

Department of Chemistry Newsletter

Fall 2011



Mark Arnold
Professor and Chair
Edwin B. Green Chair Professor
in Laser Chemistry

The View from the Front Office

For those of you who have read past issues of the Department's newsletter, I think you'll notice many changes. Although the most obvious change might be the design and layout of the newsletter, the Department of Chemistry has experienced other, more substantial, changes during the past year. To begin, Dave Wiemer stepped down as chair in August 2010 after eight years of service. His achievements while in the front office are too numerous to list, but they include hiring and retaining some great faculty colleagues, as well as leading the major renovation of the Chemistry Building. Dave has been able to spend the past year working with his research program and he is looking forward to returning to the classroom this fall semester.

Another big change during the past year is the departure of Hazel Kerr, Lin Pierce, Marsha Koehler, and Peter Hatch. As many of you know, Hazel, Lin, Marsha, and Peter were wonderful supporters of the chemistry program. Hazel worked hard to build Chemistry's stature on campus and to create an environment where both the teaching and research missions

of the department could thrive. Lin handled duties in our Chemistry Center, and Marsha was a longtime secretary who helped the department in many capacities. Peter served as the departmental glass blower for many years and provided his services to scientists both on and off campus. Marsha retired in the summer of 2010 and Peter started his retirement in June 2011. Hazel took the position of Assistant Dean of Finance and Operations in the College of Nursing, and Lin also joined the College of Nursing staff. Under the principle that change creates opportunity, the department was fortunate to hire Brenna Goode as our new departmental administrator. Other additions to the departmental staff include Jessica Alberhasky, who runs the Chemistry Center, and Benjamin Revis, who is replacing Peter Hatch. In this issue, you'll find more information about Brenna, Jessica, and Benjamin, along with tributes to Peter Hatch and Marsha Koehler.

Besides changes to the staff, the department is pleased to announce the hiring of two new faculty members: Professors Renée Cole and Mishtu Dey. Professor Cole joins us from the University of Central Missouri. Her appointment at the UI is at the rank of Associate Professor and her research is in the general area of chemical education. Specifically, she is interested in understanding how students learn chemistry and exploring ways to improve the

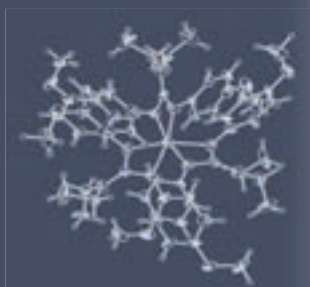
delivery of chemical principles to enhance student learning. Professor Dey joins the faculty as an Assistant Professor with research interests in the area of bioinorganic chemistry. She received her doctorate degree from the Indian Institute of Technology in Bombay and completed productive post-docs at the University of Nebraska, the University of Michigan, and most recently, MIT. Dr. Dey's research focuses on understanding the chemical mechanisms of metalloenzymes with an emphasis on enzymes involved in aerobic metabolism. The addition of these new faculty members is counterbalanced by the retirement of Professor Darrell Eyman, who was hired in 1963 and served the students in our department for 47 years. Darrell's contributions are summarized in a special tribute on page 5.

I'd also like to mention the first annual Chemistry Appreciation Night, which was held on May 12th. This event provided us with several opportunities to recognize our award-winning faculty, staff, students, and alumni; to visit with emeritus faculty and friends; and to express our appreciation to those retiring from the department. It was also a great opportunity to meet the parents of some of our undergraduate students. I personally appreciated Emeritus Professor Jack Doyle's willingness to say a few words in recognition of Darrell Eyman's retirement.

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New Faculty Step on Board

Our successful new faculty searches in 2009-10 resulted in the hiring of three new Assistant Professors for fall 2010.

Dr. Tori Forbes received her B.S. in Chemistry with a minor in Environmental Science from Beloit College in Beloit, WI. After college, Dr. Forbes worked as a research assistant at the Woods Hole Oceanographic Institute before beginning graduate studies at the University of Notre Dame. She received her Ph.D. in Environmental Mineralogy with Dr. Peter Burns in the Department of Civil Engineering and Geological Sciences in 2008. Subsequently, Dr. Forbes held postdoctoral positions in the Chemistry Department at the University of Notre Dame with Dr. Slavi Sevov and in the Peter A. Rock Thermochemistry Laboratory at the University of California at Davis with Dr. Alexandra Navrotsky. Her research group at the University of Iowa focuses on synthesis and structural characterization of geochemical model compounds, which are used to gain a molecular-level understanding of the transport of nuclear waste and heavy metals in environmental systems.

Dr. Elizabeth (Betsy) Stone earned her B.A. from Grinnell College in 2005 with majors in Chemistry and French (both with honors). Dr. Stone completed her doctoral degree in 2009 at the University of Wisconsin-Madison in Environmental

Chemistry & Technology, where she earned an NSF East Asia and Pacific graduate fellowship. Her Ph.D. thesis was titled *Source Apportionment of Carbonaceous Aerosol in Different Regions of the World*. She then took a position as Senior Scientist at the Carlsbad Environmental Monitoring and Research Center, a division of the Institute for Energy and the Environment at New Mexico State University, where she managed environmental and organic chemistry departments, and conducted research on the environment surrounding a nuclear waste repository. Dr. Stone joined the Department of Chemistry in August of 2010, teaching courses in analytical chemistry and conducts research in atmospheric chemistry. She is a member of the UI Center for Global and Regional Environmental Research (CGREER) and the Environmental Health Sciences Research Center (EHSRC). Dr. Stone's research interests are in the chemical composition, sources, and transformation of atmospheric aerosols. She has developed novel methods for aerosol characterization and uses molecular and elemental tracers to assess pollution sources.

Dr. Sara Mason is originally from Rochester, NY, where she completed her undergraduate education (A.A.S. in Chemical Technology, Monroe Community College 1999, B.S. in Chemistry with

a minor in Mathematics, summa cum laude, St. John Fisher College 2001). Dr. Mason carried out her graduate studies at the University of Pennsylvania working in the research group of Professor Andrew M. Rappe, earning a Ph.D. in Chemistry in 2007. She was awarded a National Research Council Postdoctoral Fellowship to work from 2007-2010 in the Physics Laboratory at the National Institute of Standards and Technology under the advisement of Dr. Anne M. Chaka. Since the summer of 2010, Dr. Mason has been teaching courses in physical and environmental chemistry. She is developing a research program that uses first-principles modeling to study environmental catalysis.

The Department of Chemistry welcomes Tori, Betsy, and Sara to our academic family and strongly supports their efforts to establish dynamic programs of teaching and research.



From Left: Tori Forbes, Betsy Stone, Sara Mason

Faculty Honors and Accomplishments

Promotion and Dean's Scholar

Christopher Cheatum was promoted to the rank of Associate Professor with tenure effective July 1, 2011. Professor Cheatum earned a doctoral degree from the University of Wisconsin in 2001, and joined the University of Iowa faculty in 2003 after spending two years as a postdoc at MIT. His research program centers on the development and application of two-dimensional infrared (2D-IR) spectroscopy for the study of chemical dynamics. He uses this 2D-IR technique to explore how protein dynamics contribute to biocatalytic mechanisms. This method provides insight into the time scales and dynamics involved with the transition-states related to proton transfer reactions at the active sites of enzyme-substrate complexes.

During the tenure review process, Professor Cheatum's record was judged by the College Review Committee to be particularly strong. As a result, he was awarded a 2011-2013 College of Liberal Arts and Sciences *Dean's Scholar Award*. This award is based on excellence in teaching, research, and service. Professor Cheatum teaches both undergraduate and graduate courses and consistently receives outstanding reviews from his students. His research is supported by a 2007 National Science Foundation CAREER award, as well as grants from the National Institutes of Health, the American Chemical Society, and the Roy J. Carver Charitable Trust. His service to the department, college, and profession is likewise outstanding and includes advising undergraduate chemistry majors and representing the department and the college in Faculty Assembly.



Outstanding Mentor Award

James Gloer, Roy J. Carver / Ralph L. Shrinier Professor of Chemistry, was awarded the 2010 Outstanding Faculty Mentor Award in mathematical/physical sciences/engineering by the Graduate College. Professor Gloer was nominated by his current and former students as well as faculty colleagues. Professor Gloer, a University of Iowa faculty member since 1984, is never "too busy" for his students. However, he doesn't believe in managing every aspect of their academic lives. "My philosophy is to be there whenever they need help, as opposed to looking over their shoulders."



F. Wendell Miller Professorship

David Wiemer has been named an F. Wendell Miller Professor, effective January 1, 2011. This five-year, renewable appointment carries annual discretionary funds which may be used for any scholarly activities. Miller Professorships have been designated in several UI departments, and are named for F. Wendell Miller, an attorney and farm manager from Rockwell City, Iowa, who died in 1995. The Miller Endowment Trust was established from his estate, with income from the trust divided equally between the UI and ISU to encourage the advancement of academic endeavors. Professor Wiemer is a world leader in the fields of synthetic and bioorganic chemistry. His research focuses on the synthesis and evaluation of medicinally-active natural products and

designed inhibitors of the enzymes involved in isoprenoid biosynthesis. Major sponsors of his research have included the National Institutes of Health, the National Science Foundation, the Roy J. Carver Charitable Trust, the Children's Tumor Foundation, the Leukemia Society of America, and the Cystic Fibrosis Foundation. Professor Wiemer received his Ph.D. in Chemistry from the University of Illinois in 1976 and joined the UI faculty in 1978. He served for a time as interim associate dean of the Graduate College, and most recently, as chair of the Department of Chemistry from 2002-2010. He also holds a secondary appointment in the Department of Pharmacology in the UI College of Medicine.



Celebration (in 2011) of the F. Wendell Miller Professorships bestowed upon Professors Grassian and Wiemer. From left to right: Mark Arnold (Chemistry Chair), Vicki Grassian (F. Wendell Miller Professor), Linda Maxson (Dean of the College of Liberal Arts and Sciences), and David Wiemer (F. Wendell Miller Professor). Professor Grassian's Professorship was awarded in 2010 and described in last fall's newsletter.

Emerging Investigators

Chemistry Communications recently announced a special issue dedicated to Emerging Investigators. This journal is published by the Royal Society of Chemistry (RSC) and has an extensive international readership. The Department of Chemistry at the University of Iowa holds the distinction of being the only department with more than one member of the faculty on this list – Professors Amanda Haes and Len MacGillivray. The inclusion of two UI chemistry faculty on this list demonstrates the excitement and vigor of our graduate program. Congratulations to both for this great honor and recognition.

Amanda Haes is currently an Assistant Professor in the Department of Chemistry at the University of Iowa. She completed her Ph.D. in Chemistry at Northwestern University with Richard P. Van Duyne. Before beginning her independent career, she was a National Research Council Research Associate with Greg E. Collins at the U.S. Naval Research Laboratory. Research activities in the Haes group include designing and purifying novel nanomaterials for stable spectroscopic studies, improving detection limits of biological and environmental pathogens, and investigating how surface chemistry impacts nanomaterial function in separations

and spectroscopy.

Len MacGillivray was born in Sydney, Nova Scotia, Canada. He is currently a Professor of Chemistry at the University of Iowa. His research focuses on processes of molecular self-assembly, particularly its application to organic synthesis in the solid state. His eureka moments in chemistry arrived swiftly while performing research in the field of supramolecular chemistry as an undergraduate in the laboratory of Mike Zaworotko, Saint Mary's University, Halifax, Nova Scotia. The lure was then translated into a Ph.D. with Jerry Atwood, University of Missouri-Columbia, in 1998. Dr. MacGillivray was elected a Fellow of the RSC in 2006 and in 2007 received a Cope Scholar Award from the American Chemical Society.



Amanda Haes



Len MacGillivray

Faculty Photograph in Newly Renovated North Courtyard



(Back row from left) Lou Messerle, Greg Friestad, Claudio Margulis, Ned Bowden, Alexei Tivanski, Gary Small, Mark Young, Jim Gloer, Dave Wiemer. (Middle row from left) Chris Pigge, Tori Forbes, Sara Mason, Len MacGillivray, Jan-Uwe Rohde, Mark Arnold, Norb Pienta, Darrell Eyman. (Front row from left) Betsy Stone, Dan Quinn, Johna Leddy, Sarah Larsen, Vicki Grassian, Hien Nguyen, Chris Cheatum, Ed Gillan, Lei Geng (not pictured: Amanda Haes, Amnon Kohen)

Additional 2010-11 Faculty Awards

Chemistry faculty received recognition in many other ways during the past year. Faculty honors and awards recognize outstanding achievements in research and teaching. The following lists highlight some of the recent awards and honors received from national sources as well as from the University of Iowa.

National honors and awards

Professor Jan-Uwe Rohde received a National Science Foundation CAREER Award for a research project entitled "New Late-transition Metal Platforms for the Activation of Inert Molecules".

Professor Dave Wiemer received a Drug Discovery Initiative (DDI) award from the Children's Tumor Foundation (CTF). The title of his proposal was, "Synthesis of a Novel Lead Compound for Studies in a Mouse Model of NF1-associated Malignancies".

Professor Jim Gloer was named a Fellow of the American Society of Pharmacognosy.

Professor Vicki Grassian was elected a Fellow of both the Royal Society of Chemistry and The American Vacuum Society (a society for the science and technology of materials, interfaces, and processing). Professor Grassian was also recognized by the Michigan Industrial Hygiene Society with their Best Paper Award for her publication titled "Airborne Monitoring to Distinguish Engineered Nanomaterials from Incidental Particles for Environmental Health and Safety".

Professor Mark Arnold was elected a 2010 Fellow of the Society for Applied Spectroscopy for his outstanding contributions to the field.

Professor Amanda Haes was honored by receiving an invitation to participate as an invited speaker at the Gordon Research Conference on, "Noble Metal Nanoparticles".

Professors Chris Cheatum and Amnon Kohen received a new grant from the US Department of Health and Human Services, National Institutes of Health.

Professors Ed Gillan, Jim Gloer, Jan-Uwe Rohde, Vicki Grassian, Len MacGillivray, Claudio Margulis, and Hien Nguyen were all awarded separate new grants from the US National Science Foundation.

Recognition from the University of Iowa

The Office of the Vice President for Research awards pilot grants to explore innovative research ideas by providing seed funding to collect preliminary data to support subsequent major grant applications. This year, three Chemistry faculty were awarded pilot grants under the Math & Physical Sciences Funding Program (MPSFP). Awardees include:

1) **Professor Tori Forbes** for her project entitled, "A novel approach to the structural characterization of amorphous metal hydroxides responsible for the transport of environmental contaminants";

2) **Professor Greg Friestad** was awarded a pilot grant to explore the, "Asymmetric Synthesis of Oxygen-Rich Compounds and Platelet Aggregation Inhibitors"; and

3) **Professor Johna Leddy** received funding to collect preliminary data for her project entitled, "Carbon Sequestration by Photomagneto-electrocatalysis".

Three Chemistry faculty received one-year feasibility grants from the University of Iowa Institute for Clinical and Translational Science (ICTS). These pilot grants were awarded in June 2011. Awardees are:

1) **Professor Amanda Haes** for a proposal entitled, "Translational Nanomedicine Sensors for Quantitative Vitamin D and Metabolite Detection".

2) **Professor Amnon Kohen** with his proposal, "Development of Estrogen-homocysteine Adducts as Novel Urinary Biomarkers of Increased Susceptibility to Risk of Cancer or Cardiovascular Disease in a Population Highly Exposed to Estrogens"; and

3) **Professor Len MacGillivray** with the proposal, "Nano-Cocrystal Contrast Agents".

Professor Vicki Grassian was named an Administrative Fellow in the College of Liberal Arts and Sciences.

Professor Chris Pigge received a secondary appointment in the Department of Radiology.



From left: Andrew J. Wiemer, Jeffrey D. Neighbors, David F. Wiemer and Raymond J. Hohl

ASL Analytical, Inc. is a startup company located in the BioVentures Center housed in the University of Iowa Research Park. This company was founded by UI chemistry **Professors Mark Arnold and Gary Small** in collaboration with **Drs. Kenneth Legg and Jonathon Olesberg**. ASL focuses on the development of novel chemical sensing technology based on near-infrared spectroscopy implemented with innovative, in-house optoelectronic devices. Generally, near infrared electromagnetic radiation is passed through a sample of interest and the concentration of a targeted analyte is determined from an analysis of the resulting spectrum. The accompanying photograph shows **Dr. Elizabeth Gibson** (2007 Iowa Ph.D.) working with ASL's initial product designed to monitor and control the concentrations of glycerol and methanol to optimize the expression of human-like therapeutic proteins from *Pichia pastoris*.



Dr. Elizabeth (Lizzie) Gibson

Economic Development

Terpenoid Therapeutics, Inc., a spinout company based in the BioVentures Center in the University of Iowa Research Park, secured nearly \$2.5 million in private investments and grants from the NIH during FY 2010 to advance new cancer drug candidates toward commercialization. Private financing from a group of Iowa investors led by Iowa First Capital Fund II, L.P. of Cedar Rapids totaled \$1.5 million, and NIH SBIR and STTR grants totaled \$946,000. The Terpenoid team includes UI **Professors David Wiemer** (Chemistry) and **Raymond Hohl** (Internal Medicine), as well as **Jeffrey Neighbors** (Ph. D., UI Department of Chemistry in 2004) and **Andrew Wiemer** (Ph. D. in Molecular Biology from UI in 2008).



Darrell Eyman Retires

Professor Darrell P. Eyman retired in 2011 after 47 years in the department. Darrell started as an Assistant Professor in 1964 after completing his B.S. degree in Chemistry at Eureka College and his Ph.D. at the University of Illinois. Over the years, Darrell worked with 27 Ph.D. students, 15 M.S. students, many undergraduate research students, and 21 postdoctoral associates. His research involved the investigation and design of innovative catalytic and reactivity properties of novel inorganic materials. Much of his work in later years focused on developing chemical methods for the efficient production of hydrogen from gasoline and water to supply feedstock for fuel cell-powered automobiles. His research endeavors attracted over \$6 million in external funding and led to the establishment of a spinoff company, ACCEL Catalysis. Darrell is an inventor on three U.S. patents.

Darrell also served as the chair of the department for a nine-year period from 1991-2000. In this regard, he is a member of an exclusive club. Since the founding of the Chemistry Department in 1902, only 13 members of the faculty have served

as chair. During Darrell's chairmanship, he was able to transform the department by assembling a group of highly qualified and professional staff, attracting high caliber faculty, and fostering a reputation with the central administration that eventually led to the major building renovations we enjoy today.

Darrell has a strong history of effectiveness as a teacher in all settings ranging from large enrollment general chemistry courses to upper-level graduate courses. He was particularly noted for his expertise in handling large enrollment courses, where he was highly effective in relaying difficult chemical principles to first-year students. His teaching style was always well received and his willingness to help students during office hours was most appreciated. Many times his office would be overflowing with students and he would need to move into a small lecture room to accommodate the group.

The department wishes Darrell and his wife, Joy, many happy and healthy years of retirement so they can enjoy time with their family and friends.

Alumni Return for Visit

Dr. Mitchell D. Erickson (Ph.D. 1976) and **David James** (Ph.D. 1975) returned to campus on October 29, 2010, stopping by to visit and have lunch with **Professor Darrell Eyman**, and **Emeritus Professors Harold Goff, Don Burton, Don Pietrzyk, and Jack Doyle**.



Continued from front page...

The View from the Front Office Continued

An unfortunate, but temporary change in this issue is the absence of the Honor Roll List of Contributors. In the past, this honor roll listed the names of all donors to the Department of Chemistry foundation accounts. The UI Foundation is making some adjustments to its database system, so a complete, accurate listing for this year is not currently available. The department receives many donations from a multitude of individuals and each contribution is very much appreciated. These donations are used to support scholarships and awards for both undergraduate and graduate students, to provide travel grants to assist students'

presentations at national meetings, to support external speakers, to help purchase equipment and instrumentation for departmental education and research, and to upgrade building infrastructure. Please know that your donations make a huge difference in the quality of education and research experience for our students.

Lastly, the department is always looking for ways to enhance communication with our students, friends, and alumni. This newsletter is one way we do this, and I want to thank everyone who worked on the stories for this issue. I also want to congratulate Jessica Alberhasky for the wonderful new

layout. The department is experimenting with the use of Facebook to reach our audience, so please feel free to visit the departmental Facebook page and "like" us when you're online. Also, the next time you're in the building, you might notice the new digital signage we have added along the second and third floor corridors to inform and educate those walking through our busy hallways during the semester. Finally, the department looks forward to unveiling a newly designed website soon and we encourage everyone to visit and give us your feedback.

Graduate Student Achievements



Veronica Wills standing next to the new "Ridge and Furrow" sculpture on the T. Anne Cleary Walkway.

The continued success of our graduate program was again recognized in 2010-11 by significant funding from the University of Iowa Graduate College Strategic Investment Fund (SIF) Program. This is an important opportunity for the Department to provide tangible rewards to a significant number of our advanced graduate students in recognition of their hard work and successes. Recipients of SIF fellowships this year were: **Joseph Cannistra** (Gloer and Pienta groups), **Ashish Datt** (Larsen group), **Amninder Kaur** (Gloer group), **Alexander Lodge** (Quinn group), **Lokesh Pawar** (Pigge group), **Nisarga Phatak** (Gloer group), **Kristina Rogers** (Gloer group), **Jacqueline Smits** (Wiemer group), **Deandrea Watkins** (Arnold group), **Jun Yoo** (Bowden group), and **Zhen Wang** (Kohen group).

Veronica Wills (Wiemer group) received a prestigious Iowa Alliances for Graduate Education and the Professoriate (AGEP) Fellowship and a Dean's Graduate Fellowship Award sponsored by the Graduate College.

A. Lynn Anderson Awards



Enoch Mensah and Eric Koehn

In honor of A. Lynn Anderson (1940-2008), Ph.D. in Chemistry in 1970, the Lynn Anderson Research Excellence Awards went to **Enoch Mensah** (Nguyen group) and **Eric Koehn** (Kohen group). These recently initiated annual awards will be given to recognize the research of some of our most productive graduate students in the Department of Chemistry.

University Outstanding Teaching Assistant Awards



Antonio Manuel, Jacob Frueh, Adam Brummett

Outstanding Teaching Assistant Awards are conferred annually by the University of Iowa Council on Teaching to honor and recognize teaching assistants from across the entire University who have demonstrated outstanding ability as teachers at the University of Iowa. Recipients from our Department for 2010-11 include **Antonio Manuel** (Rohde group), **Jacob Frueh** (Quinn group), and **Adam Brummett** (Bowden group).

Departmental Outstanding Teaching Assistant Awards



Alyssa Mick, Pradeep Kapadia, Sarah Whiteman, Tara Ladlie (Not pictured: Gail Guo)

The Department also strives to recognize quality among our TAs with its own teaching awards. In Spring 2011, Departmental Outstanding Teaching Assistant Awards went to **Gail Guo** (Cheatum and Kohen groups), **Alyssa Mick** (Wiemer group), **Pradeep Kapadia** (Pigge group), **Sarah Whiteman** (Gloer group), and **Tara Ladlie** (Wiemer group).

Shriner Tuition Scholarships Awarded to Two First-Year Students



Rebekah Shippy

Shriner Tuition Scholarships are awarded to first-year graduate students in chemistry with preference given to U.S. citizens from the Midwest. Two students were recipients of Shriner Tuition Scholarships for the Fall 2010 semester. **Rebekah Shippy** and **Cicily Ronhovde** were selected by the Graduate Admissions Committee to receive the scholarship based on their strong undergraduate academic records, academic honors or awards, and involvement in extracurricular activities. Rebekah Shippy

is from St. Louis, MO and received her B.A. in Chemistry and Biology from Central College in Pella, IA. Cicily Ronhovde is from Elmwood, NE and earned her B.S. in Chemistry at Cornell College in Mount Vernon, IA. The Shriner Fellowship fund was established in 2000 by **Dr. Fred Raths** and the late **Mrs. Bonnie Raths** in honor of **Dr. Ralph Shriner**, a former Chairperson and a long-time professor in our department.



Cicily Ronhovde

Graduate Degrees Awarded in 2010 -11

A total of 16 Ph.D. degrees in Chemistry were awarded in the Summer 2010, Fall 2010, and Spring 2011 semesters. The names (degree year, advisor's name) of the recipients and their dissertation titles are:

Chuannan Bai (2010, Arnold); *Noninvasive Near Infrared Spectroscopy on Living Tissue with Multivariate Calibration Approaches*;

Rocky Barney (2010, Wiemer); *Synthesis and Biological Evaluation of Novel Phosphonates*;

Dejan-Kresimir Bucar (2010, MacGillivray); *Crystal Engineering of Organic and Metal-Organic Solids: Design, Structure and Properties*;

Samrat Dutta (2010, Cheatum); *Developing New Probes of Functionally Relevant Dynamics in NAD-Dependent Enzymes*;

Michael Ivanov (2011, Haes); *Covalently Functionalized Gold Nanoparticles: Synthesis, Characterization, and Integration into Capillary Electrophoresis*;

Pragati Galhotra (2010, Grassian); *Carbon Dioxide Adsorption on Nanomaterials*;

John Kodet (2010, Wiemer); *Studies on Heteroaromatic Schweinfurthin Analogues*;

Heung Chan Lee (2011, Leddy); *Magnetic Field Effects on Electron Transfer Reactions: Heterogeneous Photoelectrochemical Hydrogen Evolution and Homogeneous Self Exchange Reaction*;

Adil Mohammad (2010, Messerle); *Achiral and Chiral, C₂-Symmetric Bicyclic Guanidines Based on 1,5,7-Triazaibicyclo[4.4.0]dec-5-ene as Ligands in High- and Mid-Valent Early Transition Metal Chemistry*;

Michael Nydegger (2010, Cheatum); *Developing New Probes for 2D IR Spectroscopy*;

Mathew Perring (2010, Bowden); *Functionalization and Patterning of*

Monolayers on Silicon(111) and Polydicyclopentadiene;

Anton Petushkov (2011, Larsen); *Synthesis and Characterization of Nanocrystalline and Mesoporous Zeolites*;

David Rotsch (2011, Messerle); *Hydroxyl-Bridged Lanthanide Amino Acid Clusters and Hexatantalum and Hexatungsten Chloride Clusters: Synthesis, Characterization, and Relevance to Biomedical Imaging*;

Natalie Ulrich (2010, Wiemer); *Cascade Cyclizations in Total Synthesis: Applications to the Synthesis of Cytotoxic Natural Products*;

Jun Yoo (2011, Bowden); *Synthesis of New Biodegradable Polysulfenamides for Applications in Medicine*;

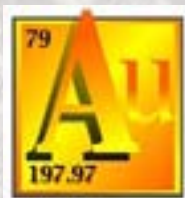
Atsushi Yahashiri (2010, Kohen); *Comparative Investigations of H-Transfer in Dihydrofolate Reductases from Different Families*;

Nine M.S. degrees in Chemistry were awarded in the Summer 2010, Fall 2010, and Spring 2011 semesters. The names (degree year, advisor's name) of the recipients are:

Luke Slominski (2010, Friestad); **Jason Vanlerberghe** (2010, Young); **Jeremiah Hubbard** (2011, Messerle); **Dominic Hull** (2011, Cheatum);

Hyunok Jo (2011, Margulis); **Jameson Keck** (2011, Cheatum); **Melissa Torres** (2011, Larsen); **Derek Thomas** (2011, Arnold); and **Eric Whetmore** (2011, Forbes)

The Department is proud of this new group of talented Chemistry practitioners, and we wish them the best in their future scientific endeavors!



Numbers for Fall 2011

29- Tenure/Tenure-track Faculty
2- Visiting Assistant Professor
3 - Lecturers
140 - Graduate Students
180- Undergraduate Majors

Postdoctoral Associates and Visiting Scientists

Fall 2010-11 Postdoctoral Associates and Visiting Scientists



Visiting scientific professionals and postdoctoral associates are key components in maintaining and growing premier research programs. The list of such scholars working in our department in 2010-11 includes (research director, Ph.D. institution and degree year are listed in parentheses): **Andrew Ault** (Grassian, University of California, San Diego, 2010); **Dell Jensen** (Bowden, Visiting Scholar from Augustana College); **Kevin Francis** (Kohen, Georgia State University, 2011); **Jeong Ah Lee** (Rohde, visiting graduate student from Seoul National University of Science & Technology, Republic of Korea); **Yun-Liang Li** (Cheatum, University of Hong Kong, 2004); **Young Hwa Kang** (Gloer, Visiting Associate Professor from Kyungpook National University, Republic of Korea); **Hemant Kumar Kashyap** (Margulis, University of Allahabad, India, 2004); **Han-kyu Namkung** (Arnold, visiting graduate student from Hanyang University in South Korea); **Nicholas M. Ndiege** (Larsen, University of Illinois at Urbana-Champaign, 2008); **David Rotsch** (Messerle, University of Iowa, 2011); **Muhammad Saeed** (Kohen, Eberhard-Karls Universität, Tübingen, Germany, 2001); **Larissa Stebounova** (Grassian, University of Pittsburgh, 2005); **Hui Tang** (Pienta, University of Oklahoma, 2009); **Natalie Ulrich** (Pienta, University of Iowa, 2010); **Lois Zook Gerdau** (Leddy, Visiting Scholar on Sabbatical from Muskingum University, New Concord, OH); and **Fei Yu** (Nguyen, Shanghai Institute of Organic Chemistry in Shanghai, P.R. China, 2007).

From left: Yun-Liang Li, David Rotsch, Nicholas Ndiege, Muhammad Saeed, Kevin Francis, Hemant Kashyap, Larissa Stebounova, Young Hwa Kang, Hui (Tom) Tang, and Jeong Ah Lee. Not pictured: Andrew Ault, Dell Jensen, Han-kyu Namkung, Natalie Ulrich, Lois Zook Gerdau, and Fei Yu

Undergraduate Highlights

First Annual Undergraduate Chemistry Majors Open House

On September 29, 2010, the Department held its first annual Open House for chemistry majors on the newly remodeled second floor of the Chemistry Building. This event offered an opportunity for students majoring in chemistry and those interested in majoring in chemistry to see the resources available to them at the University of Iowa. They toured the new classrooms, computer laboratories, study areas, and the Chemistry Center, and interacted with faculty, staff, and chemistry graduate students. Undergraduate research award recipients presented their work through posters, generating discussions and highlighting research

opportunities for undergraduates. Graduate students made ice cream in a uniquely scientific way and lots of pizza was served. Representatives of the American Chemical Society Student Group, the Alpha Chi Sigma (AXE) fraternity, and the National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCCChE) were available to explain the benefits of belonging to their groups. The Department plans to make this a recurring event each fall to greet a new class of chemists and promote a nurturing culture that will support their scientific inquiries and education.



Undergraduate ACS

The Department has an active student chapter of the American Chemical Society (ACS). Officers of this newly reformed group include **Amanda Jones** as president, **Katie Christ** as vice-president, **Troy Strom** as Treasurer, and **Rachel Whitman** as Secretary. Advisors are **Professor Sarah Larsen** and **Earlene Erbe**. Activities this year mainly centered on efforts to get the chapter started. The University of Iowa student chapter of the ACS is recognized as a UI student group and more information is available on their website (<http://www.chem.uiowa.edu/acsa/index.htm>).



Undergraduate ACS President
Amanda Jones



National Rhodes Scholar

Renugan Raidoo, a University of Iowa senior, was one of only 32 students nationwide to be awarded a prestigious Rhodes Scholarship. Raidoo, of Sioux Falls, S.D., is majoring in both chemistry and anthropology at the UI. During his studies in the Chemistry Department, he collaborated on research with Professor **Sarah Larsen**, studying nanocrystalline zeolites, which are small particles that are being developed for use in medical imaging. Renugan will enter Oxford University in England in October for two or three years of all-expense-paid study. The last time a UI student received this distinction was in 1993. Congratulations, Renugan!

2011 Undergraduate Awards

Our Chemistry undergraduates showcased their scientific discoveries at our annual Undergraduate Award Reception and Poster Session. This year's event was held on Friday, April 8, 2011. The criteria used in selecting awardees included students' academic achievements, promise shown in research, and letters of nomination from faculty members. Several special guests, Department of Chemistry Alumni **Robert (Bob) Harris** and **Ann Viksnins** of **Viksnins, Harris & Padys, PLLP**, along with **Don and Margaret Burton** and **Andy and Sheila Burton**, were on hand to present their special awards. As usual, the session was filled with the traditional round of enjoyable scientific conversations and interactions.



(Back row from left) Professor Donald J. Burton, Andy Burton, Daniel Grigsby, Joey Squires, Daniel Gillette, Suhyoung Yoon, Greg Cizio, Emily Batkie, Calvin Luzum, Mark Arnold (Front row from left) Renugan Raidoo, Rachel Whitman, Angela Marquard, Tony Nguyen, Jenny Hedlund, Joseph Sumhlei, and Ann Viksnins. (not pictured: Xiaoye Ma)

Donald J. Burton & Margaret A. Burton Scholarship
Angela Marquard

Chemistry Alumni Award

Senior Recipient: Renugan Raidoo
Junior Recipient: Joseph V. Sumhlei
Sophomore Recipient: Daniel J. Gillette

Viksnins, Harris & Padys, PLLP Award
Greg Cizio

CRC Freshman Chemistry Award
Daniel Grigsby

Merck Index Award
Emily L. Batkie

American Institute of Chemists Award
Calvin T. Luzum

Analytical Chemistry Award
Xiaoye Ma

Russell K. Simms Scholarships
Joey S. Squires
Rachel A. Whitman
Jenny K. Hedlund
Tony T. Nguyen

Ken Sando Undergraduate Scholarship
Suhyoung Yoon



Shoemaker-Strickler Scholar

One outstanding high school senior who will major in chemistry at the University of Iowa was chosen to receive the prestigious Shoemaker-Strickler Memorial Scholarship. This scholarship was established by **Harold Whitmore Strickler** in memory of his wife, **Vernita Martha Ann Shoemaker Strickler**. The Shoemaker-Strickler Scholar who began his studies in the Department of Chemistry in the fall of 2010 is **Daniel Grigsby**, a graduate of Hinton High School in Hinton, Iowa. We welcome Daniel and wish him good luck in his studies.



Staff News

New Staff Members



Peter Hatch Retires

Peter Hatch joined our department on January 31, 1977 and has run our glass blowing facilities ever since. He has established a reputation of being excellent at his craft, creative in his design, and accommodating to the needs of the faculty and students.

Throughout his career, Peter's work has made a substantial impact on teaching and research within the Department of Chemistry and the State of Iowa. He has designed, repaired, and constructed glassware for various companies and organizations including the Veterans Administration Hospital, Cargill, the Iowa City and Bettendorf water departments, and John Deere, among others. Peter also conducted demonstrations of his art for incoming students, many of whom left his glass shop with small glass pigs that he made in their presence.

We have been very fortunate to have such a skilled professional in this position. More importantly, we have been blessed to have a man of his integrity and experience working with our students and research groups.



In October 2010, the department announced the hiring of **Ms. Brenna Goode** as its new Departmental Administrator. Brenna earned her B.S. degree in civil engineering from Northwestern University before earning a Master's of Engineering Management from Old Dominion University and a Masters of Business Administration from the University of Phoenix. She served as a Lieutenant in the United States Navy and subsequently worked as a civilian for the Department of the Navy. Originally from Iowa, she is happy to be back and delighted to be a part of Chemistry.



Benjamin (Benj) Revis accepted the position as Glassblower in the Department of Chemistry starting June 1st. Benj graduated with a B.S. in Electrical Engineering Technology from Purdue University, followed by a two year apprenticeship in Scientific Glassblowing. Prior to joining us, he worked as an Electronics Technician at the nuclear reactor at Purdue. Welcome to Chemistry and Iowa City!

Jessica Alberhasky joined the Department of Chemistry as a Project Assistant last November to provide administrative support to undergraduates in the Chemistry Center. Jessica not only was a 2009 graduate from the University of Iowa, but during her time as an undergraduate, she was a work-study student in Chemistry Stores. She is excited to be back in the department!



Christopher Lawrence originally joined the department in 2010 as a temporary employee to assist our IT Department. In March, he was hired as a permanent IT Support Specialist. Chris received his B.A. from the University of Iowa in 2010. We are happy to have Chris onboard.

Dr. Dale Swenson was honored by the University in September 2010 with a Longevity Award for his 20 years of service to the Department of Chemistry.

After 49 years of service, **Marsha Koehler** retired June 29, 2010. Congratulations for the amazing career in Chemistry!

Staff Photograph



(Back row from left) David Sansbury, Dale Swenson, Tim Koon, Santhana Velupillai, Christopher Lawrence, Janet Kugley, Andrew Lynch, Sharon Robertson, John Hawkins, Frank Turner, Mike Estenson, Mark Arnold. (Front row from left) Jeffrey Miller, Lindsay Elliott, Shonda Monette, Earlene Erbe, Brenna Goode, Bettie Baumert. (not pictured: Jessica Alberhasky, Gene Hauge, Peter Hatch, Brian Morrison, Benjamin Revis)

Department Highlights

Department Hosts Chemical Education Forum



In November 2010, the department hosted a "Frontiers in Chemical Education" symposium and forum featuring five scholars with research interests in chemical education. Faculty in this area conduct research about teaching and learning, particularly at the college level. These studies range from basic research involving application of learning theories to chemistry, to the development and use of different forms of assessment to gauge student learning, to applications of pedagogical best practices to courses and curricula.

The event included presentations by five distinguished visitors and a panel discussion among them. The first speaker was **Stacey Lowery Bretz**, a Professor at Miami University (Oxford, OH) who

spoke about the development and use of survey instruments like CHEMX, which measures aspects of knowledge about student learning known as cognitive expectations. Bretz, who was trained in chemical education in an interdisciplinary program at Cornell University, and as a postdoc at UC Berkeley, also described her own career. The second speaker was **Melanie Cooper**, Alumni Distinguished Professor at Clemson University, who described her efforts in examining student understanding of representations of organic molecules. Cooper and her coworkers, including scholars in computer science, developed OrganicPad, structure- and mechanism-drawing tool for a tablet-PC that her team utilizes to explore gaps in student understanding. The third speaker was **Christopher Bauer**, Professor at the University of New Hampshire and visiting fellow at the ACS Examinations Institute at Iowa State for 2010-11. Professor Bauer presented information on assessment and building of student attitudes, metacognition, and motivation. His group has developed a tool to measure attitudes toward chemistry, and is involved in a national effort to increase student inquiry activities in lecture and laboratory in a program called POGIL. The

fourth speaker was **Donald Wink**, Professor at the University of Illinois, Chicago. Wink described his team's efforts to develop curricula and interventions for teachers and students in the Chicago Public Schools. The last speaker was **Thomas Holme**, Professor at Iowa State University and Director of the ACS Examination Institute, who spoke about the use of standardized exams and analysis of exam data to help understand student learning. The panel discussion focused on roles of chemical education for faculty members, issues related to graduate study and degree requirements, and other questions related to chemical education research.

The forum was organized by **Norb Pienta**, who studies student problem-solving, representations of organic molecules and reactions, and the use of multimedia teaching tools. Professor Pienta has been a faculty member in the department since 1999. This Frontiers program preceded a faculty search in the department that resulted in the addition of a new colleague in chemical education. **Professor Renée Cole** joins the department in August 2011 from her current position at the University of Central Missouri.

Wawzonek Lecture



This spring's colloquium schedule included a special lecture endowed in honor of **Stanley Wawzonek**, UI Chemistry Professor from 1944-1988. This year's lecture was held on February 7, 2011, and was presented by **Professor Dale Boger**, the Richard and Alice Cramer Professor of Chemistry in the Department of Chemistry at The Scripps Research Institute, with a reception following in the Chemistry Building.

Professor Boger received his B.S. in Chemistry from the University of Kansas (1975) and Ph.D. in Chemistry from Harvard University (1980). He joined the faculty in the Department of Chemistry

at The Scripps Research Institute in 1991. Professor Boger is internationally recognized for his research in organic synthesis, bioorganic chemistry, combinatorial chemistry, and the development of new synthetic methodology. He has made seminal contributions to the understanding of DNA-drug interactions, small molecule stabilization, disruption of protein-protein interactions involved in signal transduction, and the discovery and validation of new biological targets (e.g., FAAH). He has received many awards for his work, and was elected to the American Academy of Arts and Sciences in 2006.



Chemistry Appreciation Night

It was a great evening! On May 12, faculty, staff, emeritus faculty, students, friends, and family were welcomed to our First Annual Chemistry Appreciation Night, an event that was designed to recognize the hard work and achievements of the faculty, staff, and students of the Department of Chemistry at the University of Iowa. The event was held in the ballroom of the IMU, and included fabulous food, good company, and delightful entertainment from the presenters and the emcee of the program, Mark Arnold, Chair of the Department.

During the year, numerous awards were won by our students, who were recognized at this event. This event also

enabled us to showcase the many talents and accomplishments of our faculty and staff. Many of these awards are listed in other articles in this newsletter.

Several awards were given to staff members who have contributed to the Department this year. Awardees included **Earlene Erbe**, **Jeffrey Miller**, and **Janet Kugley**. Each of them has gone above and beyond in their support of the Department, and this was a great opportunity to recognize the support the staff provides to the Department. **Shonda Monette** was also recognized for her recent Mary Louise Kelly Staff Excellence Award, and **Dale Swenson** was honored for 20 years of service.

The highlight of the evening was honoring two retirees for their long and distinguished service to the Department. **Peter Hatch**, the department's glassblower, is retiring after 34 years, and **Professor Darrell Eyman** is retiring after 47 years. Several colleagues spoke about each of the retirees, and they were presented with gifts of appreciation for their long service.

The evening was also an opportunity to thank the generous donors that help make the work done in the Department of Chemistry a reality. Without their support, much of what we accomplish would be impossible. We look forward to seeing more of you at the 2012 Chemistry Appreciation Night!



Making a Difference

Your generous contributions support people and scientific research that you read about in this newsletter.

The University of Iowa Foundation is unable to provide us with a detailed listing of individual donors at this time, but the Department of Chemistry is profoundly grateful to all those who have donated to our Department this year. Your continued generosity is vital to our continued success and growth.

For ways to support the University of Iowa Department of Chemistry, please visit our direct web-based giving page:

www.givetouiowa.org/chemistry

Iowa State Fair Exhibit

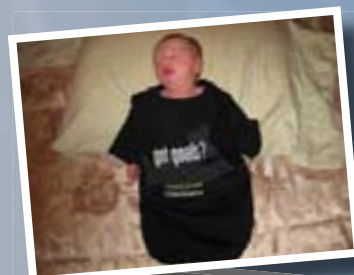
For the last few years, **Professor Ned Bowden** and others have had fun at the Iowa State Fair running chemistry experiments with attendees. The University of Iowa maintains a large booth for the duration of the State Fair and allows departments or groups within the university to use part of the booth each day. Professor Bowden has organized a series of chemistry experiments each year that encourage children and adults to participate and learn something about chemistry. Last year, attendees were encouraged to synthesize “flubber” from glue and borax. Children particularly enjoyed these experiments because they got to use food coloring and were able to see white glue go from a liquid to a rubbery solid. Hundreds of attendees synthesized flubber, including teenagers and adults. In 2011, Professor Bowden will be at the State Fair on August 12th.

got goals?

The most recent sighting of our “got goals?” T-shirt comes from Concordia, Kansas, and is worn by Ezriela Grace Nydegger, born May 25, 2011. She is the daughter of **Michael and Irma Nydegger**. Irma received her Ph.D. in Chemistry in 2009 and Mike received his Ph.D. in Chemistry in 2010. Daddy Nydegger thinks Ezriela will become a chemist. He has already been teaching her about the 1st, 2nd, and 3rd laws of thermodynamics.

Another photo finds our familiar logo in Tiananmen Square in Beijing, China, worn by graduate student, **Xiang (Sean) Zhou**, during a visit home over the summer.

We thank Irma, Michael, and Sean for providing photos. We are always delighted to receive photos of our T-shirts being worn all over the world. Please pack your Chemistry T-shirt when you take your next trip and send us a photo. Photos may be sent electronically to chem-dept@uiowa.edu.



In Memory of Norman Baenziger (by H. Bruce Friedrich, Professor Emeritus)

Norman C. Baenziger (1922-2010), Professor Emeritus of Chemistry, passed away on December 1, 2010 at the age of 88. After graduating from high school in Wells, MN, he attended Hamline University where he majored in chemistry with physics and mathematics minors, graduating summa cum laude in 1943. He then began graduate work at Iowa State University as a research assistant on programs funded by the Manhattan Project. After completion of his Ph.D. work in physical chemistry and chemical physics, he was a fellow in chemical physics at Mellon Institute in 1948-49.

He joined the faculty at the University of Iowa in 1949 as an Assistant Professor of Metallurgy. He was promoted to Associate Professor after one year and to Professor of Chemistry in 1957. He retired in 1992 (when mandatory retirement at age 70 was still in effect). His primary research interests involved the determination of

crystal and molecular structures by x-ray crystallography. He published numerous papers in metallurgy, inorganic and organic chemistry, and solid-state physics, in addition to making major contributions to improvements in crystallographic methodology. His early work involved determining the structures of compounds containing uranium and rare earth metals, and he reported the structures of dozens of intermetallic compounds as well as oxides, carbides, and nitrides of those metals. He then turned to the determination of the structures of organometallic compounds, an area that required much more extensive computations. This led him to become one of the first computer users on campus with an early vacuum-tube-containing model in his laboratory in the late 1950's. His work kept pace with the evolution of computational power from main frame computers to the current self-contained x-ray diffraction facility that he helped to establish. He collaborated with numerous research groups in chemistry and physics, including some from other universities, and this joint work led to publications with many different coauthors, including over a dozen papers completed after his formal retirement.

Throughout his career at Iowa, Norm was involved in all aspects of teaching programs in the department. In his early years at Iowa, he taught courses in metallurgy and upper-level physical chemistry courses ranging from thermodynamics to quantum mechanics. Many former graduate students will never forget their first class in Advanced Physical Chemistry in which he announced: “There will be an examination in this class every Friday. Today is Friday.” He was also an advisor to many undergraduate chemistry majors as well as to student organizations, and he became a leader in establishing the introductory chemistry course curricula. His former students in those courses likely number over ten thousand.

In addition to his busy academic life, he was skilled in areas ranging from carpentry to plumbing to auto repair. He and his wife, Betty, designed and built two houses, largely with their own hands. Although a reluctant performer, he was also a capable pianist. He was preceded in death by his wife, Betty, in 1984, and he is survived by his four children, Mardy, Walter, John, and Gregory, as well as by nine grandchildren and one great-grandchild. His family and former colleagues will miss his tolerance, his intellect, and his gentle sense of humor.



CLAS Alumni Fellow

An alumnus of our Department, **Dr. Fred W. Raths** (MS '52; PhD in Chemistry at UI, '54) received the College of Liberal Arts and Sciences Alumni Fellow award in fall 2010. The Alumni Fellows program recognizes alumni for their outstanding contributions to society, their professions, the College, and the University of Iowa. Dr. Raths began his professional career at Dow Chemical Co. and moved to Buckman Laboratories in 1958. Dr. Raths and his colleagues obtained 16 patents, many of them for the production of organosulfur compounds for use as fungicides and pesticides. He retired from his position as vice-president of operations at Buckman Laboratories in 1991. To honor his graduate advisor and mentor, Raths and his wife, the late Bonnie Raths, endowed the Ralph Shriner Graduate Fellowship Fund in the Department of Chemistry in 2000.

Alumni Updates and Memories

Alumni Notes (degrees and research advisor's name, if known, are in parentheses):

John E. Maurer (Ph.D. 1950, Buckles) writes that after his UI graduation, he went on to a postdoc at Northwestern University from 1950-1952 and then embarked on a long career as a Professor of Chemistry at the University of Wyoming for 35 years (1953-1988). During his career he also served as department Chairman for several years. John is now a professor emeritus and retiree of 22 years and he and his wife of 64 years have 11 grandchildren and 5 great grandchildren. He still enjoys golfing, gardening, and attending seminars and guest lectures at the University of Wyoming.

John Valassiades (B.A. 1956; UI M.D. 1960) is currently retired, but still serves as a board member for Dayton-Montgomery County Public Health in Dayton, Ohio, which is an agency that works to safeguard the health of its citizens.

E. Thomas (Tom) Strom (B.S. 1958) let us know that in 2011 he started a two-year term as Chair of the ACS Division of the History of Chemistry. He is also co-editing an ACS symposium book based on the spring 2010 symposium he arranged on "100+ Years of Plastics, Leo Baekeland and Beyond." Tom is also co-organizer of a symposium to be held at the spring 2011 ACS meeting on the topic "Pioneers of Quantum Chemistry."

Gerald F. Brunzie (M.A. 1961; Ph.D. 1964, Pflaum) started his professional career in oil research and then moved into drug manufacturing where he became VP of Regulatory Affairs. In later years, he taught at several community colleges. After retiring, he and his wife volunteered in a grade school for six years tutoring and teaching math. They have lived in the Southwest (San Marcos, Calif.) for almost 30 years enjoying "not having to scoop four inches of heat off my driveway!"

Robbie T. Foster (Ph.D., 1964, Stille) is now retired and reports that he has seven healthy grandchildren and is a great grandfather three times over!

William Horn (Ph.D. 1969, Campbell) retired in 2004 and now resides with his wife, Judi, in Clermont, Florida near Orlando. He remains very active, participating in golf, dance, exercise, painting, miniatures, and other hobbies. They also enjoy entertaining the grandchildren at Disney, Sea World, and Universal when they visit from distant places like San Francisco, Texas, and Mt. Ephraim, New Jersey.

Huntley Lewis (Ph.D. 1971, Doyle) retired from the paper industry in 2005. He resides with his

wife, Kay, in Appleton, Wisconsin, where they have lived for the last 40 years. He and his wife do spend four months of the year in the Phoenix, Arizona, area (we assume this is during our traditional shoveling season!).

Kenneth L. Bridges (Ph.D. 1972, Gordon) tells us that after graduate school, he took a two-year position as Assistant Professor of Chemistry at Ball State University. His next teaching job was as Freshman Chemistry Coordinator and Assistant Professor of Chemistry at the University of Louisiana-Lafayette. He then left teaching behind to embark on a career in the domestic and international oil fields. Kenneth is now retired and is an independent consultant in drilling fluids. He has traveled around the world and visited practically every country that has an oil field.

David H. Naffziger (M.S. 1972, Buckles) is still employed at BASF in their Pest Control Solutions Group. He is a Principal Research Scientist and has recently been helping with pest control technology transfer to BASF global sites.

Terrance A. Rooney (Ph.D. 1972, Friedrich) is retired and living in Del Webb Lincoln Hills in Lincoln, California. He is still active in PC and Mac Consulting and computer groups, as well as in sports car groups and wine tasting.

Steven M. Heilmann (Ph.D. 1973, Wawzonek) has been conducting research on the hydrothermal carbonization of low cellulosic biomass materials such as microalgae and fermentation residues at the University of Minnesota for the past three years. The objective of Steven's research is to create advanced biofuels from renewable resources.

Gerene Cox Denning (B.A. 1974; Ph.D. 1989 Biochemistry with Alice Fulton) is currently the Director of Research in Emergency Medicine at the University of Iowa. She also offers support to a research team which includes many UI faculty members. They focus on injury prevention, comparative clinical treatment, and educational research.

Charles "Chuck" Rix (Ph.D. 1965, Stille) spent a thirty year professional career with the R.J. Reynolds Tobacco Company in Winston-Salem, NC, where he still resides with his wife, Mary Lou.

Nicholas E. Ertz (Ph.D. 1976, Sando) now works as a Business Information Manager in R&D at Sara Lee in Downers Grove, Illinois. He is doing well and has five grandchildren. Nicholas says that he is thinking about retirement in the distant future.

Rick Parmely (M.S. 1979, Goff) says that after his UI degree, he taught at the Military Academy at

West Point and at Juniata College. Rick then joined Restek, a premiere manufacturer of chromatography products, and is currently Restek's Director of Technical Training, managing their educational program.

Dale E. Stille (M.S. 1979, Buchanan) continues his career in the UI Physics Department involved in lecture demonstrations and instructional design. He is well-known to our faculty for his amazing collection of physics lecture demonstration materials.

Dave Kinney (B.S. 1983, Wiemer) tells us that after spending twelve years in the environmental/wastewater testing field, he now works for a small, family-owned carwash chemical formulator, Industrial Technology Corporation, in Davenport, Iowa. He is responsible for quality control and production work there. Dave is also active in his community and recently helped form a neighborhood watch group. He still plays basketball and hopes to get Dr. Wiemer to play some ball the next time he visits Iowa City!

Richard Rattay (B.A. with Honors 1988; UI M.D. 1993) reports that he works as an Orthopaedic Surgery Specialist/Hand Surgery Subspecialist in private practice in his home town of Mason City, Iowa. He and his wife, Deidra, who is a nurse, have seven children - Farren, Cambry, Josh, Beth, Jaxson, and 8-month old twins - Ranger and Raina.

Mary S. Minette (B.A. 1989, Davis; UI M.D. 1993) writes that after her M.D. degree she completed training in pediatrics and then a fellowship in pediatric cardiology. She is currently an Assistant Professor of Pediatrics at Oregon Health and Sciences University (OHSU) and also serves as Director of Echocardiography at Doernbecher Children's Hospital, OHSU.

John W. Tillotson (M.S. 1995, Goff; UI Science Ed. Ph.D. 1996 with Robert Yager) is now an Associate Professor of Science Education at Syracuse University with a dual appointment in the College of Arts and Sciences and the School of Education. He was recently sworn in as president-elect of the Association for Science Teacher Education (ASTE). This professional organization promotes excellence in science teacher education worldwide through research and innovation.

Scott Spear (Ph.D. 1997, Arnold) is a Research Scientist at The University of Alabama's Innovation and Mentoring of Entrepreneurs (AIME) Center. His key mission is to identify and facilitate value-added innovation and foster entrepreneurship leading to commercialization of intellectual property.

Monali Vasant Sawai (Ph.D. 1998, Quinn) is a

Program Associate II at the University of Iowa, working in educational testing. In this new career challenge, she combines her science background, program skills, and writing and editing abilities to serve the University of Iowa scientific community.

Shawn Goldsmith (B.S. 2001, Goff) has been married for 9 years and has two boys ages, 6 and 3. He earned a certificate in perfusion technology from the University of Iowa and is currently working as a perfusionist in Kokomo, IN.

Shonda L. Monette (M.S. 2001, Wiemer) has proudly worked in the University of Iowa Department of Chemistry for the last nine years, currently serving as our Undergraduate Laboratory Manager.

Angela Hunt Wolf (B.S. 2003, Leddy) sends us greetings and says that she is finishing her Ph.D. research in Medicinal Chemistry at Purdue and expects to defend her thesis in 2012. She stopped by the UI chemistry building last winter break and was very impressed by the major building renovations (we hope she got a chance to play with our cool interactive periodic table in the main lobby!).

Gufeng Wang (Ph.D. 2004, Geng) started a position as an Assistant Professor in the Department of Chemistry at North Carolina State University in July 2011.

Zack Rhoades (B.S. 2005, Gillan) is currently working for AB SCIEX, a mass spectrometry company based in Silicon Valley, California, as a technical training specialist in their customer training department. He completed a Master's degree in Education in 2009 and got married last year.

Sarah Ann Clark (B.S. 2006) is currently working as a quality and data analyst for a major insurance company in Coralville, Iowa. She sometimes wishes she got to use her chemistry background a bit more.

Lori (Leonard) Kuhl (B.S. 2006, Leddy) is married and currently works as a Research Assistant II in the Department of Orthopaedics and Rehabilitation at the University of Iowa Hospitals and Clinics. She is responsible for the coordination of clinical research studies in orthopedic trauma and hand/upper extremity surgery.

Alison Uhl (B.S. 2006, Bowden) tells us that at the end of June 2011 she will finish her General Practice Residency in dentistry at the UIHC. Following her residency, she will be pursuing a career in general dentistry with the federal public health service.

Julia C. Brimeyer (B.S. 2007, Franklin; UI M.D. 2011) tells us that after getting her M.D. degree, she has now embarked on her residency training in pediatrics at Children's Mercy Hospital in Kansas City, Missouri.

David S. Cho (Ph.D. 2007, Arnold) recently finished up his postdoctoral work at University of Tennessee working on ambient mass spectrometry. He is now packing to move to Quantico, Virginia, to spend the next 1-2 years working as a visiting scientist at a FBI laboratory. David is very excited to explore a new area of forensic science!!

Nathan Lien (Ph.D. 2007, Telford) is currently

working as an Assistant Professor of Chemistry at Saint Mary's University of Minnesota in Winona, Minnesota. Previously he was a Visiting Assistant Professor of Chemistry at Whitman College in Walla Walla, Washington (2008-2010) and before that was a Postdoctoral Research Associate at the University of Oregon (2007-2008).

Andrew Michael Bayer (B.S. 2008, Geng) is currently a graduate student in organic chemistry studying at the University of Tennessee in Knoxville under the direction of Dr. Michael Best.

Poonam Kaushik (Ph.D. 2009, MacGillivray) tells us that after graduating from UI she joined Piramal Healthcare Ltd in Mumbai, India. Poonam got married in 2010 and relocated to Delhi where she joined Ranbaxy Laboratories Ltd, India's leading pharmaceutical company, as a Research Scientist. She says that she misses Iowa City and especially the MacGillivray group!

A. Lee Miller II (B.S.E. in Chemical Eng. 1999; Ph.D. 2009, Bowden) is conducting postdoctoral research in the Departments of Chemistry and Biochemistry and Chemical and Biological Engineering at the University of Colorado at Boulder.

Samrat Dutta (Ph.D. 2010, Cheatum) is currently working as an Ellen William Distinguished Postdoctoral Fellow at the University of Maryland, College Park. He feels privileged to be an alumnus of our department and credits his success here on the guidance of his advisor, Professor Cheatum.

Kristin M. Kester (B.S. 2010, MacGillivray) is currently a graduate student at the University of Iowa in the Department of Chemistry working towards her Ph.D. degree.

John Widen (B.S. 2010, Pigge) is now working in Cedar Rapids as a research chemist at the Penford Corporation corn-milling plant that makes industrial grade starch products. He has been accepted into the Ph.D. Medicinal Chemistry Program at the University of Minnesota starting in the fall of 2011.

In Memoriam:

Dr. Robert J. Buchacek, 70, passed away on November 19, 2010. He received his Ph.D. in Chemistry in 1972.

Dorothy J. Carver, 89, passed away on April 29, 2011. She received her B.A. in Chemistry in 1944.

Nancy A. Coleman, 75, passed away on August 14, 2010. She received her B.S. in Chemistry in 1957.

Dr. Paul L. Conrad, 97, passed away on January 17, 2009. He received his M.S. in Chemistry in 1936 and Ph.D. in Chemical and Biochemical Engineering in 1938.

William J. Doerres, 91, passed away on January 27, 2011. He received his B.A. in Chemistry in 1942.

Dr. Drew C. Dunwoody, 41, passed away on December 30, 2010. He received his Ph.D. in Chemistry in 2003.

Dr. Daniel S.P. Eftax, 84, passed away on August

10, 2007. He received his Ph.D. in Chemistry in 1956.

Dr. F. Frederick Ehrich, 84, passed away on March 14, 2004. He received his M.S. in Chemistry in 1940.

Dr. George E. Evans, 76, passed away on March 15, 1995. He received his Ph.D. in Chemistry in 1948.

Minerva C. Flores, 76, passed away on February 4, 2009. She received her M.S. in Chemistry in 1957.

Dr. Lyle C. Hall, 75, passed away on July 31, 2010. He received his Ph.D. in Chemistry in 1961.

Thomas P. Harrington, 87, passed away on August 20, 2010. He received his M.S. in Chemistry in 1953.

Douglas J. Hearne, 61, passed away on January 21, 2011. He received his B.S. in Chemistry in 1971.

Dr. Costas Issidorides, 89, passed away on November 13, 2010. He received his Ph.D. in Chemistry in 1953.

Gerhard F. Koch, III, 75, passed away on January 10, 2010. He received his M.S. in Chemistry in 1959.

Richard T. Longman, 94, passed away on July 19, 2010. He received his M.S. in Chemistry in 1940.

Geraldine L. Longton, 85, passed away on March 12, 2011. She received her B.A. in Chemistry in 1948.

Dr. Merle Mason, 89, passed away on December 30, 2009. He received his Ph.D. in Chemistry in 1950.

David M. Miller, 67, passed away on July 2010. He received his B.S. in Chemistry in 1965.

Earl C. Nelson, 87, passed away on September 23, 2010. He received his B.A. in Chemistry in 1950.

Dr. Ingo H. Petersen, 80, passed away on February 6, 2011. He received his Ph.D. in Chemistry in 1961.

Dr. James E. Pritchard, 88, passed away on August 18, 2010. He received his M.S. in Chemistry in 1943.

Edwin W. Rowlee, 69, passed away on August 8, 2010. He received his M.S. in Chemistry in 1967.

Michael P. Sylves, 34, passed away on May 2, 2011. He received his B.S. in Chemistry in 2000.

Dr. Gregory A. Turner, 50, passed away on September 21, 2009. He received his Ph.D. in Chemistry in 1987.

Dr. John W. VerSteeg, 63, passed away on December 30, 2007. He received his B.S. in Chemistry in 1966.

Marshall F. Wolbers, 86, passed away on November 29, 2009. He received his B.S. in Chemistry in 1949.

The University of Iowa
Department of Chemistry
E331 Chemistry Building
Iowa City, IA 52242-1294

Alumni Updates for 2012 Chemistry Newsletter

An alumni update is a great way to reconnect with your former classmates and professors. Now you can reconnect through e-mail, mail, and facebook! If you would like to be included in next years newsletter, send your replies by mail to: Department of Chemistry, c/o Chemistry Newsletter, University of Iowa, Iowa City, Iowa 52242-1294 or email us at: chem-alumni@uiowa.edu

Please include:

- Name
- Degree Information (years at UI, type of degree, year earned, and UI faculty advisor (if relevant))
- Contact information
- Details about your current or past careers
- Any additional information

From the Editor:

The Department of Chemistry continues to change and grow in exciting directions. I especially want to thank all of the individuals (Mark Arnold, Brenna Goode, Ed Gillan, Ned Bowden, Tori Forbes, Sara Mason, Betsy Stone, Norb Pienta, Jim Gloer, Greg Friestad, Mark Young, Earlene Erbe, Janet Kugley, Timothy Koon, Sharon Robertson) and wonderful alumni and friends who gave of their time to produce and submit content to the newsletter – without your articles and photographs, the newsletter simply would not exist. My personal thank you to Jessica Alberhasky for all her hard work in the design and layout of this year's newsletter. -Bettie Baumert

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