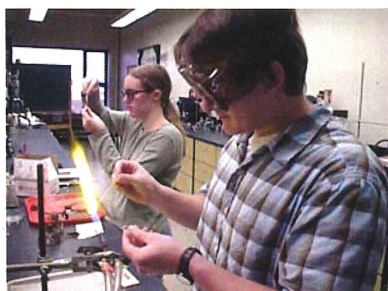
Congratulations to the Atoms for placing second in the Corvallis Parks and Rec Women's D Playoffs for 2005!



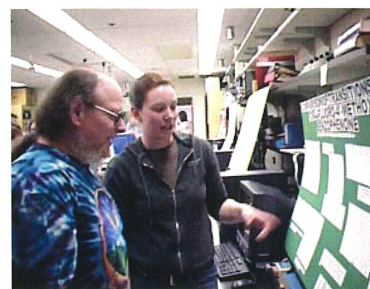
Keith Schwartz was the coach for the Alchemists this year and led them to a win in their final game.



David Chan receives recognition from Chair Douglas Keszler and alumnus David Wong upon completion of the first David T. Wong Chemistry Research Internship under the direction of Professor James White.



Sealing Ampoules of 2,3-dimethyl-1-butene and 2,3-dimethyl-2-butene for thermodynamic study on isomerization



Experimental Chemistry II Poster Session, June 2, 2005