



UNIVERSITY
OF OREGON

Chemistry News

COLLEGE OF ARTS AND SCIENCES · DEPARTMENT OF CHEMISTRY · 2010

INSIDE

- 2 Undergraduate Scholarships
- 3 Department Head's Perspective
- 3 New Faculty
- 6 Green Chemistry News
- 8 Faculty Awards and Announcements
- 10 Alumni Awards
- 11 In Memoriam
- 12 Alumni News
- 14 Honor Roll

Rebuilt General Chemistry Teaching Labs to Usher in New Era



Department Head Mike Haley gestures in the site of offices and classrooms that were demolished to make way for the new general chemistry teaching labs.

Undergraduate students taking introductory general chemistry laboratory courses at the University of Oregon will see dramatic, sweeping changes in 2011. Demolition of former research and classroom space on the first floor of Klamath Hall will make way for a new state-of-the-art undergraduate laboratory facility more than 4,000 square feet in size. This will allow the general chemistry labs to be relocated from the Klamath basement, which in turn will make available space for physical and materials chemists who need quiet, stable areas for sensitive research. No longer will scores of undergraduate students trudge

down three flights of stairs into a cavernous, windowless basement laboratory.

"Much like the way the green organic laboratory transformed the way we teach organic chemistry to our undergraduates some ten years ago, the new general chemistry laboratories will significantly alter the way students learn general chemistry," says department head Mike Haley. "Gone will be the out-of-date 'cookbook' labs and in their place, lab modules that encourage students to think by offering opportunities to problem-solve, work in teams, really *learn*. The new space and revised lab format will be a showcase introductory course that will

undoubtedly translate into more chemistry majors and minors. I couldn't be any more excited!"

Renewed discussions about a new general chemistry laboratory facility commenced a couple of years ago, shortly after Haley became head. "Two years ago we put together a compelling proposal but were told there was no money," Haley recalls. "During this past winter term, I was approached by a member of the classroom renovation committee who asked, if they found the money, how fast could we make it happen? I told him we *would* make it happen. It's been an amazingly smooth process

CONTINUED ON PAGE 5

Undergraduate Scholarships

Senior Megan Humphrey Awarded the Faith Van Nice Chemistry Scholarship

The Faith Van Nice Chemistry Scholarship was awarded to Megan Humphrey for the 2010–11 academic year. Established in 2006 by Lee and Helen Van Nice in memory of their daughter, this is the first undergraduate scholarship established in the department. Humphrey began her senior year this fall double-majoring in chemistry and Spanish.



Megan Humphrey, recipient of The Faith Van Nice Chemistry Scholarship for the 2010-11 academic year.

"I was shocked and very, very ecstatic," Humphrey says when she learned about receiving the \$4,000 scholarship. Humphrey has been planning to teach high school chemistry ever since she took her first chemistry class in high school. Humphrey has family in Guadalajara, Mexico, so studying Spanish made sense, and she feels that being a bilingual science teacher can only help her career. Humphrey works as a lab TA for the chemistry department and as a tutor at South Eugene High School as part of their AVID (Advancement via Individual Determination) program to target lower-to-middle-income students who are underachieving or not keeping up. "It's really good experience for what I want to do," Humphrey says about both her jobs.

Humphrey got to meet with the Van Nice family at a lunch this summer with herself, department head Mike Haley, and last year's scholarship recipient, Lily Robertson. "They are incredible people," Humphrey says. "They talked about their daughter and how much she was going to accomplish. Lee looked me right in the eye and said I just had to do my best for him and for her memory. I'm pretty sure that I

burst into tears. This is a great honor."

Faith Van Nice was born in Montana in 1961. At a young age she was an accomplished swimmer. While in high school, she worked at the Oregon National Primate Research Center performing research, which resulted in her first paper published in a scholarly journal and a nationwide Westinghouse Science Award. After high school, Faith enrolled in the Robert D. Clark Honors College at the University of Oregon as a chemistry major. In 1984, Faith graduated summa cum laude with honors. Faith went to the Massachusetts Institute of Technology for graduate study in chemistry under Professor John Waugh. She worked with Douglas Osheroff, who later won the Nobel Prize for low temperature work. In 1989, she earned her doctor of philosophy with a study related to her work with Osheroff and magnetic resonance imaging. Throughout all of this, Faith continued to swim, participating in a Masters Swimming Program in the Boston area. Faith entered the health sciences and technology joint program between Harvard University and MIT. She became ill in her third year and fought for her health into her fourth. On January 3, 1993, Faith died of cancer. Harvard awarded her medical doctor degree posthumously, on January 7, the only person ever to be granted a posthumous MD degree from Harvard. She died of cancer after having been married for only seventy days. She was loved by all who knew her.

Faith's parents, Lee and Helen, desire to inspire young women to become exceptional leaders in science, especially chemistry. "Faith was aiming at becoming surgeon general of the United States, and I have no doubt she would have achieved that goal," Lee Van Nice says. "We challenge each recipient of the scholarship award to achieve the highest level, up to and including the Nobel Prize or leader of a recognized laboratory in the world."

Newest Undergraduate Scholarship in Chemistry Established in Honor of Professors Donald Swinehart and Adolf Kuntz

The newly established Kuntz-Swinehart Memorial Scholarship recognizes academic excellence of one or more undergraduate chemistry majors. It was named in honor of Donald F. Swinehart, a chemistry professor from 1946 to 1983, and



Gary Christian, George Kennedy, and Jerry Christian, members of the class of 1959 who contributed to endow a scholarship in honor of Professor Donald Swinehart.



Professor Donald Swinehart

Adolf Henry Kuntz, department head from 1941 to 1956.

Class of 1959 members Gary D. Christian and Jerry D. Christian (twin brothers), and George H. Kennedy contributed to honor Professor Swinehart. Another alumnus, Abe Perlstein, class of 1949, wanted to recognize Professor Kuntz. Sarah Cheesman, development officer for the College of Arts and Sciences, came up with the great idea of pooling their resources to create the award. "By combining separate contributions, a lasting endowment was created," says Gary Christian, emeritus professor of chemistry and divisional dean of sciences at the University of Washington. "I am glad I was able to help catalyze the creation of this endowment."

Gary Christian says he received an "excellent" education in chemistry at the UO, and Donald Swinehart stood out as

CONTINUED ON PAGE 4

Shocked! Stunned! Elated!

Those are just some of the many adjectives that describe the feelings within the Department of Chemistry over the twelve months since the last newsletter. Despite the grim economic news coming out of Salem, Oregon, and Washington, D.C., the department has a lot to be proud of, even crow about, for the past year. This fall we have record numbers of chemistry majors and of undergraduate students in chemistry courses. For example, fall term 2010 enrollment in Organic Chemistry I is approaching 400, a number I certainly have not seen during my more than seventeen years at the UO. The recently established Van Nice and Kuntz-Swinehart scholarships within the department allow us to recognize the best and the brightest of our undergraduates. Faculty honors continue to pile up—the awards and honors to Vickie DeRose, Ken Doxsee, Marina Guenza, Geri Richmond, and David Tyler illustrate a continued commitment to research and teaching excellence upon the part of the faculty. While our chemistry colleagues in neighboring state schools have experienced deep budget cuts, our depart-

ment has seen (so far) no cuts, thanks in part to a new budget model adopted within the UO. To illustrate the sad times, one big state school to the north has been forced to cut the number of their general chemistry lab experiments from seven to four per term; introductory organic laboratory hours have been cut by a third. It is tough to imagine how one would adequately teach a chemistry laboratory course without actual hands-on lab experience. That won't happen here under my watch.

Probably the biggest surprise and most exciting news is our lead story in the newsletter. When I wrote last time about the worn state of the general chemistry laboratory, I had no idea that less than four months later I would be told we had the funds to replace the venerable yet dated, late 1960s-era facility. Now some eight months into the process, planning and design of the new facility as well as demolition of the old research labs and offices are complete. By the time you read this article, construction will be well under way. As exciting as this prospect is, it is not without challenges.

While we were given money to renovate and reconstruct the

physical facilities, none of the money can be earmarked to upgrade the lab experiments themselves and the requisite equipment. In addition, we would like to significantly improve the Chemistry Resource Center, where TAs hold office hours and peer-led learning groups meet. Given the current economic climate within the state and thus the university, it is has been difficult to identify appropriate pots of money that we can spend on such purposes. This is where you, our faithful alumni and friends of the department, can help out tremendously.

Earlier this summer we established a special fund to which faculty and staff members have contributed more than \$10,000 to date. I invite you to join us by making a donation to help improve the quality of learning in these spaces that our students use on a daily basis. It's as easy as filling out the form on this secure webpage: supportuo.uofoundation.org.

In the gift designation field marked "Other," please type "Chemistry Instructional Space Improvement Fund 517028." Given that demolition is complete and construction is ready



Mike Haley

to start, the timeline for this project is short, and thus we are working quickly to make this all come together. Donors of \$500 or more will have their names on display outside the new labs. Better yet—leave a legacy! A substantial gift will provide an opportunity to name a lab module or the Chemistry Resource Center—maybe to honor your favorite professor?

We hope you enjoy the newsletter. Next time you are in the Eugene area, please stop by campus for a visit. We would love to give you a tour and a chance to see all the changes for yourself. I know you will be quite impressed!

With best regards,
Mike Haley

New Faculty Members

**Shannon Boettcher:
Assistant Professor of
Inorganic and Materials
Chemistry and ONAMI
Signature Researcher**

Shannon W. Boettcher was an undergraduate at Oregon, graduating in 2003 with a bachelor's degree in chemistry. He did his graduate studies in inorganic materials chemistry at the University of California at Santa Barbara for five years



Shannon Boettcher

with Professor Galen Stuckey. Following that, he held a post-

doctoral position for two years at the California Institute of Technology. Now, he's glad to be back in Oregon. "I have family in the area and it's a beautiful place and a wonderful department," Boettcher says, "so those were all driving forces in persuading me to come back here."

Boettcher's research is centered around materials synthesis and characterization, and in particular he is focused

on making and understanding new materials for driving photochemical water splitting. "The idea, really, is to use the energy in sunlight to split water into hydrogen and oxygen, which would be a very useful storage medium for solar energy," he explains. "This is a way to store sunlight in a chemical fuel, much like plants store sunlight using photosynthesis." Boettcher's research group is

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New Faculty Members

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working on the materials challenges associated with this process, which is potentially important to address large-scale solar energy harvesting and storage.

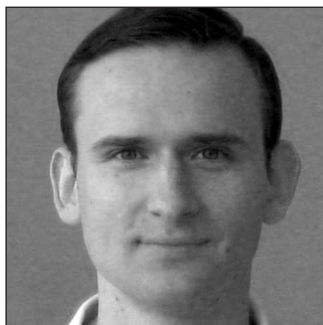
Boettcher joined the faculty in March 2010. We welcome him to the department.

George Nazin: Assistant Professor of Physical Chemistry

While a graduate student at the University of California at Irvine, George Nazin won the Edward K. C. Lee Award for excellence in graduate studies and research and outstanding contributions to the graduate program in chem-

istry. He was a Goldhaber Fellow at the Brookhaven National Laboratory in New York, conducting research with the Center for Functional Nanomaterials. Nazin says he chose to join the faculty at Oregon "because the facilities, and in particular the research, that is going on here in the chemistry department fits better with what I am working on." Nazin appreciates the natural beauty we have here as well: "It's beautiful, it's green."

Nazin says that the nanofabrication facilities and materials research taking place at the university are remarkable. The UO's leadership in materials sciences and the facilities that we have here for the manufacture and characterization of nanomaterials are of utmost



George Nazin

importance for someone in the nanotechnology field. The collaborative nature of research under way across departments here means that Nazin can look at studying the properties of materials that are being synthesized by other groups here at the university. Throughout his research career, Nazin has made some remarkable ad-

vances. He developed a new microscope to see with atomic resolution the electronic structures of molecules. His type of scanning tunneling microscope (STM) uses electrons instead of photons to look inside molecules. "What we are trying to do is get structural information from individual molecules and even from specific parts of molecules," he says. His goal is to use STM as a tool for characterizing the chemical structure and properties of nanoscale materials and devices. "I would like to connect the electronic properties with the properties of devices quantitatively," he says.

Nazin began as a faculty member at Oregon spring term 2010. We welcome him to the department. ■

Undergraduate Scholarships

CONTINUED FROM PAGE 2

one professor who influenced him most in his decision to pursue a career in analytical chemistry, having taken his courses in quantitative and instrumental analysis. "He was an absolutely superb teacher, a real stickler for detail, with a reputation as being tough, but we survived and thrived under him," recalls Gary. "Creating an endowment seemed like an appropriate way to, at the same time, recognize and encourage academic excellence of UO chemistry majors."

George Kennedy, emeritus professor and former head of the chemistry department at Colorado School of Mines, had Swinehart as a sophomore. He recalls that he and the Christian brothers got together at a recent college reunion and reminisced about Swinehart being one of their outstanding professors. "Gary suggested that he was going to donate some money to the University for the purpose of remembering Professor Swinehart and would we join him, and so we did," he says. "It was in honor of someone we thought was one of the best professors we ever had."

To Jerry Christian, retired Idaho National Laboratory Scientific Fellow, Swinehart was a great teacher who motivated students but

was also a good disciplinarian. "Professor Swinehart provided inspiration in chemistry and career motivation for a number of students in his classes during my time as an undergraduate chemistry major at the University of Oregon in the late 1950s."

Abe Perlstein remembers Swinehart fondly, but the greater influence on him was Adolf Kuntz. Perlstein, who graduated in 1949, was a young New York native fresh from the army after World War II when he came to Oregon. "I found a place in the chemistry department where I was comfortable," Perlstein says. "I always felt that Professor Kuntz was central in giving me the confidence to pursue the field that I ultimately did pursue [psychiatry]. It's just that I saw that it was possible, which is not something I felt before I went to college." Perlstein believes that Kuntz helped the university establish a "solid" chemistry department. "The professors certainly gave me a chemical education that was comparable to anybody's education. When I went on to professional school and ultimately medical school, I didn't know anyone from my medical school class who had a chemical education better than mine," he says, "and most of them didn't have one that was comparable to it."



Dr. Abe Perlstein, who contributed to the endowment of the Kuntz-Swinehart Memorial Scholarship, and Sarah Cheesman, the development officer who coordinated the contributions.

Martin Ovitz, who roomed in the same house as Perlstein while in college, also had the feeling that Kuntz was a great facilitator for him being able to pursue a career in medicine. When Perlstein and Ovitz got back in touch, Ovitz also agreed to contribute in Kuntz's memory.

Gary Christian sums up the feeling of all involved with this gift: "It is our hope that this award for outstanding chemistry majors will be a factor in their decisions to take similar advantage of their UO education to achieve their best potential." ■

Rebuilt General Chemistry Teaching Labs to Usher in New Era

CONTINUED FROM PAGE 1

so far. It's required displacing numerous individuals and groups, but I've been extremely pleased with how well everyone has cooperated, realizing this is an opportunity we could not pass up."

Demolition started on the evening of August 16, 2010. To minimize the impact, it took place mostly at night and involved tearing down numerous walls and removing plumbing, bench tops, and electrical wiring. Fifteen smaller rooms and labs have now been opened into one enormous area. While demolition lasted about four weeks, construction will take longer. "While we hoped to be in the new labs for the winter 2011 term, spring term is a more realistic target," says Haley.

Roger Leonard is among the four people who work in instructional support in the teaching labs, preparing materials for experiments. Leonard has been in this position at Oregon for five years. He noted that twenty years ago, all of the undergraduate chemistry lab courses were in the Klamath basement, including organic and physical chemistry as well as the two general chemistry courses. As new facilities for the honors general, organic and physical chemistry labs were completed, staff members became spread between three floors in two buildings, resulting in complicated logistics, work schedule constraints, and communication problems, says Leonard. "Moving the instructional labs closer together will greatly enhance staff efficiency."

The current general chemistry teaching lab has been located in the basement since Klamath Hall was completed in 1967. Remarkably, the wooden lab benches are the same ones that had formerly been located in Pacific Hall when that building, then known as Science, opened in 1949. The Klamath basement lab can only hold sixty people at one time. Last year's general chemistry lab course had enough sections for 660 students. Though those sections were not quite full, it was more sections than the department had ever offered. Because of the continued increase of the undergraduate student population at Oregon, the Department of Chemistry has seen record enrollments this academic year, with eleven sections of sixty students



Undergraduate students back to back in the basement general chemistry teaching lab.

each, along with waiting lists. Everyone agrees that the new labs will be much brighter and more open and efficient, creating a big facility broken into four lab modules of twenty students each, allowing Leonard and his staff to serve eighty students at a time. With the same eleven sections, the department will be able to handle as many as 880 students a term.

While the current teaching labs have served many bright students, the facilities themselves are anything but bright. For one thing, there are no windows. "People call the labs 'the dungeon,'" says Leonard. "It is a dreary place, you don't see the sun. Students kind of get the feeling that they're second-class citizens, like, 'They're sending me to the basement?' How low can you go?" The room is set up with ten rows of benches with three people on a side, back to back. With a full section of sixty students, there is barely room for a chair. The balances are on one side of the room, the reagent station is on another, the waste collection is in another part of the room, and the supply room is in yet another direction. With so much movement, people bump into each other. The teaching assistants have a tiny corner where they have to speak to their whole section, with lines of sight to the whiteboard blocked by the plumbing infrastructure, and it is hard to hear over sixty people talking.

Students will be arranged in groups of four and will have a balance at their table and a sink right next door to mini-

mize movement, which also means that students will have more time to more efficiently focus on the lab and reduce risks of accidents. Benches in the new lab will be low enough to have a clean line of sight. Leonard recounts that during the planning stages, architects built a mockup of the new lab in the Willamette Hall atrium, seeking feedback. "The comments were, 'Gee, you can see everything! Even here in the back one you can see!'" he says. The utilities will be piped in differently, and will be pared down to just what is useful in the modern lab—i.e., no more steam lines. The acoustics will be more discreet, to allow students and their TAs to have quiet conversations among themselves.

One of Leonard's safety mandates is for staff members to have a physical presence near the lab in case of an emergency. Yet the previous labs were spread out among three floors of the building, and Leonard's supply room was in the basement, with no cell phone reception. Even radio reception was poor, so walkie-talkies were not a great option for the staff to keep in touch. The new location of the supply room is directly across from the future lab, and will provide a much more efficient use of staff and instructor time.

"Before I got here the students spent half the time in the hallway, checking equipment in and out," Leonard recalls. "The only time they should see us is if

CONTINUED ON PAGE 7

Green Chemistry News

UO Green Chemistry in Education Workshop Celebrates Tenth Year

The Green Chemistry in Education Workshop is a five-day workshop held at the UO for educators in the chemical sciences who are interested in incorporating the principles of green chemistry into their organic chemistry and laboratory curriculum. The workshop is led by Professors Jim Hutchison and Ken Doxsee (who have done so since its inception) and Senior Instructor Julie Haack. This year, the tenth annual workshop was held in July and it was one of the best so far, says Hutchison. "We've now hosted over 200 faculty members from around the world at the workshop, which has become a model for other workshops in chemistry," he says.

The workshop is a combination of lecture, discussion, and laboratory work with the chief goal of helping participants implement green chemistry into the curriculum at their institution. Participants "test-drive" more than thirty different lab experiments to see which of them they will adopt when they return home. The workshop also emphasizes networking among the participants to help them establish a support group of educators that can help them implement the curriculum once they return to their home institution.

At this past workshop, participants were fortunate to have John Frazier from Nike address the group, to show how green chemistry is changing the business practices of a major corporation. Rachel Prokrandt from Beyond Benign led an evening session on how to conduct community and K-12 outreach in addition to the lectures and lab focus. "It was a highly motivated group that worked really well together throughout the week, and were inspired to become practitioners of green chemistry and contribute their own innovations to the growing curriculum," says Hutchison. "Our postworkshop evaluations confirmed our own assessment that the tenth annual workshop was one of the best yet."

Participants also learn how to use the Greener Education Materials for Chemists (GEMs) database, where they can find more than 100 educational materials for use in their labs and classrooms. They are introduced to the Green Chemistry Education Network (GCEdNet), the UO's nationwide net-

work of educators who collaborate and support each other in adopting greener chemistry in their curricula. Participation in the workshop is free, and is sponsored by the National Science Foundation Division of Undergraduate Education. Faculty members at U.S. institutions are welcome to apply, as are postdocs and graduate students who plan to teach at the college level. Applications for the workshop are accepted through the Center for Workshops in the Chemical Sciences and can be found on its website: chemistry.gsu.edu/CWCS.

Green Product Design Network: Beyond the "Triple Bottom Line"

New materials are constantly being developed and put into use; some of them are green by design and some are not. Green chemistry is being looked to as the field that will minimize the impact of these new materials on human health and the environment. The model for this so far has been a compromise: a system of consideration of profit, environmental impact, and social benefit; however, being truly green means finding the synergies between money, people, and the planet rather than compromises.

The Green Product Design Network (GPDN) was created to decrease the gap between the two models. Leaders from the University of Oregon with expertise in green chemistry, product design, business, and journalism and communication came together with an interest in taking ideas from invention to the larger marketplace in a way that has a more expedient and lasting impact on society.

The members of GPDN are actively partnering with Oregon companies to develop new products, and the network is emerging as a hub to attract thought leaders in the areas of green materials design, communication, and education. Members are committed to developing innovative courses that integrate chemistry, product design, communication, and business.

The Green Product Design Network is one of UO's "Big Ideas"—five ideas selected by committee that will help shape the future of the university. The five key leaders of the network are Julie

GREEN CHEMISTRY RESOURCES

Green Organic Chemistry Lab curriculum—Now in its twelfth year; produced the first undergraduate green chemistry textbook (*Green Organic Chemistry: Strategies, Tools, and Laboratory Experiments* by Doxsee and Hutchison).

Green Chemistry in Education Workshop—The tenth annual workshop was held in summer 2010. More than 200 faculty members from across the country have participated in the weeklong workshop. Tens of thousands of students across the nation have been influenced by the curriculum that participants have taken back to their institutions.

Greener Education Materials for Chemists—Online resource of green chemistry curricular materials for educators around the world: greenchem.uoregon.edu/gems.html

Green Chemistry Education Network—Nationwide network to support educators who are incorporating green chemistry into their curricula. The new website now supports social media tools: cmetim.ning.com.

Safer Nanomaterials and Nanomanufacturing Initiative—A world-leading initiative to design greener nanomaterials and nanomanufacturing processes: greennano.org.

Center for Green Materials Chemistry—Leading center pursuing the study and design of environmentally benign chemistry platforms for the fabrication of high-performance inorganic electronic devices: uoregon.edu/~grnchem.

Chemistry of Sustainability course for nonmajors—This course is becoming a national model for infusing sustainable chemistry into the general education curriculum: ched-ccce.org/confchem/2010/Spring2010/P3-Haack_et_al.html.

Green Product Design Network—This virtual center brings together talent from around the campus and the world to catalyze implementation of greener products by addressing each stage of innovation, from chemical content to product design to supply chains to consumer awareness: uo-gpdn.ning.com.

CONTINUED ON PAGE 7

Rebuilt General Chemistry Teaching Labs to Usher in New Era

CONTINUED FROM PAGE 5

there is a problem. We want to maximize the time in the lab. We don't want them standing in line checking this in and checking this out." Leonard says that the new labs will elevate the quality of the entire chemistry program and learning experience for students. "It's hard to express how good the experiments are but how antiquated the facilities were," he says.

Senior Instructor Deborah Exton, who has been the primary teacher of the general chemistry labs for the last decade, is excited about the new lab facilities. "We're going to be able to teach in a modern space in a way that modern scientists do chemistry," she says. "We'll have the students working collaboratively and interacting in ways that weren't possible in the old space. The old space was not at all conducive to teaching or communication, and those are key things that will improve." With the tables of four, students can work in pairs or independently. They can do more complicated experiments involving changing variables, and share the data, so collectively a broader experiment can be developed using real data, and individual experiments can build on the next. "What's going to change is that we're going to be able to do inquiry and collaborative work," Exton says. "Because this is the first chemistry course that everybody takes in the sciences, it's so important, it's the gateway course to the

sciences." Haley concurs, "It's essential for an introductory course to appeal to students so as to attract and retain them in the sciences. The current lab format in the old basement space tends to do just the opposite."

Though the experiments are not necessarily changing, Exton is updating them to reflect a more inquiry-based format. "We'll have the students interacting and working together," she says. "We're a research university, so students should be getting some feel about how research is done. They'll be posing questions, figuring out solutions, and writing about what they find."

Of course, all of this remodeling has meant that a number of individuals have had to be displaced. Resource rooms and classrooms, offices and meeting spaces have all been relocated. Leonard says there's been a lot of "horse trading" to please everyone. Associate Professor Andrew Marcus is the faculty member who has been affected the most, having moved nearly his entire research operation. "For us to have a good experience and a good program for undergraduate teaching labs, it's really essential to upgrade and bring those facilities up to date," Marcus says. He, for one, is very happy with his new laboratory layout. The space that housed his former wet lab was not ideal, in part because the chemical storage area of the lab faced a west-side window and would get very warm during the summer months. "Where the students are now doing chemistry is re-

ally much better," says Marcus. "They didn't have much bench-top space before or much hood space. Now we have enough of everything." The new Marcus wet lab is now away from windows, and student desks and computers are more appropriately situated near windows with views.

Marcus's physical chemistry research involves sensitive laser spectroscopy probing biophysical problems such as mechanisms of DNA polymerization and gene expression. The basement of Klamath Hall provides a highly stable environment, which Marcus and other physical chemists need in order to be isolated from temperature fluctuations and vibrations. Moving the teaching labs up from the basement will free more of this desirable space for future researchers who need it. "When we do the next search for a physical chemist, the candidate is going to want space down there, too," says Marcus. "We will have opened up all this space that is very stable and that will help attract the very best people. It's very difficult to get people like that to come unless we have appropriate space and facilities for them, and that's a really good long-term strategy for the future of that part of the chemistry department." Haley agrees. "It is absolutely prime real estate for research labs of future physical chemistry hires," he says. "I view these many moves as a win-win situation for all involved. Both our teaching and research missions will benefit significantly." ■

Green Chemistry News

CONTINUED FROM PAGE 6

Haack, assistant department head and senior instructor; Jim Hutchison, professor, Lokey-Harrington Chair in Chemistry, and associate vice president for research and strategic initiatives at the University of Oregon; Kiersten Muenchinger, director of the Product Design Program (Muenchinger researches new materials and their processing methods to understand when new materials technologies can be accepted in consumer products); Tom Osdoba,

social entrepreneur and strategic advisor, who helps communities become more sustainable (Osdoba is managing director of the Center for Sustainable Business Practices at the Lundquist College of Business, and a consultant to numerous organizations across North America); and Kim Sheehan, professor of journalism and communication, who brings more than twelve years of experience in advertising and marketing.

The strategy of these five coordinators is to develop a network to tap the potential of a wide range of scholars

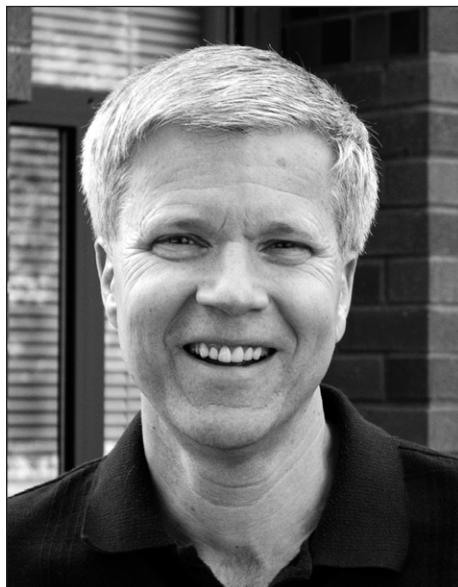
from across the country, to allow for broad opportunities for participation and to facilitate participation from partners in industry, government, and nongovernmental organizations. The more people working on solutions to the problem, the quicker the vision of GPDN can be implemented: enhancing synergies to assist the "triple bottom line" of people, planet, and profit.

Visit uo-gpdn.ning.com to learn more about the Green Product Design Network. ■

Faculty Awards and Announcements

David Tyler Honored with Jacobs Professorship

David Tyler has been named the first Charles J. and M. Monteith Jacobs Professor of Chemistry. Tyler, who joined the university faculty in 1985, has a long history of productive research in inorganic and organometallic chemistry.



David Tyler

Appointment to an endowed professorship recognizes outstanding contributions to a research discipline and teaching. Tyler's current research involves synthesizing new water-soluble catalysts to replace some of the catalysts typically used in organic solvents. He is also researching the reduction of N_2 (dinitrogen, the form of nitrogen in air) to NH_3 (ammonia), which is a main component of agricultural fertilizer used to maintain the world's food supply. The current industrial method of reducing N_2 to NH_3 requires high temperatures and pressures. Tyler has reported the first room-temperature reduction of N_2 to NH_3 . A breakthrough in this field would mean a significant reduction in the production of greenhouse gases that contribute to global warming. A third facet of Tyler's research is the production of photodegradable plastics and polymers. The goal of Tyler's research is to create environmentally friendly polymers that are degradable by sunlight.

"While we have several outstanding faculty members who could be potential candidates for the professorship, there is no question in my mind that David Tyler

is the most qualified, best known, most recognized scientist of the bunch," notes department head Mike Haley. A panel of external reviewers echoed similar sentiments. According to Haley, several remarked about the breadth and innovation that has characterized Tyler's research. "He has been willing to strike out in novel directions that distinguish his work from that of many other people in the field," says Haley.

The Jacobs professorship was made possible by two gifts from the late Charles J. Jacobs, a chemist and member of an Oregon pioneer family. He established a \$100,000 endowment in 1998 to support the recruitment and retention of faculty members in the UO chemistry department. Shortly before his death in 2006, Charles Jacobs instructed his attorney to significantly augment the initial gift to establish an endowed professorship. The professorship commemorates Charles and his brother, Malcolm Monteith "Monty" Jacobs, and their mother's maiden name, Monteith. The Monteiths settled in the Willamette Valley and founded the city of Albany, Oregon, in the 1840s. Monty and Charles were born in Portland. Monty attended the UO in the late 1920s; Charles attended in 1930 and 1931, and is listed as a member of the class of 1934. There was little science research being done at the UO then, so Charles transferred to Stanford University, where he majored in chemistry and math and received his BA in 1933 and his MA in 1934 at the age of 21. While at the UO, Charles admired Professor Orin F. Stafford (1906–41), who became an influential advisor. Charles began working in 1934 at Shell Oil Company in Martinez, California, as a research chemist. He held several industrial positions in technical development, marketing, and engineering, and lived in San Francisco, Boston, and Connecticut before moving with his wife, Margretta, to San Diego in 1980. At the age of fifty-five, Charles established an international consulting business for the packaging industry, and continued until 1998.

When he returned to Eugene for his sixty-fifth class reunion, Charles gave two pieces of advice to the chemistry department's graduating seniors: "First, spend less than you earn, and second, to ensure that future students have the advantages that the university has provided you, make a habit of annual donations to the UO, particularly the chemistry department. Give

what you can, and be sure to do it every year."

The professorship provides a salary supplement for Tyler, as well as some discretionary funds. "It's a nice honor," Tyler says. "It's very nice to be recognized for your science."

Geraldine Richmond Wins the Joel Henry Hildebrand Award

Geraldine Richmond, the Richard M. and Patricia H. Noyes Professor of Chemistry, will receive the Joel Henry Hildebrand Award in the Theoretical and Experimental Chemistry of Liquids, sponsored by ExxonMobil Research and Engineering, at the March 2011 meeting of the American Chemical Society.



Geraldine Richmond

Richmond said she was "stunned and elated" when she heard the news of the award. "This is a big deal," she says. "The award is one of the most coveted in the field of condensed matter chemical physics." She is the first woman to receive the award since its establishment in 1980.

The award is given to recognize distinguished contributions toward understanding the chemistry and physics of liquids, and recognizes nearly fifteen years of research from Richmond's laboratory in the pioneering applications of laser nonlinear spectroscopies and theoretical molecular modeling to the study of liquid surfaces. Richmond has studied the hydrogen bonding of water molecules at a water surface in air, the adsorption and reactivity of environmentally important gases at this surface, the alteration of the molecular properties of a water surface when it is covered with

Faculty Awards and Announcements

an oily layer, the molecular behavior of surfactants and biomolecules at these liquid surfaces and the interaction of water with salts and mineral surfaces. These fundamental studies underlie some of the most important chemical and physical processes in environmental, biological, and materials science.

Richmond says that her laboratory has had to break new territory and be a bit unconventional in their approach to this research. For example, most groups in this field do either experimental or theoretical studies, but not both. "We have found that combining the two has provided insights well beyond what others have obtained with a single approach," she says. "This award is really about my students and for my students. It is a tribute to their hard work and dedication in producing groundbreaking research during their progress toward their doctorate degrees in my laboratory. I can't thank them enough!"

This award was established in 1980 in recognition of the scientific contributions of American Chemical Society past president Joel H. Hildebrand. The first award was presented to Hildebrand as part of the observances of his hundredth birthday in November 1981. Hildebrand's most famous work is the introduction in the mid-1920s of helium and oxygen breathing mixtures to replace air for underwater divers to alleviate the condition known as the bends. He recognized that nitrogen gas dissolved in blood at high pressure was expelled too rapidly upon return to the surface. Helium has a much lower solubility in aqueous solutions such as blood. "Hildebrand was a remarkable fellow who was still conducting research near my laboratory when I was in graduate school at UC Berkeley," says Richmond. "In fact, my laboratory was in the building named in his honor. I follow a line of winners of this award that I have tremendous respect for."

Visit richmondscience.uoregon.edu to learn more about Richmond's research.

Physical Chemistry Professor Marina Guenza Joins Editorial Advisory Board of Top Polymer Research Journal

Associate Professor Marina Guenza, who has been with the University of Oregon since 1998 and is among the top researchers in her field, has accepted a three-year term on the forty-member

editorial advisory board of the journal *Macromolecules*, a publication of the American Chemical Society. "I have been a referee for *Macromolecules* for many years and I feel truly honored that they chose me to be part of the board," Guenza says. "*Macromolecules* is the most prestigious journal in the field of polymers. It has a long tradition of excellence in polymer science, starting with its founding by Professor Walter Stockmayer."

The twice-monthly journal publishes original research on all fundamental aspects of macromolecular science including



Marina Guenza

synthesis, polymerization mechanisms and kinetics, chemical modification, solution-melt-solid state characteristics, and surface properties of organic, inorganic, and naturally occurring polymers. "Members of the advisory board are asked to intervene and express their opinion if some controversy arises about a scientific paper submitted to the journal," Guenza says. "It is about the quality of the science proposed in the paper: we examine it to see if it is good enough and interesting enough to be published in *Macromolecules*."

Two Chemistry Faculty Elected AAAS Fellows

In December of last year, three University of Oregon scientists were chosen as fellows of the American Association for the Advancement of Science. Chemists Victoria J. DeRose and David R. Tyler, along with physicist James E. Brau, were among 531 new AAAS fellows, an honor that is

bestowed upon AAAS members by their peers. The announcement was made in the AAAS News and Notes section of the journal *Science* on December 18, 2009.

According to the AAAS, fellows are recognized "for meritorious efforts to advance science or its applications." The



Victoria DeRose

new fellows were formally presented with an official certificate and a gold and blue (representing science and engineering, respectively) rosette pin on Saturday, February 20, during the 2010 AAAS annual meeting in San Diego.

Victoria DeRose, professor of chemistry, was chosen for her "significant achievements in developing spectroscopic methods towards understanding the metallobiochemistry of RNA, and for service to the interdisciplinary scientific community." "I was surprised by this announcement, and am very pleased by the honor," says DeRose, who feels that an honor like this is really a tribute to the students in the lab. "The AAAS is a great organization that values a broad range of science. Our work encompasses topics from biological, inorganic, and physical chemistries, and we were recognized for that interdisciplinary combination. Over the years I've been fortunate to have very smart research group members that are willing to forge connections between these different areas. I'm proud of their accomplishments!"

David Tyler, who is the UO's first Charles J. and M. Monteith Jacobs Professor of Chemistry, was picked for his "distinguished contributions to the fields of inorganic, organometallic, and polymer chemistry, particularly for our understanding of radical reactions and of polymer degradation." See page 8 of this issue for more about the Jacobs professorship.

CONTINUED ON PAGE 11

Alumni Awards

Art Johnson Receives Alumni Achievement Award

On April 20, 2010, Arthur E. Johnson was awarded the College of Arts and Sciences Alumni Achievement Award for the Department of Chemistry. This award recognizes a chemistry alumnus or alumna whose professional and personal achievements and qualities exemplify the Oregon spirit and traditions of leadership and excellence. The recipient is selected during fall term by the faculty in the chemistry department.



Art Johnson

Art Johnson is recognized as the 2009 Distinguished Awardee in Pure Science. Johnson was born in Graceville, Minnesota, on July 4, 1942. He received his BS from the California Institute of Technology in 1964. After spending five years teaching high school science and coaching varsity football, he entered the University of Oregon graduate program in 1969. He carried out his doctoral research in the laboratories of John Menninger and Peter H. von Hippel, and received his PhD from the UO in 1973, majoring in chemistry and specializing in biochemistry and molecular biology.

Following that, Johnson moved to Columbia University, where he was a Helen Hay Whitney Foundation postdoctoral researcher with Charles Cantor. He joined the faculty of the chemistry department of the University of Oklahoma in 1977 as assistant professor and rose through the ranks to become professor of chemistry and biochemistry. In 1994, he moved his research laboratory to the Texas A&M University, College Station, where he currently holds the E. L. Wehner-Welch Foundation Chair in Chemistry and titles of distinguished professor in the Departments of Chemistry and of Molecular and Cellular Medicine, and is a professor in the Department of

Biochemistry and Biophysics.

Johnson has achieved international acclaim for his contributions to central problems in biology, particularly the individual steps of protein synthesis by the ribosomal RNA-protein machinery. Johnson developed an elegant and incisive experimental approach of inserting fluorescent labels into nascent proteins during translation, through incorporation of nonnatural amino acids. Johnson has shown how two molecular machines are structurally coupled, the ribosome and the translocation channel (translocon), a complex of proteins that allows newly formed polypeptides to cross the hydrophobic endoplasmic reticulum membrane. Johnson's teaching and research have been recognized with numerous awards. In the chemistry department, we remember Johnson's unassuming manner and good humor, factors that undoubtedly contribute to his reputation as a fine teacher and collaborator.

Gerald G. Ohlsen Receives the College of Arts and Sciences Alumni Fellows Award

The UO College of Arts and Sciences spans twenty-three academic departments and many programs. From the tens of thousands of alumni of the college, three are selected each year who have distinguished themselves in their chosen professions. Alumni Fellows Awards are presented at an annual dinner and program titled "Profiles in Achievement." Gerald G. Ohlsen '55, a graduate of the chemistry department, was presented with the 2009–10 Alumni Fellows Award in October 2009.

Ohlsen enjoyed a novel and successful career path demonstrating lifelong learning, first in a long career as a nuclear physicist, then as a lawyer, and today as a self-employed professional engaged in land and water development projects. Ohlsen credits chemistry professor Don Swinehart with converting him to a professional career in science from that of a high school science teacher. While at the UO, he received the Owen Fletcher Stafford Scholarship, completed a senior project with Swinehart, and was honored at graduation as a member of the Phi Beta Kappa "Senior Six." He then switched the focus of his studies to physics, and in 1960 received his PhD at Stanford studying under Robert Hofstadter at the 600 MeV linear electron accelerator.

His first position was as an assistant

professor of physics at the University of Texas at Austin. A year later he left for a research fellowship in nuclear physics at the Australian National University in Canberra, where he stayed for four years. In 1965 Ohlsen began a long and productive career as a nuclear physicist at the Los Alamos National Laboratory, specializing in polarized particle experiments in nuclear and high-energy physics. In 1971 he was a guest lecturer in physics at the UO. In 1973, while still employed at the Los Alamos National Laboratory, he put together a land development partnership.

Increasing activity in real estate led Ohlsen to resign from the Los Alamos lab in 1980 to become self-employed. In 1978 he acquired a New Mexico real estate broker's license. In 1984 he became a certified financial planner, and in 1992 he earned a JD degree from the University of New Mexico School of Law and was ad-



Gerald Ohlsen

mitted to the New Mexico Bar Association and the Federal Bar Association. In 1994 he acquired a general contractor's license.

Ohlsen is currently acquiring irrigated alfalfa farms in New Mexico with the challenging goal of transporting water more than twenty-five miles to thousands of existing homes and residential lots that lack a reliable water supply. Gerald Ohlsen's career trajectory is an inspiring example of how diverse goals in life can be achieved with a broad education, talent, and perseverance. ■

In Memoriam

Patricia (Pat) Harris Noyes, Biologist at UO, 1974–89

Patricia Jean Feldman Harris Noyes died of age-related causes on January 15, 2010, at Sacred Heart Medical Center at RiverBend in Springfield, Oregon.

Pat was born September 2, 1921, in Seattle, Washington, to Earl and Margarethe Feldman. Her parents and a brother, Roger Feldman, predeceased her. Early in life she married and divorced, but retained Patricia J. Harris as her professional name throughout her life. In 1974, she married Professor Richard M. Noyes in Eugene. He died in 1997.

After being present during the Japanese attack on Pearl Harbor on December 7, 1941, she ran a photography shop and then worked as a metallurgist for the U.S. Navy. At the end of the war, she began studying physics at Berkeley, but prejudice against women in that field forced her

to quit. Pat then graduated in the second class in the Department of Photography at the California School of Fine Arts, where she studied under Ansel Adams, Minor White, Imogen Cunningham, and Edward Weston. There was a recent one-woman exhibition of her photographic art in Paris, France, and her work is in the permanent collection of the Museum of Modern Art in New York. She then became a well-published early expert on electron microscopy by chance, while working in another Navy laboratory. Later, she earned a BA from Berkeley in 1954, an MA from Yale in 1958, and then a PhD from Berkeley under Professor Daniel Mazia in 1962, all in the field of zoology.

From 1964 to 1974, she was a faculty member at Oregon State University, in zoology, and then at the University of Oregon, in biology, from 1974 through her retirement in 1989. She was a fellow of the American Association for the Advancement of Science, and a member of the Electron Microscopy Society

of America, the American Society of Zoologists, and the American Society of Cell Biology, and was active in the Sierra Club with local wilderness and conservation issues.

Her two sabbatical leaves in Germany resulted in a love of train travel. This led to an interest in tiny N-scale model trains. Thus, she was also a member of the local Atlantic and Pacific Engineers, the Association of Oregon Rail and Transit Advocates, and the National Organization of Rail Passengers.

She was a philanthropist as well, endowing the Richard M. and Patricia H. Noyes Professorship of Chemistry at the University of Oregon (held now by Geraldine Richmond) and a scholarship at her high school to encourage young women to pursue careers in science. She also was the naming donor for the White Oak Pavilion at Mount Pisgah Arboretum in Eugene, and she supported other musical and political causes. ■

Compiled by Theodore Palmer and Gary Tepper

Faculty Awards and Announcements

CONTINUED FROM PAGE 9

Ken Doxsee Wins ACS-CEI Award

Ken Doxsee was one of four recipients at the August ACS meeting in Boston of the ACS-CEI Award for Incorporating Sustainability into Chemistry Education sponsored by the American Chemical Society's Committee on Environmental Improvement. Doxsee, professor of chemistry and associate vice provost for academic affairs at the University of Oregon, is a leader in international teacher education efforts, developing green teaching materials and delivering them via workshops to university and high school teachers throughout the world. He was nominated by one of his collaborators in Mexico City.

The award program seeks to recognize those individuals

and organizations that have made exemplary contributions to the incorporation of sustainability into chemical education. For the past twelve years, Doxsee has focused on teacher education throughout the U.S. and Mexico, the Middle East, and Southeast Asia. These international efforts have included eight major workshops in Mexico and a series of Thai workshops, including six live-over-the-Internet laboratory workshops brought to every high school in Thailand (literally, some 12,000 to 13,000 schools), directly reaching tens of thousands of teachers, and through them touching the lives of perhaps hundreds of thousands of students.

The other recipients of the ACS-CEI Award are all good friends of the UO green program—Mike Cann, Sue Sutheimer, and Jorge Ibanez.



Ken Doxsee leading a Green Chemistry Workshop in Merida, Yucatan, Mexico.

Both Cann and Sutheimer have contributed to our annual Green Chemistry in Education Workshop (see page 6 for more about the workshops), and Ibanez (who nominated Doxsee) is one of Doxsee's key collaborators in the development of green educational materials.

See last year's newsletter at pages.uoregon.edu/chem/pdf/news/news09.pdf for more about Ken Doxsee's international teaching efforts. ■

Alumni News from All Over

1950s

The following is a brief career summary submitted by **Constantine (Costas) Spalaris**, MA '50, retired professional nuclear and metallurgical engineer, State of California:

After I received my MA in chemistry from the UO after studying with Professor Van Rysselberge, I transferred to Carnegie Tech (Now Carnegie-Mellon) in Pittsburgh as a candidate for the PhD. After a successful year at Pittsburgh, where I worked at my first job in industry, I was hired by General Electric in Richland, Washington, to work in nuclear technology. I enrolled at Oregon State College and the GE Graduate School of Nuclear Engineering during the next four years, where I completed the requirements for the PhD in physical chemistry in 1956.

GE established a civilian nuclear reactor program at San Jose in California, which I joined in June 1956. Eventually, I was responsible for teams of engineers that developed technology for reactor structural materials and nuclear fuel. I retired from GE after thirty-two years, then continued to work with the Electric Power Research Institute in Palo Alto, California, until final retirement.

I am very proud that I worked with a team of true pioneers and developed nuclear energy as a successful, benign, economic, alternative energy that today produces 20 percent of the electrical energy in the U.S. and 17 percent of the world's electricity, and at the same time represents 70 percent of reliable electricity in the U.S. without the emission of greenhouse gases. Unfortunately, publications often continue to denounce nuclear and instead promote "alternative solar and wind" without pointing out that these alternative sources exist only because of heavy federal, state, and other subsidies. And for anyone who cares to know, nuclear is the only energy source that continues to pay back to the U.S. cofers for future decommissioning and used fuel storage.

I must add that my stay on campus during 1949–50 and my experience working with Professor Van Rysselberghe was extremely pleasant and satisfying. The knowledge I gained was vital in my career development. From time to time I read the successes the chemistry department has achieved and naturally I continue to be proud of my past association with this university.

1960s

William Brewer '65 worked at the physics department of the Free University of Berlin from 1970 until his retirement in September 2008, and still lives in Berlin. The main focus of his research was the experimental investigation of magnetism in metallic systems on a local (microscopic) scale, using methods involving static and dynamic hyperfine interactions. His website is users.physik.fu-berlin.de/~wbrewer/index.html.

Phoebe Roeder '69 completed a PhD in chemistry at the University of California at San Diego in 1975, and was a postdoctoral fellow for two years, also at the UC San Diego. After taking some time off to raise two children, she volunteered in their grade school and began teaching part-time at San Diego State University in 1985. Since 1992, Roeder has coordinated the Liberal Studies Program at SDSU. This program provides the subject matter major for students who later complete a postbaccalaureate, one-year, multiple-subject credential program and ultimately teach at the elementary or middle-school level. Roeder writes that she has had a lot of fun creating and modifying curriculum, working with a wide variety of professors, and teaching her own biology, physics, and physical science courses primarily for this population of students. She currently lives in La Mesa, California, with her husband of forty-one years. They have two children, both of whom have earned PhDs in science and math and are pursuing academic careers.

Bob Salomon received his PhD in physical chemistry at Oregon in 1960 and did a short postdoc with Terrell Hill. He then accepted a position at Temple University, where John Schellman did his undergraduate work. (*Editor's note: John Schellman is UO professor emeritus in physical biochemistry. Bob Salomon contributed "Reflections of a Chemistry Postdoc in 1950s Eugene" to the 2002 newsletter, which can be found at pages.uoregon.edu/chem/pdf/news/news02.pdf*).

Salomon remained at Temple for forty years and served as department chair for ten of those years. He became interested in energy conversion, especially ocean wave energy conversion, and had some support from the U.S. Department of Energy. In spite of that, Salomon says he is a very big fan of nuclear energy, but "must

admit" that he consulted for the Nuclear Regulatory Commission and visited Three Mile Island on their behalf. Salomon retired about ten years ago and lives with his wife, Eleanore, in Philadelphia, Pennsylvania, except for two months a year when he lives on a forty-nine-foot sailboat cruising the Chesapeake Bay. Salomon writes, "I have very fond memories of the UO, although Eugene was culture shock, as I came from Brooklyn, New York."

1970s

Howard Budweg '77 reports that he is currently working as an employee of the U.S. Department of Energy and is the DOE director of the Office of Site Operations at the Waste Isolation Pilot Plant East of Carlsbad New Mexico. This site provides the only operating deep geological repository for nuclear waste.

Geoff Cooper, PhD '77, received his doctorate with Lloyd Dolby, studying prostaglandin synthesis. Following a postdoctoral position with Henry Rapoport at Berkeley studying opium alkaloids, Cooper worked as an industrial research scientist for about twenty years in the areas of forest products, agricultural chemicals, genetic engineering of plants, and pharmaceuticals.

In 2000, Cooper returned to Eugene and attended the UO School of Law, graduating with his JD in 2003. Summers during this time he worked with Lloyd Dolby again, this time at his firm Organic Consultants. After passing the patent bar and the Oregon bar, Cooper worked for a couple of years for a small Portland patent law firm, Birdwell and Janke, then joined the large patent law firm Schwegman, Lundberg, and Woessner in Minneapolis, where he has been ever since.

Since Cooper's firm allows him to work online part of the time, he can spend time traveling and revisiting Oregon and Northern California while continuing to write patents for clients such as the Scripps Research Institute, University of Virginia, the University of California at San Diego, and several start-up firms. Although Cooper is now sixty, he says he plans to keep working at least ten more years as a patent attorney.

Neil E. Jacobsen '77 graduated with undergraduate research in Virgil Boekelheide's group. His career has had many stops, he says, including his PhD from the University of California at Berkeley in organic chemistry and postdoctoral posi-

Alumni News from All Over

tions at the University of California at San Francisco in pharmaceutical toxicology, at Berkeley studying both organic chemistry and pesticide toxicology, and at University of Washington studying protein NMR. He has held faculty positions at Evergreen State College in Olympia, Washington, from 1986 to 1988 and 1990 to 1991. He worked at Genentech, Inc., studying protein NMR from 1993 to 1995. Currently,

took another position as a process engineer with Korry Electronics, an aerospace company held by Esterline Technologies, now in Everett, Washington. As of this November, Shurvinton will have been with Korry for eighteen years.

1980s

Isaac Babbs '83 is a long-time mobile, technology, media, and entertain-

ment tournament for prizes system. Prior to Atlas Mobile, Babbs was president of Sorrent (which became Glu Mobile, a publicly traded company), a leading mobile game company where he was responsible for all business aspects of the company including carrier distribution, publishing, marketing, and business development. He was also responsible for signing and launching basketball star Yao Ming as the first major professional athlete to make his electronic character debut in a cell phone game. Prior to Sorrent, Babbs was an executive at Macromedia, where he cofounded Shockwave.com U.S. and Shockwave.com Japan, the number-one interactive entertainment sites in their countries.

Babbs was also general manager and vice president of Macromedia's audio-video division, which he led and then successfully sold to Apple Computer. The division's main product, Final Cut Pro, is the world leader in nonlinear video editing. Prior to Macromedia, Babbs was vice president of entertainment marketing at Silicon Graphics, Inc., where he leveraged SGI's technology and brand to increase the company's share of the global entertainment content creation and production market. Babbs also held senior management positions at Alias/Wavefront, an SGI company, and Alias Research, Inc., leading providers of 3-D animation and design software for the entertainment and design industries.

Babbs started his career at Hewlett-Packard. He is now based in Silicon Valley, where he works regularly with the valley's leading technology companies, entrepreneurs, and venture capitalists. He also spends a significant amount of time on Qualcomm's San Diego campus.

Chris Bond '84 started working in the laboratory of Ed Herbert at the UO following graduation, then moved to Portland with Herbert as she took on the directorship of the Vollum Institute at Oregon Health and Science University. Within Herbert's group, Bond worked with John Adelman, who, after Herbert's death, was appointed to the faculty of Vollum, where she is now a senior scientist. Bond obtained a master's degree in 1989 and a PhD in molecular neurophysiology in 2004. She continued to work with Adelman and now holds the title of research assistant professor. Her work is in neuroscience, studying the roles of calcium-dependent potassium channels



Jacobsen is director of the NMR facility for the chemistry and biochemistry departments at University of Arizona in Tucson, a position he has held since 1995. Jacobsen is also the author of a textbook, *NMR Spectroscopy Explained* (John Wiley and Sons, 2007). Unfortunately, Jacobsen says, he never made it back to Oregon for work, though he does visit. "I visit Eugene and Portland often and especially the Oregon Coast (Manzanita)," he says, "but I love the sunshine and the desert hiking here in Arizona."

Stan Shurvinton '75 held his first professional position with Tektronix, Inc., in Beaverton, Oregon, following graduation from the UO. While at Tektronix, he held the position of process engineer in the cathode ray tubes division for twelve years. Tek downsized in the late 1980s, and Shurvinton continued his career with a start-up company called Metricor, a Corning affiliate that was sold and relocated to Boston two years after he started. Shurvinton stayed in the Northwest and

ment executive with more than twenty-five years of experience. Seven months ago he joined Qualcomm to head Qualcomm Services Labs as vice president and general manager. Qualcomm Services Labs is an internal incubator for commercializing and launching mobile services from within Qualcomm. Prior to this move, Babbs was founder, CEO, and chairman of Tapatap, Inc., a leading mobile social games company, which he sold in March 2009. Before that, Babbs served as vice president and general manager for InfoSpace's Mobile Games, where he headed the Atlas Studio. Babbs was founder, president, and CEO of Atlas Mobile, Inc., the mobile gaming company that was acquired by InfoSpace in July 2004.

While at Atlas Mobile, Babbs successfully led the company in launching the world's largest and fastest-growing service for multiplayer tournament games for prizes, with more than 13 million games played in its first year. Babbs conceived the idea to create and implement Atlas' unique

CONTINUED ON PAGE 15

Honor Roll

Chemistry Gifts July 1, 2009–June 30, 2010 Honor Roll of Donors: Your Gifts, Our Thanks

The Department of Chemistry faculty and students are grateful for your contributions. Private donations, because of their flexibility, are often worth much more than their dollar amount in terms of helping students and programs.

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Contributor

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You can now donate directly to the Department of Chemistry via a secure link on the web: uoregon.edu/~chem/alumni_support.html □

Alumni News from All Over

CONTINUED FROM PAGE 13

in the function and regulation of neuronal excitability using transgenic mice, stereotaxic injections of virus, electrophysiology, imaging, and behavior. At the time that she graduated from Oregon, Bond notes that the only access to biochemistry was through the chemistry department as a biochemistry track. "It is great to see that there is so much less separation between disciplines, with all boundaries being crossed by interdisciplinary consortia," she writes. She also observes that her own career has not been the standard path; there is a lot of science to be done without becoming a principle investigator.

Brent Heimuller '89 graduated from the Clark Honors College at Oregon and was admitted to medical school. He then completed a residency at UCLA and Oregon Health and Science University. He has been in private practice in McMinnville, Oregon, for the last fourteen years. Heimuller is involved with a project in Yamhill County to fight childhood obesity, and, using a home garden and a garden at his church, grows hundreds of pounds of fresh produce for the local food bank.

Richard Ludescher, PhD '84, is a professor in the Department of Food Science and the George H. Cook Campus Dean for Undergraduate Education at Rutgers, the State University of New Jersey in New Brunswick. He teaches an undergraduate course in applied physical chemistry of foods and a graduate course in protein biophysics. His research develops novel luminescence techniques to investigate the local structure and molecular mobility in amorphous solid biomaterials in order to understand the mechanistic basis for chemical reactivity in biological solids such as dried foods, seeds and spores, organisms during anhydrobiosis, and solid pharmaceuticals. As dean, he is involved with many projects to enrich the academic life on campus. One of those projects has him in the role of executive producer on a documentary titled *Atlantic Crossing: A Robot's Daring Mission*. Read about the first historic trans-Atlantic crossing by RU27, an autonomous underwater vehicle (i.e., a robot), which is documented in the film at rucool.marine.rutgers.edu/atlantic. A short trailer of the documentary and a short film about the making of the documentary can be found at wh.rutgers.edu (click on "Atlantic Crossing" Trailer and The Making of

"Atlantic Crossing"). The film was a finalist at the Blue Ocean Film Festival in late August 2010 (blueoceanfilmfestival.org).

Richard Mansfield '80 went to Germany on an exchange scholarship to the Universität Hohenheim after graduating from Oregon. After that, he did a three-year apprenticeship with a master winemaker and was then accepted into the Universität Wiesbaden for engineering studies in viticulture and enology at Geisenheim. Mansfield followed that with the establishment of a winery in Roseburg, Oregon, sold it, and moved to the Napa Valley in California, where he's restoring a "ghost winery," built in 1870. Mansfield writes that he just sent his first container of wine to China. Mansfield is the winemaker at Mansfield Winery (mansfieldwinery.com), where his wife, Leslie, is a chef and prolific cookbook author.

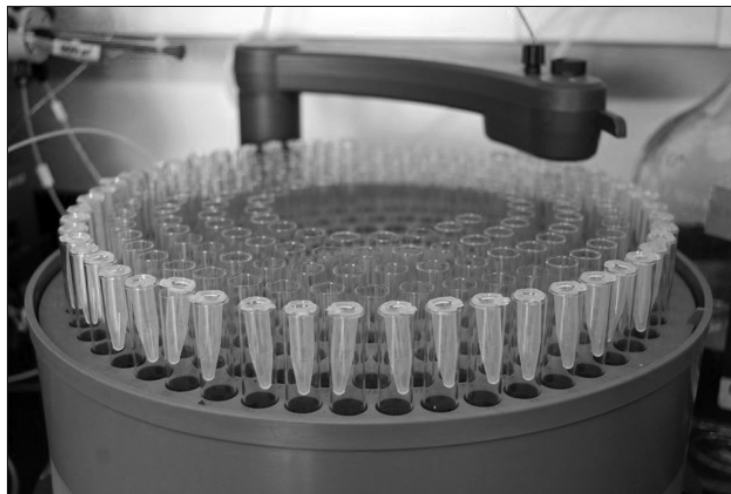
Parthasarathy (Pacha) Nambi, PhD '85, has been teaching part-time at Seattle Central Community College as an instructor for the past few years. Nambi has been a college teacher since 1993 in the Seattle area. He has been teaching a number of courses in chemistry and computer programming in several languages (such as Visual Basic, C#, Java, JavaScript, Perl, and C), as well as courses in using Microsoft Office. For several years at the Boeing training facility in south Seattle, Nambi taught computer courses to train Boeing employees in using advanced .NET and XML technologies. When he finds time, Nambi also attends seminars at the chemistry department at the University of Washington, where he has the chance to learn about advanced research in many fields in chemistry.

He also spends as much time as possible with his two children. Nambi's son (born in Eugene in 1983) now works for Microsoft as a database engineer. His daughter is still in college. Nambi is happy to say that his son was married to his girlfriend, Kate, this August.

"Thanks for letting me share my story

with others at the UO," says Nambi. "I have very pleasant memories of my days at the UO chemistry department and the Institute of Molecular Biology. My regards and thanks to all the professors who taught me about chemistry and doing first-rate scientific research."

Edward M. Weaver '88 worked with Warner Peticolas while at Oregon. He went on to obtain his MD (Yale) and master's degree in public health (University



of Washington). He is now an associate professor of otolaryngology and head-and-neck surgery as well as chief of sleep surgery at the University of Washington, with an active, NIH-funded clinical research program. He lives in the Seattle area with his wife and four children.

1990s

Heidi Wierman '91 grew up in Oregon and graduated from South Eugene High School in 1987, the UO in 1991, and medical school at Oregon Health and Sciences University in 1996. She completed internal medicine residency at Maine Medical Center in 1999. After completing a geriatric fellowship at the University of Rochester in 2002, Wierman returned to Maine. She is currently employed as the fellowship program director and interim program director for geriatrics at Maine Medical Center in Portland, Maine. She works in the hospital to prevent confusion and functional decline in older patients. She will be celebrating fifteen years of marriage in October to Brian Daikh, also a physician (who graduated in 1990 from the UO in chemistry as well). They have two children, ages seven and eleven. ■

Information for Alumni News from All Over was gathered by Vanessa Salvia.

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Shane Monares and Joachim Bowles (second from right) on the first day of orientation for chemistry graduate students on Monday, September 20, in the Science Library. The orientation for all incoming graduate students in chemistry, led by senior instructor Deborah Exton, lasts a week and includes CPR and first aid training, sexual harassment training, TA responsibilities, and all the basic information about getting email and registering for classes.

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