

Richmond Receives National Medal of Science

The University of Oregon has many faculty members who have received numerous scientific awards and honors, but one among them stands out even more. In January, Geri Richmond, at Oregon since 1985, traveled to the White House to receive the National Medal of Science from President Obama.

The National Medal of Science is bestowed upon those individuals who have contributed significant advances to the fields of science and engineering. A 12-member presidential committee selects award recipients, which were announced by President Obama on December 22, 2015.

And though the honor is in Richmond's name, she is quick to share the successes with the many other people who have supported her over the three decades she has been working in research. "It's great for me, but it's even better that it's a reflection on the hard work and brilliance of the many students I've had in the lab because they're the ones who are in there working so hard to make the experiments work and get the data," she says. "So it's really a tribute to their work."

Richmond joined the University of Oregon as associate professor of chemistry in 1985. In 1991, she became a full professor and director of the Chemical Physics Institute at Oregon. She was a Knight Professor from 1998 to 2001 followed by the Richard M. and Patricia H. Noyes Professor of Chemistry for 12 years, and since 2013 has been the Presidential Chair in Science.

The university's accolades come alongside many awards and honors Richmond has received throughout her career. In 2011, she was inducted into the National Academy of Sciences and received the Joel Henry Hildebrand Award in the Theoretical and Experimental Chemistry of Liquids from



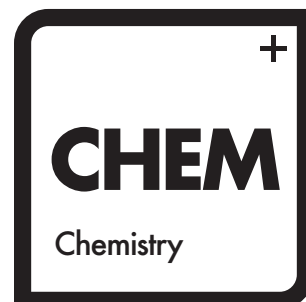
the American Chemical Society. She was awarded the American Physical Society's 2013 Davisson-Germer Prize in Atomic or Surface Physics, and the 2013 Charles Lathrop Parsons Award for her advocacy on behalf of higher education, science policy, and women scientists. In 2014, she was elected president of the American Association for the Advancement of Science (AAAS), and assumed the position in 2015. As of 2016, she is chair of the AAAS Board of Directors.

Richmond currently serves as an Obama appointee to the National Science Board that oversees the National Science Foundation. In 2014, Richmond was appointed by Secretary of State John Kerry as a US science envoy to the lower Mekong River countries of Vietnam, Laos, Cambodia, Burma, and Thailand. The distinguished scientists who are chosen as envoys develop partnerships and improve scientific collaboration between other nations and the United States. She has spent the

See *National Medal of Science*, page 4

INSIDE

- 1 Geri Richmond's Medal
- 2 Templeton Grant
- 3 Department Head's Perspective
- 5 Faculty Awards and Honors
- 7 New Faculty
- 8 News Briefs
- 10 Student Awards
- 11 In Memoriam
- 14 Alumni News From All Over
- 19 Chemistry Gifts



Chemistry and Physics Faculty Awarded Templeton Grant

Professors Andy Marcus (chemistry) and Michael Raymer (physics) learned at the end of 2015 that they and a handful of other high-profile researchers received approval of a \$3.6 million consortium grant from the John Templeton Foundation.

The project will involve joint work over the next three years between the Marcus and Raymer groups at the UO, and researchers at Harvard, Ulm University (Germany), and Oxford. Marcus and Raymer are the codirectors of the project. Since July 2014, Marcus has been the head of the Department of Chemistry and Biochemistry.

The John Templeton Foundation approved the funding for the multiinstitutional project, which will be called the Center for Quantum Simulation of Complex Molecular Networks. The research at the UO will be carried out in the Oregon Center for Optical, Molecular, and Quantum Science. The UO is the lead institution for this new collaborative effort.

The foundation was founded in 1987 by the late Sir John Templeton, a man known as an unflinching optimist who believed in the potential of humanity to achieve greatness. In line with Templeton's support of spiritual growth and scientific exploration that he believed could expand the horizons of humankind, the Templeton Foundation supports work that addresses 'big questions,' which can make philosophically important contributions to human knowledge and society.

"The 'big question' this project asks," says Marcus, "is, do there exist complex molecular nanostructures whose behavior depends upon intrinsically quantum-mechanical phenomena, such as quantum coherence and entanglement, and which are relevant to biological processes?"

The research will address fundamental scientific issues at the intersection between molecular biophysics and quantum information science. It also has the potential to impact the development of a new generation of technologies.

"The group is working together with the goal to do science that might be transformative, and that could possibly open up a new field of study looking at quantum behavior in systems that can transport

electrical charge or energy," explains Marcus. That is, the team will be probing quantum effects in carefully designed molecular networks to ascertain if new kinds of physics arise. The part of the project that Marcus will lead involves using DNA as a scaffold to orient and position arrays of molecular chromophores in specific and unique ways.

"The group is working together with the goal to do science that might be transformative, and that could possibly open up a new field of study looking at quantum behavior in systems that can transport electrical charge or energy."

ANDY MARCUS

Potential applications include developing new forms of molecular electronics for information processing, which could be potentially useful in building a quantum computer. The field of quantum information science encompasses advanced, real-world applications such as quantum cryptography, which is a means to transport information with safeguards that make it impossible to copy and decode due to its quantum nature. "The ideas of quantum information science are linked to being able to process information in fundamentally new ways," Marcus says. "Quantum computing works differently than the way we compute things now, so that it becomes exponentially more powerful." And, Marcus adds, exponentially is not an exaggeration. Electronics could be a fraction of the size they are now, and much more powerful.

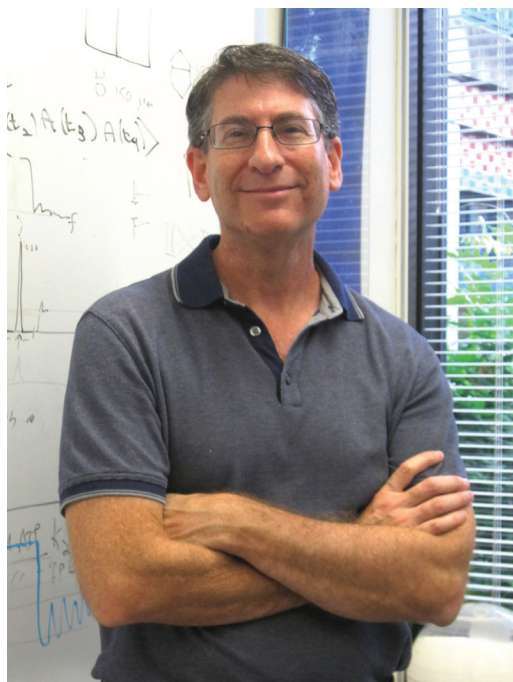
Early planning of the project was supported by the UO Office of the Vice President for Research and Innovation in the form of a \$50,000 grant from Incubating Interdisciplinary Initiatives (I3), and by a \$50,000 special opportunity grant from the M. J. Murdock Charitable Trust. ■

Department Head's Perspective

It is once again my pleasure to introduce the exciting developments afoot in the Department of Chemistry and Biochemistry. Last year, we successfully recruited Cathy Wong and Thomas Greenbowe to our department. Learn more about these two outstanding faculty members on page 7. We're always striving to recruit new faculty to elevate our stature within the scientific community, and the development of new curriculum better educates our students in emerging areas of science and technology.

Several of our faculty, undergraduate, and graduate students are in the news for their professional activities and achievements. An especially noteworthy achievement is that our distinguished colleague, Geraldine Richmond, has received the National Medal of Science. Three other faculty members—Michael Pluth, Shannon Boettcher, and Michael Harms—each received Alfred P. Sloan Foundation Research Fellowships in the same year!

The department has been expanding its ability to recognize and support outstanding graduate students. We now participate in the Portland Chapter of the Achievement Rewards for College Scientists Foundation, a women-run charitable organization supporting graduate student research in



science. In 2015, the department appointed its first ARCS graduate student fellow, and we hope to further expand this program in the near future.

Best wishes for a pleasant and productive new year!

—Andy Marcus

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National Medal of Science *continued from p. 1*



past year in these countries working with scientists, students, and government officials. This year she is focusing her efforts in the region on several projects, including a Women in Technology workshop held at Intel in Ho Chi Minh City in January, and a second workshop on childhood stunting in Luang Prabang, Laos, in March.

Over the past year she has also spent time talking with school children in Laos, Cambodia, Thailand, and Vietnam about science. Her plans for the coming year are to bring science experiments into remote schools in the highlands of Vietnam and other rural schools in the adjoining countries, if time permits.

Richmond was among eight recipients of the National Medal of Science in science. The award recognizes the excellence of her science in studying the molecular properties of liquid surfaces. This fundamental research that combines laser spectroscopy, thermodynamic measurements, and

molecular simulations enables Richmond and her students to gain unique molecular insights about liquid surfaces that underlie some of the most important issues in biological and environmental science including atmospheric chemistry and oil remediation.

Richmond says that she wants to take the opportunity that this award provides to thank the many who have enabled and supported her research and outreach endeavors, from the department and college and university leadership to the students who work in her laboratory on a daily basis. Richmond is particularly grateful for the endless support and encouragement throughout her career from her husband, physicist Steve Kevan, and two sons, Bryan and Dustin. "It's as much a reflection on the people that have been involved in supporting and helping my program over the years as much as it is myself as an individual," she says. ■

Faculty Awards and Honors

Nazin and Pluth win NSF CAREER Awards

Oregon researchers George Nazin and Michael Pluth have received prestigious National Science Foundation Faculty Early Career Development Awards to continue their research efforts. The grants are the NSF's way of recognizing top-performing young scientists in the early stages of their faculty careers. Grant recipients typically receive \$650,000 over five years.

Nazin, at Oregon since 2010, will use his funds to further atomic-scale, real-time exploration of the physical and chemical properties of carbon nanotube-based materials for use as charge and energy conduits in electronics, optoelectronics, and photovoltaics.

Pluth, at Oregon since 2011, will continue his studies of hydrogen sulfide interactions as well as expand a science outreach effort with students from area middle and high schools. *[Editor's Note: Pluth's science outreach program was covered in the 2013 Chemistry News: <https://blogs.uoregon.edu/chemistry/files/2014/03/news13-2bj6605.pdf>]*

Boettcher, Harms, and Pluth Chosen as 2015 Sloan Foundation Fellows

Three UO faculty members, Shannon Boettcher, Michael Harms, and Michael Pluth, are among 126 US and Canadian researchers from 57 institutions to win 2015 Sloan Research Fellowships from the Alfred P. Sloan Foundation. The awards honor "rising star" researchers at an early point in their career. "Having three of our junior faculty members—Pluth, Harms, and Boettcher—simultaneously named Sloan Fellows is a clear indication that our department is on a rapidly ascending trajectory," said Andrew H. Marcus, head of the UO's Department of Chemistry and Biochemistry. "It's a privilege to be associated with this hard-working and talented group."

Boettcher Wins Camille Dreyfus Teacher-Scholar Award

Shannon Boettcher, an assistant UO professor who joined the faculty in 2010, was selected in June to receive a Camille Dreyfus Teacher-Scholar Award. This is in addition to his selection as a Sloan Foundation Fellow (see above). The funds he receives will allow him to further his study of using solar energy to split water at the nanoscale. His research has significant implications for the fields of energy generation and storage.

Harms Named Pew Scholar

Mike Harms, an assistant professor in the Department of Chemistry and Biochemistry, was named a Pew Scholar in the Biomedical Sciences by the Pew Charitable Trusts. Scientists are nominated for their dedication to pursuing high-risk, high-reward research that can lead to extraordinary findings in bioscience. This award comes hot on the heels of his selection as a Sloan Foundation Fellow (see above). The Pew Scholars Program provides four years of flexible funding to scholars at the assistant professor level. Harms' research is focused on the relationship between the biophysical properties of proteins and their evolution. He is seeking to trace the evolution of calprotectin, a multifaceted protein that plays multiple roles in the human immune response, to illuminate the evolution of immunity and provide new strategies for designing antiinflammatory drugs.

Marcus Named Fellow by American Physical Society

University of Oregon chemistry and biochemistry department head Andy Marcus, whose research focuses on the structure and dynamics of large molecules in biological environments, has been named an APS fellow. Marcus joined the UO faculty in 1996 following two years as a postdoctoral fellow at the University of Chicago. His research provides a bridge from basic laser science to chemical physics to biophysics. As fellow, Marcus will join a select group of scientists who have made exceptional contributions to the field of physics.



GEORGE NAZIN



MIKE PLUTH



SHANNON BOETTCHER



MIKE HARMS



ANDY MARCUS

Faculty Awards and Honors

MARINA GUENZA



Guenza and Marcus Receive Fund for Faculty Excellence Awards

Andy Marcus was among 13 faculty members selected to receive 2014–15 Fund for Faculty Excellence Awards. Marina Guenza, a professor of theoretical physical chemistry, was selected to receive the award for 2015–16. The award was established in 2006 through a gift by philanthropist Lorry Lokey. The intent is to support and recognize tenured faculty through awards given based on the quality of their work, the impact on their program, and academic leadership. The awards help ensure that the UO can retain its top-notch faculty and develop its academic programs. To date, eight chemistry and biochemistry members have won Fund for Faculty Excellence Awards.

DARREN JOHNSON



SupraSensor Technologies Team Receives 2015 Innovation and Impact Award

A team led by chemistry professors Darren Johnson and Mike Haley was one of two to receive the UO's 2015 Innovation and Impact Award, which is granted to individuals or teams for outstanding entrepreneurial activity. The award is presented by the Office of the Vice President for Research and Innovation to celebrate the significant impact and reach of UO researchers.

Professors Mike Haley and Darren Johnson developed a family of ion-binding receptors in their lab that inspired the core technology behind the new company SupraSensor Technologies. *[Editor's Note: See the 2012 newsletter online for the SupraSensor story: <https://blogs.uoregon.edu/chemistry/files/2014/03/news12-2emavdz.pdf>]* SupraSensor developed a wireless, nitrate-sensing soil sampler that will help lead the movement toward “precision-based” farming. This advancement in agricultural technology will allow farmers to apply only the amount of fertilizer that is needed, where it is needed, helping to reduce the estimated \$2.4 billion per year that farmers waste due to the over application of nitrate-based fertilizers.

MIKE HALEY



Guenza Named to ACS 2016 Physical Chemistry Division Executive Committee

Marina Guenza, UO chemistry and biochemistry professor of theoretical physical chemistry, is now a member-at-large of the Physical Chemistry Division of the American Chemical Society. This is one of the ACS's 32 technical divisions, each focusing on a specific field of chemical study. The divisions provide the technical programming and scientific content of the ACS national meetings, including symposia and general sessions, workshops, tutorials, and demonstrations.

BRAD NOLEN



Nolen Selected for MRF New Investigator Award

The Medical Research Foundation of Oregon has named Brad Nolen, an associate professor of biochemistry, molecular biology, and biophysics, a recipient of the 2015 Richard T. Jones New Investigator Award. The Oregon Health and Science University Foundation presents annual awards to outstanding Oregon researchers, scientists, and mentors.

This award is a research grant supporting promising biomedical research. The Nolen lab investigates the regulation of the cytoskeleton, a molecular framework that provides physical support for cells. They are seeking to understand how phenomena observed at the cellular level are controlled at the molecular level. This research has provided new windows on the complexities of cellular structure, and suggested a potential future route to therapeutic targeting for use in medical treatments.

New Faculty

Cathy Wong

Cathy Wong joined the faculty this summer as an assistant professor in the physical chemistry division.

Wong joined after finishing her postdoctoral work at the University of California at Berkeley. Wong's research uses time-resolved, nonlinear spectroscopies such as transient absorption, transient grating, and two-dimensional photon echo. At Oregon, she will partner these techniques with experiments in materials processing and design to study the formation and degradation of materials that are candidates to be the active layers in photovoltaic solar cells, thin-film transistors, and organic light emitting diodes.

"By watching and understanding how their properties change during thin-film formation, we can determine how to modify our preparation techniques to control their properties," she says. "By learning about the mechanism for thin-films degradation, we can figure out how to prevent these processes and make these materials more robust for use in harsh environments."

Wong is excited to be at Oregon because she says the people she has encountered have been exceptionally friendly, and she appreciates the department's student-centric approach to research. "The high quality of the graduate students and the strength of the department's physical and materials divisions are the main reasons that I decided to come to Oregon," she says. "Plus, I love the outdoors! I enjoy hiking and backpacking on the weekends, and Oregon is the perfect place for these kinds of adventures." Welcome, Cathy!

Thomas Greenbowe

Thomas Greenbowe joined the faculty beginning in the winter term of 2015 as senior instructor II. He comes to the University of Oregon from Iowa State University, where he was the Morrill Professor of Chemistry. He served as the coordinator of the general chemistry program at ISU for 18 years and was also a professor of curriculum and instruction.

Greenbowe has received the top awards in chemistry education from the American Chemical Society. He was honored at the ACS National Awards Ceremony in March 2014, when he received the George C. Pimentel Award in Chemical Education for his "excellent teaching, contributions, and collaborative endeavors toward the advancement and recognition of chemistry education, nationally and internationally, as a discipline." In November 2014, Greenbowe received the James Flack Norris Award for Outstanding Achievement in the Teaching of Chemistry.

In 2013, Greenbowe was inducted as an American Chemical Society fellow for his work with the Division of Chemical Education and his service to the chemistry education community. He is very active in the development of pedagogy designed to improve students' understanding of science concepts and experimental design skills.

Greenbowe will work with Deborah Exton to research the impact of infusing an active-learning, guided-inquiry approach to green chemistry themes in the general chemistry lecture and laboratory course for science majors. Greenbowe chose to relocate to Oregon for additional research, continued teaching, and the lifestyle change, because he likes to bike, hike in the mountains, walk on the beaches, visit wineries, and take scenic photographs year round. Welcome, Thomas! ■



CATHY WONG



THOMAS GREENBOWE

News Briefs

THOMAS GREENBOWE



Learning Chemistry Project to Receive Funding

The University of Oregon through the Tom and Carol Williams Fund for Undergraduate Education is supporting a new project titled “Learning Chemistry.” The funds are part of an effort to identify and provide support to students in Chemistry 221 during the 2015–16 academic year who seem to be at risk of not succeeding. The project, led by senior instructors Deborah Exton and Thomas Greenbowe, lecture demonstrator Randy Sullivan, and graduate student Brandi Baldock, is designed to provide direct support to students experiencing difficulty in General Chemistry. Funds will go to draw students experiencing difficulty in CH 221 to creative, supportive, supplemental instruction sessions. This new program will complement the successful Super Chemistry peer tutorial program that was funded for its first year by the Williams Council in 1997.

BRANDI BALDOCK



UO-Sony Partnership Led to ACS Nano's Top Paper in 2014

The most-accessed paper in the journal *ACS Nano* throughout the year 2014 was based on a partnership between UO researcher James Hutchison, the Lokey-Harrington Chair in the Department of Chemistry, and Sony for research conducted through the Nanoscience Open Research Initiative. The paper detailed a new method to rapidly produce high yields of tiny metal oxide crystals for use as catalysts in electronic and other materials. The technique used environmentally friendly green chemistry methods and avoided limitations that had resulted in nanocrystals with a wide distribution of core sizes and poor structural order, or crystallinity, that had slowed progress in the field. [Editor's Note: Access the paper via this link: bit.ly/1Jw0Du4]

JAMES HUTCHISON



Nolen Paper Selected for Best of JBC 2014

The editors of the *Journal of Biological Chemistry* designated Brad Nolen's paper as one of the best papers published by the journal in 2014. The paper was one of only 21 selected out of the thousands of manuscripts that were published in the journal last year. Nolen is an associate professor of biochemistry, molecular biology, and biophysics, with a research focus on understanding the molecular basis for regulation of the cytoskeleton, the molecular framework that provides physical support for cells. Nolen's paper, titled “Interactions with Actin Monomers, Actin Filaments, and Arp2/3 Complex Define the Roles of WASP Family Proteins and Cortactin in Coordinately Regulating Branched Actin Networks,” represented the molecular biophysics affinity group. [Editor's note: Access the paper via this link: bit.ly/1BZMj57]

BRAD NOLEN



SACNAS Forms UO Chapter

The UO has established a chapter of the Society for Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS). The UO chapter is part of a larger effort to create a supportive scientific community at the University of Oregon. 2013 was the 40th anniversary of this nationwide organization dedicated to fostering the success of scientists—from college students to professionals—to attain advanced degrees, careers, and positions of leadership in science.

JAMES PRELL



James Prell, assistant professor of chemistry, is the chemistry faculty sponsor for this new group. “A major goal of our local chapter is to expose undergraduates, graduate students, and postdocs to different kinds of career opportunities by bringing in professionals from around Oregon to tell us what they do on a day-to-day basis in their career fields,” he says. “These careers span the spectrum of STEM (science, technology, engineering, and mathematics) fields, including STEM education, and we will try to tailor them to the interests of our members.” Learn more at uosacnas.uoregon.edu.

Guenza Receives 2015 I3 Award

Marina Guenza, a professor of theoretical physical chemistry, received a 2015 Incubating Interdisciplinary Initiatives (I3) award, which was given for her proposal with Allen Malony, a professor in the Department of Computer and Information Science, to create a virtual laboratory for the design and testing of novel polymeric materials. The I3 award helps to create an environment where collaborative partnerships across UO departments and colleges are encouraged.

Doxsee Becomes Vice Provost of Academic Affairs

Professor Ken Doxsee has been promoted to vice provost for academic affairs. He was previously associate vice provost for academic affairs, a position he held for more than seven years. Doxsee will continue to lead the university's Committee for Academic Infrastructure and maintains his responsibilities in the coordination of the university-wide promotion and tenure process and assessment efforts. He is taking on new responsibilities in the area of academic personnel, including review and approval of academic and administrative officer appointments, compensation, and sabbaticals, and will serve as the academic personnel policy liaison with Human Resources.

Haley Gives Keynote Lecture at 2015 ISNA Meeting in Spain

Michael Haley, the Richard M. and Patricia H. Noyes Professor of Chemistry, gave the keynote Nozoe Lecture at the 2015 International Symposium of Novel Aromatic Compounds (ISNA) in Madrid, Spain, in early July 2015 in front of more than 500 participants. Oregon was well-represented as Professors Darren Johnson and Ramesh Jasti also presented lectures at the Madrid ISNA meeting. Readers may recall that Haley hosted the 2011 edition of the ISNA meeting on the UO campus. [Editor's Note: See page 6 of the 2011 newsletter online for the ISNA story: chemistry.uoregon.edu/files/2014/10/ChemNews2011-1ra3rls.pdf] The ISNA conference is the premier meeting for researchers involved in the chemistry of aromatic molecules. Alumni from the 1960s through the 1980s may remember that former professor Virgil Boekelheide was actively involved in the ISNA community.

Research by Haack Named Best Paper at 2015 SEE Conference

A paper by Julie Haack, assistant department head and senior instructor II, was selected as "Best Paper" at the 2015 Sustainability, Ethics, and Entrepreneurship (SEE) Conference held in Denver in April 2015. The paper, titled "Insider-Driven Change in Fields of Practice: Exploring the Case of Green Chemistry," was a collaboration between chemistry (Haack) and the UO business school (Andrew Nelson and Jennifer Howard-Grenville), along with a UO PhD alumnus Doug Young, who is now an instructor at Lane Community College.

Drawing on interview, observational, and archival data, Haack and her collaborators utilized the emergence and growth of the green chemistry movement as a model to help understand how advocates mobilized other chemists to effect the changes. The trajectory of green chemistry suggests that insiders can leverage the very elements that structure a field—shared expertise and work practices—in service of change, but that these same elements are threatened by such change.



MARINA GUENZA



KEN DOXSEE



MIKE HALEY



JULIE HAACK

Student Awards

SUSAN COOPER



Cooper and Laskowski Win NSF Graduate Fellowships

Susan Cooper, a joint graduate student in the James Hutchison and Darren Johnson labs, and Forrest Laskowski, a doctoral student in the Shannon Boettcher lab, have been awarded 2015 National Science Foundation Graduate Research Fellowships.

NSF graduate fellows receive three years of support over a five-year period. This includes a \$32,000 annual stipend, a waiver of full-time tuition and mandatory fees during fall, winter and spring, subsidized access to the GTF insurance plan, a \$1,000 annual travel award, \$1,000 annual supplies award (courtesy of the UO Office of the Vice President for Research and Innovation) and NSF-sponsored international research and professional development opportunities.

FORREST LASKOWSKI



Cooper Named Inaugural UO Scholar

In addition to her NSF Graduate Research Fellowship, Susan Cooper has been awarded the UO's inaugural Achievement Rewards for College Scientists (ARCS) Foundation scholarship. The UO joins Oregon Health and Science University and Oregon State University as the only three schools in the state that have programs approved for ARCS funding.

ARCS is a national organization that funds scholars engaged in science, engineering, and medical research. At the UO, ARCS seeks specifically to fund doctoral students in biology and chemistry. Each award amounts to \$18,000 in unrestricted funds over a three-year period to an individual doctoral candidate.

RACHAEL CUNNINGHAM



Cooper's work is focused on understanding the parameters that affect condensation reactions in the synthesis of metal oxide nanoparticles and nanoscale clusters. She also works on the synthesis of new clusters in the Center for Sustainable Materials Chemistry to be used as precursors for solution processed thin films for applications in the semiconductor industry.

Cunningham Awarded AHA Predoctoral Fellowship

Rachael Cunningham, a fourth-year PhD student in the lab of Victoria DeRose, has received a 2015 American Heart Association Predoctoral Fellowship. The \$50,000 award will be distributed over two years, and is intended to help students initiate careers in cardiovascular and stroke research by providing research assistance and training.

Cunningham's research focuses on the interactions of platinum(II) anticancer therapeutics with biomolecules in the cell, specifically interactions resulting in endoplasmic reticulum (ER) stress. Pt(II) drugs are widely used but they also cause serious side effects, such as cardiotoxicity, which may be due in part to the ER stress. She seeks to better understand the way that these drugs induce ER stress and to develop Pt(II)-based drugs with lower toxicity.

JOHN GILLIES



Gillies and Martichuski Named 2015 Goldwater Scholars

University of Oregon juniors John Gillies and Kyla Martichuski have been named 2015 Goldwater Scholars, a prestigious national award that recognizes undergraduates for their research work in mathematics, science, and engineering. Each will receive up to \$7,500 for tuition, fees, and room and board for their senior years.

Gillies, from Junction City, Oregon, is a biochemistry major with a minor in business administration whose research looks at protein interaction with single-strand DNA. His research is conducted in the lab of Andrew Marcus, department head.

KYLA MARTICHUSKI



Martichuski, from Salem, Oregon, is a biology and human physiology major with a minor in chemistry. She works in the lab of Jessica Green in the Institute of Ecology and Evolution, where she is researching the diversity and temporal dynamics of fungal communities in the atmosphere.

Grealish and Earp Receive 2015 Departmental Scholarships

Aidan Grealish has received the Faith Van Nice Scholarship and Mary Earp has been chosen to receive the Kuntz-Swinehart Memorial Scholarship.

The legacy of UO alumna Faith Van Nice is honored with the Faith Van Nice Scholarship, which recognizes exceptional UO undergraduate students majoring in chemistry or biochemistry. Grealish, a sophomore in the Robert D. Clark Honors College from Tualatin, Oregon, is majoring in chemistry and digital arts. Over the summer she conducted research in the Page lab, working on the synthesis of thin films and their applications for electronics.

The Kuntz-Swinehart Memorial Scholarship was established by former UO chemistry students in honor of two professors whose instruction, influence, and inspiration had a significant impact on their career paths. The award recognizes and encourages academic excellence in chemistry and biochemistry majors. Earp, a sophomore from West Linn, Oregon, is majoring in biochemistry. She is conducting research in both the Pluth and Sereno (psychology) labs. The Pluth lab research is focused on hydrogen sulfide detection in biological systems. Her work in the Sereno lab examines visual perception and how people perceive 3-D objects.



AIDAN GREALISH



MARY EARP

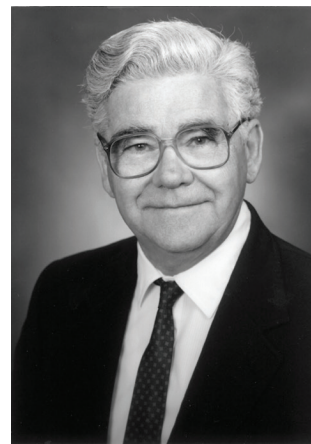
In Memoriam

John Schellman

An important chapter in the UO's history of scientific research closed with the death at age 90 of retired chemistry and biochemistry professor John Schellman, who came to the UO in 1958 just as the university was building its strengths in the natural sciences. He was an early member of the groundbreaking Institute of Molecular Biology and played an important role in research breakthroughs in the area of protein chemistry and in helping the UO get needed funding to build modern research facilities. "John was a distinguished scientist, a member of the National Academy of Sciences, and a kind and generous colleague who set a fine example for others to attempt to emulate," said Andy Marcus, head of the Department of Chemistry and Biochemistry. *[Editor's Note: Read about Schellman's 70th birthday celebration in the 1995 edition, <https://blogs.uoregon.edu/chemistry/files/2014/03/news95-22wvgnv.pdf> (page 5)]*

Peter von Hippel, a professor of biophysical chemistry and molecular biology, was a longtime friend and colleague of Schellman's and called him "truly one of the outstanding scientists who have ever worked at the University of Oregon." Schellman came to the UO after doing postdoctoral work at the University of Utah, the Carlsberg Laboratory in Denmark, and the University of Minnesota. He was brought on by Terrell Hill, who helped the UO elevate its science and research programs, which had lost vigor due to earlier legislative actions concentrating science education at what is now Oregon State University.

Continued on next page



John Schellman came to the UO in 1958 and was an early member of the groundbreaking Institute of Molecular Biology and helped bring about a renaissance in the university's science program. He passed away at the age of 90.



John Schellman in his early UO days.



Bill Houle (center), playing his mandolin, was an accomplished musician. Photo courtesy of his wife, Debra Parks Houle.

Editor's Note: Professor Emeritus O. Hayes Griffith joined the department in 1965. He writes here about the passing of William Houle, one of his PhD students, and Marion Hill on the next page.

In Memoriam

Schellman was one of the early hires in that revitalization effort, and helped show other researchers that the university supported top-level science. Von Hippel was among those who came to the UO in part because of Schellman's influence. "He was really a world figure," von Hippel recalled. "He was highly respected everywhere."

Schellman studied large molecules such as proteins and developed new techniques in light spectroscopy to learn more about their structure and dynamics. He contributed to advances in the use of light-based microscopes and polarized light to help develop a better understanding of protein structures. He also made major contributions to both the theory and the experiments that led to our modern understanding of the interactions and folding of these "molecules of life." Schellman retired to emeritus status in 1990 but continued to do research well into the latter part of the decade. In addition to his election to the National Academy of Sciences, he was a fellow of the American Academy of Arts and Sciences and the American Physical Society.

Some scientists, von Hippel said, are respected for their contributions but not necessarily for their personalities, while others are the sort people love to spend time with. "John was the latter," he said. "He was a joy to be around. He was just a person that you liked."

He and his wife, Charlotte, who was also a scientist, traveled frequently for academic events and for pleasure. *[Editor's Note: John's wife, molecular biologist Charlotte Schellman, passed away in 2008. Her In Memoriam, in the 2009 edition of Chemistry News, is available online: <https://blogs.uoregon.edu/chemistry/files/2014/03/news09-1bmfxo0.pdf>]* Both were avid supporters of the arts, and Schellman had a love of classical music and also played piano.

—Greg Bolt, Public Affairs Communications

William A. Houle

The untimely death of Bill Houle at age 63 from esophageal cancer ended the productive scientific career of a man whose life was rich in both talent and friends. He is remembered by his wife, Debra Parks Houle, family and friends, and former colleagues on the website william.houle.muchloved.com.

Houle was born October 22, 1952, in Detroit, Michigan. He earned his doctoral degree from the UO Department of Chemistry in 1982, working in the Griffith group, where he coauthored six scientific papers. His scientific contributions included characterizing the photoelectric behavior of fluorescent dyes, utilized Einstein's photoelectric effect to obtain novel images of DNA and viruses, and, in collaboration with a physicist at the Max Planck Society in Berlin, solving a perplexing problem regarding interpretation of photoelectron images.

Houle joined the imaging systems department of DuPont (1983–87) as a research chemist, where he worked on medical x-ray film. Houle moved into electrophotography in 1986 as DuPont had started a development project in high-resolution xerographic printing. Progress was swift and led to DX Imaging, a DuPont-Xerox joint venture. Houle was lead scientist at DX Imaging from 1987 to 1991. He then worked at the medical products department of DuPont from 1991 to 1995, in the x-ray film manufacturing site in Brevard, North Carolina, until DuPont shut down the x-ray film business. He then joined Hewlett-Packard's inkjet business unit in the San Diego area in 1995 and remained at HP until his illness in 2015. Houle had been recently promoted at HP to the rank of distinguished technologist, printing and technology platforms, inkjet and printing solutions. Inkjet printing is a \$26 billion business inside HP, and Houle was a key member of that team.

—Professor Emeritus O. Hayes Griffith

Marion Hill

We lost a good friend and an important connection with the World War II–era history of the chemistry and biochemistry department with the death of Marion Hill on August 2, 2015, at age 95. Marion Hill was in the Army Air Corps during the Battle of the Bulge, where the US suffered great losses. He was wounded during a surprise attack by a *schwarm* (group) of Messerschmitt fighter aircraft on New Year's Day, January 1, 1945. After his convalescence, Hill returned to the US and enrolled at the University of Oregon in 1946. Hill's wife of 52 years, Susan Rand Jones, predeceased him in 1997.*

Hill enjoyed chemistry classes and received his BA in 1948 and his MA in 1950. After graduation, jobs were scarce. He landed his first job at the National Bureau of Standards in Washington, D.C. He soon transferred to the Naval Ordnance Laboratory in Silver Spring, Maryland, to pursue his interest in organic chemistry. There, he discovered a plasticizer, bis(2,2-dinitropropyl) formal (BDNPF). This high-energy compound aided in improving the Polaris missile's rocket motor performance, increasing the range by 1,500 miles. It is said that this increased range encouraged the USSR to reach an agreement with the US on limiting nuclear arsenals of both countries. Hill was awarded a cash prize of \$5,000 and a Superior Accomplishment Award by the US Navy.

Hill went on to develop other novel nitroaromatic compounds, including triaminotrinitrobenzene (TATB), a high-density, heat-stable compound with more energy than TNT. Hill won 18 awards from the US Navy for his discoveries and patents. He moved to Stanford Research Institute in 1960 (now SRI International), where he greatly expanded the chemistry program and was director of the physical sciences division for 17 years until his retirement in 1984. After retirement, he consulted for a few years, recalling with special pleasure an assignment with the International Executive



Marion Hill and Susan at their wedding on May 19, 1945, just months before Marion came to the UO as an undergraduate student.

Service Corps to establish a RandD group in Indonesia's Ministry of Science.**

In 1996, Hill received the University of Oregon Alumni Achievement Award in Chemistry (also recorded in the 1996 edition). He frequently traveled back to Eugene to visit with faculty, meet the new department head, and participate in graduation. He was a popular figure with both students and faculty, and received a standing ovation at his last appearance at graduation in June 2014.

Hill had a good sense of humor. In writing his memoirs, he smiled and wrote at the top, "If it weren't for the last minute, I'd never get anything done." Hill is survived by his son Stephen and his wife, Joanne, son Thomas and his wife, Diana, and daughter, Diane, along with seven grandchildren and 16 great grandchildren.

—Professor Emeritus O. Hayes Griffith

*Marion Hill shared his memories of the early days of the chemistry department on page 7 of the 1995 edition of Chemistry News: <https://blogs.uoregon.edu/chemistry/files/2014/03/news95-22wvgnv.pdf>. See page 7 of the 1996 edition for part two of this series, in which he recalls life as a married student: <https://blogs.uoregon.edu/chemistry/files/2014/03/news96-2lbuycp.pdf>.

**See page 16 of the 2009 edition of Chemistry News: <https://blogs.uoregon.edu/chemistry/files/2014/03/news09-1bmfxo0.pdf>



Marion Hill at the 2014 chemistry department graduation ceremony handing out an award to a student.

Why was the chemistry department so late in awarding Marion Hill the Chemistry Alumni Achievement Award? As with many other distinguished alumni, we did not know about his career until he contributed to the alumni news section of the chemistry newsletter. With faculty turnover, we lose awareness of previous generations of alumni.

You can help us close this knowledge gap by writing to the department head if you know of a former student with a distinguished career in research, teaching, or service. The achievements need not be in the field of chemistry. Also, please tell us about yourself for the Alumni News from All Over section of this newsletter. Knowledge of student careers is a subject of pride and also encourages better teaching as new faculty members become aware of the history, traditions, and long list of successful students who have passed through this department.

—Professor Emeritus
O. Hayes Griffith

Alumni News from All Over

2010s

Ellie Buhr, BS '13, majored in biology and minored in chemistry and art history. She currently works as a medical assistant at a podiatry office in Gresham, Oregon, and is a volunteer for the Children's Cancer Association in Portland. She is also on the board for the University of Oregon Alumni Association, Portland chapter, where she is involved with their science nights. Buhr will be reapplying to medical school to focus on becoming a neurologist that specializes in memory loss and dementia.

Sean Chang, MS '13, earned his master of science in chemistry (Master's Industrial Internship Program, polymers and coatings track) while working in the lab of Richard Chartoff. He is currently living in the Bay Area in California, working in Santa Clara for Fujifilm Dimatix as an inkjet printhead applications engineer.

Jasmine Dickinson, BS '13, majored in biology with an emphasis in neurobiology and a minor in chemistry. She studied memory for three years with Cliff Kentros (psychology, Institute of Neuroscience). She is now a second-year PhD student in biology and neuroscience at Stanford studying pain and emotion. This year she received the NSF GFRP Fellowship as well as a Stanford internal fellowship (Bio-X).

Adam Glass, PhD '11, studied organic and medicinal chemistry with Shih-Yuan Liu. His current work is focused on developing human thioredoxin reductase inhibitors. In 2013, Glass received an "outstanding undergraduate faculty" travel award from the American Chemical Society. He and his wife, **Natalie Tajipour-Glass, BS '08**, had a baby girl (Aria Sea Glass), born on March 28, 2014.

Dan Jenkins, BS '11, graduated in summer 2015 with his doctor of physical therapy degree from Samuel Merritt University in Oakland, California.

Jonathon Mauser, PhD '14, worked for Kenneth Prehoda while at Oregon and after graduation worked for a year teaching at Southern Oregon University. Mauser obtained a tenure-track job as assistant professor of chemistry at Winona State University in Winona, Minnesota, which he began this fall.

Joshua Razink, MS '10, has used the University of Oregon's CAMCOR research facility to study nanodiamonds. Razink's findings add weight to a theory first proposed in 2007 that a comet exploding over North America sparked catastrophic climate change. The nanodiamonds, which are invisible to the naked eye, are believed to form in high-impact events such as cosmic collisions. The presence of nanodiamonds in soil samples from numerous sites over a large area spanning North America, the northern tip of South America, the southern swath of Greenland, and Western Europe makes more believable a controversial theory that a cosmic explosion 12,800 years ago above the Great Lakes and St. Lawrence Seaway triggered the ice age that fragmented the Clovis culture and created environmental collapse leading to mass extinction. Razink's work was published in the *Journal of Geology* in August.

Alyssa Russo, MS '12, graduated with a master's in chemistry with an emphasis in polymer chemistry. She is now working as a high school chemistry teacher at Presentation High School in San Jose, California. She is currently engaged and planning on getting married in summer 2016.

Emily Truong, MS '14, earned her chemistry degree from the Masters Industrial Internship Program, polymers and coatings track. Truong was hired by Taiyo America to join their RandD team. Truong began her career in the PCB industry (printed circuit boards) this summer after a nine-month internship at Taiyo's Carson City facility.

Carrie Walsh, BA '11, majored in biology and French, with a minor in chemistry. In 2012, also at Oregon, she received a master's in secondary education. She teaches biology, chemistry, and physics at Emily Griffith High School, an alternative high school in Denver, Colorado.

Ben Wiggins, BS '13, graduated with a degree in biochemistry through the Robert D. Clark Honors College. He completed an MS in molecular biology and now runs the teaching side of the biology department at the University of Washington, where he is a lecturer; his NSF-funded research is in science education.

2000s

Lacy Alexander, BS '00, minored in chemistry with a major in human physiology. After receiving her master's degree in human physiology in 2002 working with Chris Minson, she received her PhD from Pennsylvania State in exercise physiology in 2007. She has been at Penn State since that time in a faculty position, and in 2014 was promoted to senior research associate and research associate professor.

She is an NIH-funded researcher focusing on vascular signaling in cardiovascular disease populations. "I really love what I do now, and the faculty at the UO helped me to get where I am today and find a career that I love," Alexander says. She also writes that she really misses her friends and family in Oregon, but does make it back a few times a year.

Fadi Arodaki, BS '08, graduated *cum laude* with a biology major and chemistry minor. He is currently at Mountain Vista Medical Center in Arizona, performing his residency in internal medicine. In his “very little free time/days,” he writes, he likes to travel, play soccer, and get exposed to different cuisines.

Bronwyn Baz, BMus '96, BS '00, graduated with honors in biology and an organic chemistry minor. She earned her MD *magna cum laude* from Oregon Health and Science University (OHSU) in 2005. She was elected to Alpha Omega Alpha, the medical honor society, as a junior medical student in 2004. She completed her pediatric residency at Stanford in 2008 and became lead physician and assistant professor at Kaiser Permanente. She was Community Physician Teacher of the Year as part of the OHSU pediatric residency program in 2012. That year, Baz published a chapter on child abuse and evaluation of physical abuse and trauma for a medical textbook and presented original research on vaccine uptake at the American Academy of Pediatrics conference in October 2014.

While at the University of Oregon, she conducted her research in the Bradshaw-Holzappel ecology and evolution laboratory (honors thesis, 2000). She has been married for 17 years to a UO economics graduate and has two children. She enjoys an interest in music, travel, medical volunteering and teaching, and Spanish.

Orion B. Berryman, PhD '08, studied supramolecular chemistry during his graduate work at Oregon with Darren Johnson in collaboration with Michael Haley, and became a postdoc at the Scripps Research Institute in La Jolla, with Julius Rebek Jr. as mentor. Berryman is currently in his third year as assistant professor at the University of Montana, where his lab received funds from the NSF for a single crystal diffractometer.

Jenelle Brey, BS '03, writes that she went to Cal Tech for graduate school, where she got her PhD in 2009 with the thesis titled “The Development and Application of Computational Methods for the Prediction of G Protein-Coupled Receptors.” Brey then did a postdoc at Stanford in computational structural biology. She is now a staff data scientist at LinkedIn in Mountain View, California, in the security team. “I design models to detect and prevent fake accounts, scraping, and abuse on LinkedIn,” she writes. “I also had a baby boy this February.”

Margaret (Roller) Chapman, BS '05, majored in chemistry, with a minor in business administration. She spent 2005 and 2006 in Eugene working at Volunteers in Medicine before moving to Seattle to get her MD from the University of Washington. She then completed her residency training in internal medicine at the UW before starting a chief resident year at Seattle’s Harborview Medical Center. Roller moved to Chicago in July 2014 to take a position as a hospitalist physician-instructor in the Division of Hospital Medicine at Northwestern Memorial Hospital. “My closest, lasting connection at the UO is probably my husband, **Craig Chapman, PhD '10** (with Jeff Cina). We got married in Seattle in September 2010. He is now a postdoctoral fellow in Chicago at Northwestern University with George Schatz.”

Waweru Nyamu Gatimu, BS '09, earned a dual degree in political science and chemistry.

Scott Hein, BS '00, went on to earn his doctorate in physical therapy from Pacific University in 2003. He has been a licensed physical therapist in the State of Oregon since 2003, and became a board-certified clinical specialist in orthopaedic physical therapy in 2011.

Jesse Jenkins, BS '08, studied biochemistry at the UO, working in the lab of Shih-Yuan Liu. He then received a master’s in chemistry from the University of California at Berkeley studying

3-D printing, nanotechnology, and water electrocatalysis under T. Don Tilley.

Cara Kawahara, BS '00, became a family physician with Kaiser in Portland, Oregon. She married a fellow UO chemistry graduate and they have three young children—a three-year-old daughter and boy and girl twins who were born in October 2014.

Terry Siriphatnaboon Krause, BS '06, received her MD from Virginia Commonwealth in 2010 and completed her residency and board certification in family medicine in 2013.

Alison (Lee) Ma, BS '01, graduated with a major in biology and a minor in chemistry. After the UO, she attended OHSU for medical school, then for internal medicine residency. She is currently an internal medicine hospitalist in Portland, Oregon, at Providence St. Vincent Medical Center, where she received the 2014 Hospitalist of the Year Award.

John M. Mahan, BS '07, majored in general science with a biochemistry minor. He also had earlier received a BA from the UO in 2000 in psychology and linguistics. Mahan attended medical school at OHSU from 2007 through 2011, earning his MD. He completed a residency in psychiatry at the University of Utah from 2011 through 2015. He is currently doing a fellowship in addiction psychiatry at the University of Utah through 2016, after which time he and his wife, **Anna Friend, BArch '11**, hope to return to Oregon.

Vanessa Muller, BS '02, received her PharmD degree through Creighton University in 2008. She currently lives on beautiful Whidbey Island in Washington, and works as a pharmacist at Naval Hospital Oak Harbor. Her hobbies include traveling, hiking, jogging, and reading.

Brett Wee, BS '05, earned a biology degree with a minor in biochemistry. He spent seven years studying spindle orientation during asymmetric cell

division of *Drosophila* neural stem cells. His work describing how the Ran GTPase and its effector protein Cnogl orient the mitotic spindle by recruiting the dynein adaptor protein Mud to the cell cortex was featured on the cover of the October 31, 2011, issue of the *Journal of Cell Biology*. He attended medical school at the University of Iowa and backpacked through Eastern Africa, where he plans to work in Tanzania's first pediatric hospital.

Kimberly Zenkere, BS '01, graduated with a degree in exercise and movement science and a minor in chemistry. After graduation, she worked as a certified nursing assistant at PeaceHealth Sacred Heart Medical Center, where she discovered her love for nursing. She graduated from Lane Community College with a nursing degree in 2007. Zenkere returned to school and graduated with a bachelor's degree in nursing in 2010 from OHSU. She was a charge nurse on the oncology unit, and completed her master's in nursing from Grand Canyon University in 2012. She accepted a job as clinical manager at Oregon Urology Institute in Eugene. "My start at the University of Oregon gave me the skills and knowledge base to pursue a health-care career. Go, Ducks!" she writes.

Ting Zhou, BA '04, attended Oregon Health and Science University medical school and completed residency training in internal medicine. Zhou currently practices as a hospitalist in Portland.

1990s

Django Andrews, BA '99, did undergraduate research with Paul Engelking. After graduation, he received a PhD from the University of Colorado in 2006, then his JD from the University of Colorado in 2009. He has worked at law firms in Colorado and San Francisco and recently became in-house counsel at Nektar Therapeutics in San Francisco. Andrews invites readers who are interested in life science careers

outside of academia to connect through LinkedIn.

Greg Baxley, PhD '97 (with David Tyler), and **Lara Baxley, PhD '99**, (with Diane Hawley) both teach chemistry at Cuesta College in San Luis Obispo, California. They are also involved in the participatory governance of the college. Greg recently served as the student learning outcomes and assessment coordinator and Lara started a term as Academic Senate president. They love to travel, hike, and camp with their two children, Aleta, age 17, and Sander, age 14.

Eddy Chen, BS '96, graduated with honors from the chemistry department and is currently working with Atotech Taiwan Limited as the tech center manager.

Judah Garfinkle, BS '96, attended Harvard Dental School post-UO. He studied orthodontics at the University of Kentucky and completed his fellowship in craniofacial and special care orthodontics at New York University. He is now director of craniofacial orthodontics at Oregon Health and Science University and has a private orthodontics practice in Portland, Oregon. Garfinkle founded and is a current board president of Smile Oregon, a nonprofit designed to help kids and families in Oregon with cleft lip and palate. He writes that he married his camp sweetheart, and hopefully their three kids will all be Ducks!

Rodger Voelker, PhD '96, has become a leading figure in Oregon's burgeoning medical marijuana industry as an analytical chemist at Eugene's

Oregon Growers Analytical. His efforts to improve safety for medical marijuana users was recently featured in *Oregon Quarterly*, the alumni magazine of the UO. Voelker earned his doctorate in molecular biology and later worked as



the supervising chemist at the Oregon Department of Agriculture's pesticide residue laboratory. OG Analytical provides mold, pesticide, and potency-testing services to marijuana growers and dispensaries. The tested products can then be labeled with consumer information such as active-ingredient levels. Testing helps ensure that cannabis products that test positive for molds or pesticides will not knowingly be given to patients.

1980s

Debra DiPasquale, BS '85, graduated with a chemistry degree and spent 13 years as a chemist for Reynolds Metals Co. In 2000, she got her master of arts in teaching and now teaches chemistry and biology in eastern Washington.

Craig Getzlaff, BS '88, graduated with a degree in chemistry but ultimately did not work in that field. He experienced epileptic seizures and decided that working in chemistry was too risky. He then got the degree he always wanted . . . a BFA in painting from Pacific Northwest College of Art. Visit his website, www.craigspieces.com.

Ruskin J. Gould, BA '85, now known as the Reverend Hugh Gould, writes that he has been hesitant to provide personal updates because he did not follow the typical chemistry path. Reverend Gould has been a Buddhist monk in the Zen tradition for the last 27 years and was given the name Hugh at ordination. He was ordained as a monk in spring 1988 at Shasta Abbey near Mount Shasta, California, and trained there as a novice monk for nine years. He then moved to a remote forest temple in the coastal range of northern California, where he lived with his teacher until 2006.

He has been living in northern England at Throssel Hole Buddhist Abbey, the second of the two big training monasteries in his order, second to Shasta Abbey. He was named and certified as a Zen master in 2003, and since 2000 has been the financial manager for his order in North America

and recently accepted that role for the monastery in northern England.

Mark Meier, PhD '88, conducted his research with Bruce Branchaud while at the UO. He writes that he is starting a second term as chair of the Department of Chemistry at the University of Kentucky (UK). Mark noted that **Vinnie Cassone, PhD '83**, is chair of the UK Department of Biology.

David Schiraldi, PhD '82, conducted his research in the lab of Richard Finke. He worked in the chemical polymer industry for 20 years prior to joining the faculty at Case Western Reserve University in 2002. Schiraldi chairs the Department of Macromolecular Science and Engineering, holds the Peter A. Assaff Endowed Chair, has graduated 14 PhD students, and published approximately 180 peer-reviewed papers.

Paul Yager, PhD '80, researched vibrational spectroscopy of biomolecules while at Oregon. He has authored more than 180 research publications, and has more than 30 issued US patents (*for specifics, visit faculty.washington.edu/yagerp*). He is still a professor in the Department of Bioengineering at the University of Washington in Seattle and had been department chair since 2008, although he stepped down in 2013 to devote himself full-time to research and teaching. His 31-member laboratory focuses on development of low-cost sensitive, single-use, disposable tools for detection and measurement of biomolecules, primarily proteins and nucleic acids. Yager gave a November 2014 TEDx Rainier talk, available here: bit.ly/1UmPdL7.

1970s

Jeffrey Bland, PhD '71, was awarded the Burton Kallman Scientific Award by the Natural Products Association (NPA). Honorees of the annual NPA awards for outstanding individuals and businesses have made valuable contributions to the success of the

natural products industry. For more than 35 years, Bland has been an internationally recognized leader in the nutritional medicine field. He earned dual degrees in biology and chemistry from the University of California at Irvine, and a doctorate in organic chemistry from the UO.

Ron Swisher, PhD '76, writes that he attended the national meeting of the American Chemical Society in Boston in August and presented and chaired a session on "Teaching Organic Chemistry to Biology Majors." This coming year will be his 40th year teaching at the Oregon Institute of Technology.

Bruce Watson, BS '70, worked as an undergraduate in the lab of Sidney Bernhard. He graduated and spent nine months in the biochemistry department at Berkeley before transferring to the University of Washington, where he obtained his PhD in biochemistry in 1975. A brief stint retailing wine was followed by 11 years of postdoctoral soft money research in the University of Washington Department of Botany, he writes.

"I enjoyed a 20-year career in wine production and quality management at Columbia Winery, and opted for early retirement in 2008. I have continued my involvement with the industry by consulting, making wine with Western Washington grapes at two properties, and doing some committee work. I also taught wine chemistry and microbiology at South Seattle community college for a few years."

Brad Wright, BA '79, went to Ohio State after graduating, where he earned his doctorate in 1983 in organic chemistry with Matthew Platz studying reactive intermediates and their kinetics at near absolute zero. He met his wife of 33 years, Julie, there. Wright then did a postdoc with Jerry Berson at Yale before beginning work at 3M in 1984, where he has been ever since. "I found that being familiar with absolute zero was a big help with winter in Minnesota," he says.

To date, he has published 15 papers, patented 13 times, and won several technical corporate awards. He started in basic photochemical research, then did product development in nonwovens and floor finish, and now works as a patent agent in the Office of Intellectual Property Counsel. "I strongly believe that my education and research experience (including an honors thesis) at Oregon gave me the tools to be successful in graduate school and in my career," he says.

1960s

Richard Feinman, PhD '69, researched with Sidney Bernhard in the chemistry department. He is professor of cell biology at the State University of New York (SUNY) Downstate Medical Center in Brooklyn and is active in the field of nutrition and metabolism. His book *The World Turned Upside Down: The Second Low-Carbohydrate Revolution* was published in 2015. It provides a scientific background on nutrition and underlying biochemistry as well as a perspective on the confused state of nutritional medicine. Feinman writes that he has been a critic of current medical practice for some time, and he and 25 other authors have published a defining position on nutrition in the treatment of diabetes (Feinman, R. D., Pogozelski, W. K., Astrup, A., Bernstein, R. K., Fine, E. J., Westman, E. C., Accurso, A., Frassetto, L., Gower, B. A., McFarlane, S. I., et al. "Dietary Carbohydrate Restriction as the First Approach in Diabetes Management: Critical Review and Evidence Base." *Nutrition* 2015, 31(1): 1–13). A few years ago, Feinman spent a sabbatical in Eugene teaching the third semester of the organic sequence and also returned to teach in the summer program for a couple of years.

"Teaching has remained important," he writes. "A few years ago, I spent a sabbatical in Eugene teaching the third semester of the organic sequence and also returned to teach in the summer program for a couple of years."

“A key question in nutrition is the role of calories—that is, can you gain or lose more weight on one or another diet if they have the same number of calories; low-carbohydrate diets generally do better in weight loss comparisons and the discussion frequently centers on the laws of thermodynamics. I was fortunate to have had excellent training at the UO (Marshall Fixman and Terrell Hill as professors), and if I was not actually an excellent student in those days, I have been able to add some insight into this problem.”

Burton J. Litman, PhD '66, is currently living in Redmond, Oregon. Throughout his career, he has published a variety of research papers in the areas of membrane structure and function, visual transduction, and the mechanism of function of G protein-coupled receptor systems. Following his graduation, he completed an NIH postdoc fellowship at the University of Virginia, Department of Biochemistry, under Thomas E. Thompson from 1966 to 1968. Following that, he advanced from assistant professor to associate professor to professor, also

at University of Virginia, Department of Biochemistry, from 1968 to 1984. From 1981 to 1983 he was assistant dean at the University of Virginia, School of Medicine, and from 1984 to 1993 he was chairman and professor of the biochemistry department. Over 1993 and 1994, Litman was visiting professor at the University of Virginia, Department of Biochemistry, and from 1993 to 2004 he was chief of the fluorescence studies section of the Laboratory of Membrane Biochemistry and Biophysics at the National Institute on Alcohol Abuse and Alcoholism at the National Institutes of Health. From 2004 to the present he has been emeritus scientist of that section.

Dennis R. Taylor, PhD '67, studied organic and physical organic chemistry while at Oregon. His last full-time position was research director of the Agricultural Products Group, Oil-Dri Corporation of America, from which he retired in 2003 after 10 years of service. Taylor is now semiretired, currently teaching introductory chemistry part-time at McHenry Country College (Crystal Lake, Illinois) as an adjunct

professor to keep his finger in chemistry, and still consulting for a couple of clients in his field of expertise (use of natural clay-based materials as feed additives to improve health of animals exposed to various mycotoxins in their feed, and use of modified clay-minerals to reduce ammonia levels in poultry houses).

1950s

Gary Christian, BS '59, gave an invited opening lecture at the symposium celebrating the 50th anniversary of Chiang Mai University in Thailand in January, having had close collaborations for 20 years, and receiving an honorary doctorate in 2005. Christian writes that he is still “humming along” after 26 years as editor-in-chief of the journal *Talanta*, which provides a forum for the publication of original research papers in all branches of pure and applied analytical chemistry. The seventh edition of his textbook, *Analytical Chemistry* (Wiley), appeared a year ago. His granddaughter, Tanya, graduated from the UO in June. ■

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