Hello to all. There has been a bit of a break between this letter and our previous publication. Between that fall 2011 letter and today, there have been a number of staffing changes. So, retooling has required a little time to adjust, learn publication software, etc. But, the bottom line is that we should now be ready to resume our fall newsletter publication cycle. The good news with all this is that there are many new advances and developments to report.

In the period since the last newsletter, the departmental faculty and staff have remained relatively stable. There are exceptions, however. After 31 years of service to the department, machinist Larry Gregersen retired in 2012. Leaving to spend more time with her young family, Shannon Gates left NIU in 2011, after more than 5 years of service to the department and 17 to the university. The department misses both Shannon and Larry. In the void left by Shannon, the department was happy to hire Ryan Damhoff (NIU B.A. Communications, 2010). Among his other duties, Ryan handles alumni communications and the production of this newsletter. Importantly, Taesam Kim was promoted to Electronics Engineer. Taesam has been at NIU for 11 years, first as a Research Associate with Chhiu-Tsu Lin, before taking his previous departmental position as Electronics Engineer Assistant. Taesam, who holds a doctoral degree in analytical chemistry and has a great knowledge of electronics, is well suited to the position.

While there have been no faculty hires in the last two years, there is some great news. Two of our fine young faculty members, James Horn and Tao Xu, have been promoted from positions of assistant to associate professor. Both joined our faculty in 2006. Dr. Horn obtained his doctoral degree at the University of Iowa and completed postdoctoral fellowships at Northwestern University and the University of Chicago. After obtaining his Ph.D. from the University of Alabama, Dr. Xu served as a postdoctoral research associate at Argonne National Laboratory. While their combined accomplishments at NIU are many, it is quite impressive to look at just a few of those highlights. Both Tao and Jim have published a number of research articles at NIU, of course. Both have garnered substantial extramural funding from agencies such as the Department of Energy, American Heart Association, and the National Science Foundation. Their combined funding already approaches two million dollars!! Even more impressive is that both received NSF Faculty Early Career Development (CAREER) Awards. To quote the NSF website, these awards are “...NSF’s most prestigious awards in support of the early career-development activities of those teacher-scholars who most effectively integrate research and education within the context of their organization...” I can attest that the success of their classroom students and undergraduate and graduate researchers reflects the skills of these excellent new associate professors. We are honored to have such individuals amongst our faculty.

Another substantial honor has come to the department and Elizabeth Gaillard. In the spring of 2013, Professor Gaillard joined an elite group, being named as a Northern Illinois University Presidential Research Professor. A sixteen year veteran of the department, Beth has established herself as one of the leading researchers in the area of biology and biochemistry of the eye. While publishing a large number of papers and garnering in excess of $1,500,000 in extramural funding, Dr. Gaillard has directed more than a dozen graduate students to Ph.D. and M.S. degrees and has overseen more than 50 undergraduate researchers. We are all proud that Beth has received this well-deserved award.

The honors never seem to stop. Chhiu-Tsu Lin was named as a 2012 Board of Trustees Professor. This is the highest internal professorship honor at NIU. The award recognizes international prominence in research as well as excellence in all facets of teaching. Of course, the plaque will reside nicely between C.T.’s Presidential Teaching Professorship and Presidential Research Professorship awards.

The 2012-2013 academic year saw a change in our Director of Graduate Studies. Following three years of outstanding service to the department, Petr Vanysek stepped down as DGS. The department sincerely appreciates his service. In his place, Gary Baker has stepped into this position of leadership. In his first year, Dr. Baker has worked diligently to recruit the best students and comply with the new and upgraded standards for academic assessment.

In 2011, I reported that our undergraduate program, and particularly, our undergraduate researchers continue to flourish. From 2001 to that academic year, our registration numbers for undergraduate research had gone from 26 to 85. With summer 2013 term just completed, we saw 128 students sign
Message from the Chair (cont.)

up for undergraduate research this academic year. Students now get not only laboratory research training, but also rigorous safety, electronic library, and ethics training. And, as well as departmental research and travel awards (funded in large part by you, the alumni), these students are winning university awards.

At NIU’s 2012 and 2013 Research and Artistry Days, where students from across the university presented their research to science judges in a “poster” format, the department again fared well. In the last two years, Alberta Gaebler and James Lee (both mentored by James Horn) won Honorable Mention Awards while People’s Choice Awards were given to Christopher Potocki (Narayan Hosmane) and Saba Hamid (Elizabeth Gaillard). In the spring of 2013, an overall first place in the STEM (Science, Technology, Engineering, and Mathematics) category was awarded to Rick Jeswein (Timothy Hagen). In addition we were honored that Professor Emeritus Arnold Hampel (joint faculty member in the Departments of Chemistry and Biochemistry and Biological Sciences, and an NIU alum) returned to NIU to help judge this important student event. In returning, Arnie showed the true commitment that NIU faculty have for their students. I would like to take this opportunity to thank him, as well as our current dedicated faculty who work to mentor these fine students on a daily basis.

The research activity amongst the undergraduates has greatly affected another important departmental metric, that of the number of B.S. graduates awarded by the department. In the 2011-12 academic year, we granted 42 degrees, and this year, when the numbers are finalized, we expect to graduate approximately 30 students. It is gratifying that we are now well seated amongst the top 50 programs in the nation in terms of American Chemical Society certified graduates, with forays into the top 25.

With our place cemented among leaders in the production of chemistry degrees, new initiatives have been put in place to provide an even higher quality education for our undergraduates and make NIU attractive to even more high quality students. In the last years, David Ballantine, Director of Undergraduate Studies, and the undergraduate curriculum committee have put together and had approved sweeping positive changes in our undergraduate honors program. Those changes include growing the program and making honors courses much more available. In addition to enhanced offerings in honors undergraduate research, honors students may select an honors version of almost any course in the department. These offerings range from stand-alone, small sections (24 students, or fewer) of General Chemistry I and II to break-out sections in upper level courses. For example, in the latter, activities in the upper level courses might include weekly one-on-one sessions with faculty in which they discuss implications of articles which appear in C&E News or even the popular media, as related to the particular course (organic, analytical chemistry, biochemistry, etc.). My discussions with students about our pilot programs with these approaches have been exceedingly positive. The students conclude that this is a “value added” activity in which they can get “outside the classroom insights” into current chemistry related societal issues.

I should note that two awards were given to former chemistry students and faculty by the College of Liberal Arts and Sciences in recognition of the 50 year history of the college. We were honored that Anne Barrett Swanson (B.S., 1970) and Arnold Hampel (B.S., 1963) returned to attend the ceremony to receive Distinguished Alumni Awards. Joining that group for the ceremony was Professor Emeritus Joe Vaughn and his wonderful wife, Jean.

The Chemistry Club continues to be extremely active. I have been proud to have been the advisor for that group over the last few years. As time has evolved, the organization has become more and more service oriented. The club continues to host and fund the annual department banquet for graduating students and award winners. Staff providing significant support for that event include: Judy Boisen, Melinda Davis, Ryan Damhoff, Shannon Gates, Jason Gordon, Charmaine Hantsch, and Andy Small. The CHEM Club has become progressively more involved in community events such as Relay for Life (number one fundraising group on campus in 2012), NIU STEM Fest (a science exposition focused towards youth held at the NIU Convocation Center which sees 3,000+ attendees) and NIU Cares Day (groups go throughout the community doing beautification, etc.). You’ll be happy to know that the tradition of CHEM Demo night, started by Dr. and Benefactor David Ballantine has continued and grown in size, with student and faculty participation. The last two years, faculty and staff participation and assistance has been provided by: Marc Adler, Ray Foster, Timothy Hagen, James Horn, Narayan Hosmane, Larry Metcalf, Victor Ryzhov, Lee Sunderlin, and Chong Zheng. All these community-oriented activities, however, did not stop the Chemistry Club from hosting a Dodgeball game between the graduate and undergraduate students. Word has it that the rigorous standards upheld by the graduate teaching assistants in laboratory grading did not go unpunished!!

For the department, I would like to express our thank you to the alumni for their generous donations over the past two years. These resources are invaluable and are utilized for a number of purposes not otherwise well funded within the university. The bulk of the donations go toward scholarships. Another significant portion of the funds goes toward undergraduate and graduate student travel to present research talks and posters at scientific meetings. These donations are very much appreciated.

I should note that in my previous “Message From the Chair”, I concluded with the statement “GO HUSKIES!” As I write this, the last such message of my expiring term as chair, I have to reminisc on this January’s trip to the Orange Bowl, where our NIU Huskies took on the Florida State Seminoles. I was proud to be joined in pre-game festivities by alums Brendan Dutmer, Jay Gehlhausen, Robert Mishur, Thanarat (La) Fariyakul and Gregory Webster. So, again, from them, me and the department to you, GO HUSKIES!!

Sincerely,

Jon W. Carnahan
Professor and Chair
Ted Burgess IV (B.S., ’08) and Brandie Lindo (B.S., ’11) are engaged. Ted and Brandie met in the spring of 2008 during their Organic Chemistry I lab (see engagement photo left). Ted is currently a Ph.D. candidate in Biology at NIU, and Brandie is a biology and chemistry teacher at Larkin High School in Elgin, Ill. Some of their fondest memories come from NIU and they’ll be tying the knot later this year. Congratulations!

Ronald P. Hennis (M.S., ’69; Ph.D., ’72) continues to be involved with pharmaceutical and industrial chemical consulting. He writes, “My experience as a graduate student in the beginning phase of the chemistry PhD program will always hold a special memory in my heart.”

Matthew R. Hurt (B.S., ’09) is attending graduate school at Purdue University and is working in the lab of Dr. Hilkka Kenttamaa. While at NIU, Matthew did undergraduate research with Prof. Victor Ryzhov’s group. At Purdue, Matthew has been working on the mass spectrometric analysis of petroleum. With several collaborations with various petroleum companies, he hopes to graduate this summer with his Ph.D. Matt has also met and married a fellow chemist in his lab at Purdue. Congratulations!

Byron F. Knutsen (M.S., ’65) has retired after 30-plus years of teaching chemistry, advanced math, and physics at the secondary level. Immediately after retirement, he and his wife lived in Bilbao, Spain, serving as a mission for their church. After their time in Spain, Byron has been active in mapping old pioneer trails and water ditches, both being used prior to and during the gold mining days in Idaho.

Christopher Mulligan (B.S., ’03) and his wife Jamie are both faculty at Illinois State University, where his research focuses on building portable instrumentation for crime scene analytics. They are looking forward to the fall, as they are expecting a baby girl in November.

Nand Narain (Ph.D., ’76) has retired from the U.S. Department of Energy as a Federal Project Director. After retiring, Nand has moved on to manage a family medical center. He is president of the S.V. Professional Center, a multi-discipline family medical center. He resides in Sayville, N.Y.

Gregory Pronger (B.S., ’79) is currently the Vice President of Operations at Suburban Laboratories, located in Hillside, Illinois. Suburban Laboratories will be moving to Geneva later this year. Gregory is also the Scoutmaster for Boy Scout Troop 81, located in Naperville.

Mickols to Establish New Scholarship for Students with Financial Need

William and Arlene Mickols are working to establish an endowed scholarship for the Department of Chemistry and Biochemistry for undergraduate or graduate students with financial need.

Bill received his undergraduate degrees in Chemistry and Biology in 1977 as well as a Master’s Degree in Biochemistry in 1978. After Northern, Bill went on to earn his Ph.D. in physical chemistry from the University of New Mexico and landed a postdoctoral fellowship at the University of California, Berkeley. Throughout his academic career, Bill’s research has focused on improving water purification methods. In 1985, he joined Dow Chemical Company, turning his attention to water desalination. Today, 80 percent of Dow/FilmTec water desalination products originated from projects led by Bill, membranes he developed, or chemistry he invented.

Bill and Arlene are establishing this scholarship with the intention that it be awarded to students majoring in chemistry or biochemistry who need financial assistance. Along with the support of Professor Arnold Hampel, Bill recalls the importance of financial aid in the support of his studies at NIU. Once endowed and established, the scholarship will probably be known as the Department of Chemistry & Biochemistry Scholarship Fund.

Bill and Arlene are hoping that fellow alumni will join them in this endeavor to establish this endowed scholarship.
Assistant Professor Marc Adler spoke at three meetings in the past year – June 2012 at Oxford; and May 2013 at the 45th Silicon Symposium and 96th Canadian Chemistry Conference and Exposition. Three students in Adler’s research group – Matt Zielinski (graduate), Vladislav Skrypai (undergraduate), and Stefanic DeVlieger (undergraduate) presented posters at the 245th ACS National Meeting & Exposition in April 2013. Dr. Adler’s first published paper at NIU was featured on the cover of Organic & Biomolecular Chemistry. The cover art for the journal was designed by Jesse Mai, an undergraduate researcher in Dr. Adler’s research group.

Associate Professor Gary Baker has had a paper recently published in Advances in Physiology Education, entitled “A teacher-developed inquiry model to teach the molecular basis of hyperbolic kinetics in biological membrane transport.” Two of the paper’s authors – Leanne Marcus and Julia Plumeri – are associated with NIU. Leanne (M.S., ’10) received her Teacher Certification from the department and Julia is currently an undergraduate student in the department.

Presidential Research Professor Elizabeth R. Gaillard attended two conferences – the Association for Research in Vision and Ophthalmology (Fort Lauderdale, Fla.), and the 36th Meeting of the American Society for Photobiology (Montreal), of which Prof. Gaillard was elected president this past year. Dr. Gaillard also presented her research at the International Society of Eye Research in Berlin (July 2012) and at the Inter-American Photochemical Society in Sarasota, Fla (January 2013).

Assistant Professor Timothy Hagen spoke at several meetings in the past year – the 33rd National Medicinal Chemistry Symposium in Tuscon, Ariz. (May 2012); the 17th Annual Drug Discovery Symposium at Northwestern University (October 2012); Loyola University (November 2012); and the University of Wisconsin-Milwaukee (March 2013). Several of Dr. Hagen’s undergraduate researchers presented posters at the 2013 NIU Undergraduate Research and Artistry Day – including Rick Jeswein who tied for first place in the STEM category. Dr. Hagen was also recently published in two journals and wrote a chapter for Heterocyclic Chemistry in Drug Discovery.

Associate Professor James Horn, along with graduate students Megan Murtaugh Chris Smith, Siriram Jakkaraju, and undergraduate student Katarzyna Bujarska attended and presented their research at the 26th annual Gibbs Conference on Biothermodynamics in Carbondale, Ill. Prof. Horn also received a new grant to work in collaboration with the Medical College of Wisconsin on a project titled “Biophysics of HDL Dysfunction”.

Distinguished Research Professor Narayan S. Hosmane was recently elected to Foreign Membership in the Russian Academy of Natural Sciences. In previous years, the Academy has elected to Foreign Membership other distinguished scientists and Nobel Prize laureates. During the previous year, the Chinese Academy of Sciences named Dr. Hosmane as a recipient of its prestigious Visiting Professorship for Senior International Scientists. Dr. Hosmane traveled to China last summer for a brief visit and traveled again earlier this year for a two-month stay.

Distinguished Research Professor Emeritus Dennis Kevill continues to serve as Councillor for the Rock River Section of the American Chemical Society. Prof. Kevill attended the National Meetings and associated council meetings in Philadelphia (Fall 2012) and New Orleans (Spring 2013).

Associate Professor Victor Ryzhov was elected to the Editorial Board of Journal of The American Society for Mass Spectrometry. Additionally, he was honored as a top performing reviewer for the Journal for years 2011-2012.

Associate Professor Tao Xu has presented his research on multiple occasions. He presented two sessions at the Materials Research Society’s Spring Meeting in April 2013 in San Francisco. Dr. Xu was also invited to speak at the International Workshop for Building Energy Efficiency at the Hong Kong Polytechnic University, and at Argonne National Laboratory, both in June 2013.

Staff Spotlight: Melinda Davis

Office Manager Linda Davis began her NIU career in 1999 right here in the Department of Chemistry and Biochemistry. Linda was hired initially as a secretary and, in 2006, was promoted to Office Manager. Prior to joining the department, Linda worked as a full time 9-1-1 dispatcher for the Rochelle Police Department for over 17 years, and currently works there as a part-time dispatcher.

As Office Manager, Linda is primarily responsible for making sure the department runs smoothly. She maintains the Chair’s calendar and meeting schedule and serves as the liaison between the Chair and outside contacts. Linda also maintains MyNIU for the department – scheduling classes for graduates and undergraduates as well as coordinating undergraduate registration. She also coordinates the hiring of departmental employees and other paperwork as needed.

Linda has been married to her husband, Mike, for 31 years and they have three daughters – Katie, Kelli, and Mindy. In her spare time, Linda enjoys boating, gardening, and short trips to just about anywhere.
Gaillard Receives Presidential Research Professorship

Elizabeth R. Gaillard has been named a recipient of the 2013 Presidential Research Professorship, NIU’s top recognition for outstanding research and artistry. Prof. Gaillard joins colleagues James Erman, Narayan Hosmane, Dennis Kevill, and Chhiu-Tsu Lin as previous recipients of this distinguished professorship.

During Prof. Gaillard’s tenure, she has established herself as one of the leading researchers of macular degeneration, the leading cause of blindness in the developed world. Her work has attracted research funding from the National Science Foundation, the National Institute of Health, and other organizations. She has published more than 50 papers and holds patents related to the diagnosis and treatment of macular degeneration and several other retinal disorders.

Currently Prof. Gaillard’s research pursuits include the development of diagnostic imaging technologies to detect diseases of the eye, as well as working with other NIU researchers to develop time released coatings that will be placed in the eye via shunts or lenses to release drugs slowly over a long period of time. Drugs delivered by injection today are very short-acting.

In addition to her research, Prof. Gaillard has successfully mentored six Ph.D. candidates, seven M.S. candidates, three post-doctoral candidates, and more than 50 undergraduate research students.

Source: NIU Today, 4/15/13

C.T. Lin Earns NIU Board of Trustees Professorship

Remember, you heard it here first: “the molecular fan.” It might just become one of the key features of tomorrow’s technology. The molecular fan, which aims to keep hot technology cool, is one of the latest innovations from the laboratory of NIU Chemistry and Biochemistry Professor Chhiu-Tsu Lin, or simply “C.T.,” as he’s known to students and colleagues.

Dr. Lin has written 160 scientific papers, attracted more than $3 million in research funding, and been awarded numerous distinguished fellowships and invited lectures, including those at universities in Singapore, Taiwan, and Brazil. NIU’s invention man holds nine U.S. and three international patents.

Dr. Lin’s research concentrates on environmentally friendly chemistry, materials processing at the nanoscale and the development of optical sensors through laser technology. It’s basic research, but always with practical applications in mind.

Dr. Lin’s invention of an environmentally friendly coating technology for metals resulted in the creation of ChemNova Technologies, Inc., one of the university’s first spin-off companies. Chem Nova is working to market coatings that protect against corrosion and eliminate the health, safety and waste-disposal concerns of standard metals-coating technology.

More recently, Dr. Lin developed the molecular fan, which is also a type of coating. As electronic devices become smaller, intense heat is generated from the inside parts. Typical cooling techniques, such as the use of a fan, become impractical. Lin’s new coating, however, has a special property. Molecular vibrations act as trillions of tiny fans that efficiently dissipate
Professor Hagen Goes to Washington to talk value of Federal Funding with Lawmakers

In November 2011, Assistant Professor Timothy Hagen, along with NIU Vice President for Research Lisa Freeman and legislative liaison Lori Clark, traveled to Washington, D.C., to talk about the importance of federal funding for research universities and economic development.

The events, part of Illinois Research, Development, and Innovation Day, were an opportunity to meet face-to-face with elected representatives, their staffs, and other officials.

“In these challenging economic times, it is important to remind our representatives and the public at large that federally funded research at universities and federal laboratories helps cure diseases, increase energy efficiency, and contribute solutions to significant societal problems,” Freeman said.

Dr. Hagen was invited to participate because he has a diverse set of experiences, both in private industry and academia. Dr. Hagen, who joined the faculty in 2010, previously worked for Pfizer, Inc., as well as a startup biotech company. Currently, Dr. Hagen consults with private industry and collaborates with other universities and federal laboratories, conducting research on the development of enzyme inhibitors for potential use in fighting bacterial diseases. Enzyme inhibitors form the basis for many drugs.

“I hope to show how the funding drives the science and creates jobs,” he said. “I’ve seen how university research innovations can become the basis for small startups or be used in large companies.”

Dr. Hagen also served on a panel discussion on the topic of collaborations in Illinois. “During the panel discussion, audience members seemed very interested and supportive of our message.”

Dr. Hagen stayed in Washington for an extra day to present a seminar on his research experiences to representatives of the National Institutes of Health.

“The overall experience was an important one,” Dr. Hagen said. “Lisa and Lori reminded me that change isn’t going to happen overnight, but we have to keep working at this and keep reminding our representatives of the significance of our work.

Illinois Research, Development, and Innovation Day is sponsored by the Illinois Science and Technology Coalition (ISTC), the only organization representing the full range of science and technology activity in Illinois.

Sources: NIU Today, 11/14/11 and 11/18/11

Continued from page 5

C.T. Lin earns NIU Board of Trustees Professorship, cont.

heat by emitting infrared radiation to the surrounding air. Lin says the innovation is drawing considerable interest from companies, including overseas.

The imaginative approaches that Lin brings to the laboratory are also evident in his classrooms, where real-world examples help students connect chemistry to everyday applications. “C.T. is one of our best classroom teachers at all levels,” says Jon Carnahan. “His teaching quality is clearly reflected in the successes of his students.”

Lin takes pride in his former students’ success. Many have gone on to become researchers, doctors, professors, government officials, CEOs, company founders and even a university president.

“The Chinese have an old saying,” Lin says. “If your student is no better than you, then you are not a good teacher.”

Source: NIU Today, 3/26/12

Professor and Chair Jon Carnahan (3rd from Right) joined NIU alums (left to right) Gregory Webster, Jay Geblausen, Rob Misur, Thanarat (La) Viriyakul, and Brendan Dutmer as the Huskies took on the Florida State Seminoles earlier this year at the Orange Bowl in Miami.
James Horn and Tao Xu awarded CAREER grants by National Science Foundation

Associate Professors James Horn and Tao Xu have both been awarded CAREER grants from the National Science Foundation. Dr. Horn received his CAREER grant in 2010; Prof. Xu was awarded his grant in February 2012.

The NSF awards about 400 CAREER awards throughout the nation to junior faculty members who exemplify the role of teacher – scholar through outstanding research, excellent education, and integration of education and research.

Dr. Horn’s research will focus on how proteins recognize other proteins with an emphasis on generating methods to reversibly control protein binding. Dr. Horn’s lab will also develop synthetic antibody libraries to discover antibodies capable of recognizing specific small molecules, including those that could lead to new cardiovascular disease diagnostics.

Dr. Horn is also the recipient of a grant from the American Heart Association (AHA). While both grants deal with protein research, the AHA grant will involve the study of small domain antibodies that recognize small molecules.

The long-term goals of the project include developing reliable, test tube-based methods to generate single-domain antibodies against any small molecule/biomarker of interest without the use of animals.

Prof. Xu’s research is at the helm of a nanoscience program that centers on solar energy conversion. “Because of environmental concerns related to nuclear and fossil-fuel based energy, people are demanding clean, alternative energies that can help build up our power grids,” Xu said.

His research group is trying to gain a better understanding of the fundamentals at work in solar cells. Prof. Xu hopes that through a nanotechnology process of folding material within a cell, that the creation will be a thinner cell that makes for an excellent light catcher.

Prof Xu’s group is also developing environmentally friendly materials that use sunlight to burn away organic pollutants from wastewater. Prof. Xu hopes the technique could be used for the purification of sewage or even oil-contaminated water.

With the two CAREER awards, James Horn and Tao Xu have brought in over $1,000,000 in external funding over the past three years and have extended research opportunities for both students and the department.

Source: NIU Today, 9/6/10 and 2/22/12

From top to bottom:

Spring 2012 Chem Demos – Two students ignite a flammable movie curtain as part of this Hollywood-themed demo night.

Fall 2012 Chem Demos – Our friend here starts to lose his head as undergraduates combine common household ingredients to form gak, a sticky and slimy substance.

Spring 2013 Chem Demos – A packed auditorium anxiously awaits the start of the demonstrations.
Degrees Awarded in 2011-2012 and 2012-2013

Undergraduate Degrees

**DECEMBER 2011**
Annie M. Amaya
Brian Edward Hartnett
Karon Michelle Miller
Derek James Myslinski
Jered Joseph Myslinski
Ryan Bond Saidat
Paul A. Wirth
Nathaniel Addison Wroblewski

**MAY 2012**
Grant Edward Barry
Mak Bicakcic
Sean Gregory Booth
Ticia Megan Burgie
Thomas James DeLegge
Arian X. Drozkiewicz
Albertina Maria Pagnucci Gaebler
Kenneth William Gogol
Kendall Lynn Jaderberg
Kevin Kanhirun
Nha Thanh Thy Le
James J. Lee
Charles Martin Luft
Petar Matic
Willis R. McInerney
Adam Michael McNamara
Caitlin Elizabeth Morton
Brian Matthew Muller
Kathleen Mary Norton
Ami P. Patel
Joshua Wilson Peter
Kelsey Marie Phillips
Andrew Robert Ruettiger
Andrew Thomas Schiffer
Robert Paul Stoa
Madeline Rose Tenison
Gerald Evan Thomas
Adam Franklin Tracy
Jeffrey Loren Wells
Damian Wroblewski

**DECEMBER 2011**
Kia Shennay Eabron
Kevin Robert King
Brian Robert Lattimore
Nilay A. Patel

**MAY 2012**
Xinyuan Miao
Bret Andrew Young

**MAY 2013**
Adam D. Ahern
Katarzyna Barbara Bujarska
Joshua James Demuth
Stefanie Nichole DeVlieger
Mando Joseph DiBartolomeo
Hugh Ford Fritz, Jr.
Ashley Elizabeth Hall
Andrew Leonard Heimer
Stephen Wesley Hinck
Rick Anthony Jeswein
Adam Tyler Jones
Melissa Ann Koeplin
Danielle Elizabeth Lambert
Tam H. Le
Michael Jeffrey Mascitti
Erik John Moran
Kyle James Muelhausen
Laura Kimberly Paulson
John Micheal Price
Vladislav Skrypai
Jared Anthony Trout

Graduate Degrees (Faculty Advisor in Italics)

**AUGUST 2011**
Robert Harris Guinn (M.S.) (Dmitri Kadnikov)
Chi Kai Lin (Ph.D.) (Tao Xu)
Zhenzhen Yang (Ph.D.) (Tao Xu)

**DECEMBER 2011**
Adam Douglas Holliday (M.S.) (Dmitri Kadnikov)
Anila Kethe (M.S.) (Douglas Klumpp)
Sri Harsha Vemuri (M.S.) (James Horn)

**MAY 2012**
Robert Harris Guinn (M.S.) (Dmitri Kadnikov)
Chi Kai Lin (Ph.D.) (Tao Xu)
Zhenzhen Yang (Ph.D.) (Tao Xu)

**DECEMBER 2011**
Anila Kethe (Ph.D.) (Douglas Klumpp)
Julie Ann Meyer (M.S.) (Elizabeth Gaillard)
Sri Harsha Vemuri (M.S.) (James Horn)

**MAY 2013**
Anila Kethe (Ph.D.) (Douglas Klumpp)
Julie Ann Meyer (M.S.) (Elizabeth Gaillard)
Erum Khalil Raja (Ph.D.) (Douglas Klumpp)

**DECEMBER 2012**
Kimberly Marie Martin (M.S.) (James Horn)
Daniel John Renfus (M.S.) (Victor Ryzhov)
Robert Deleon Stockley (M.S.) (Chhiu-Tsu Lin)
Xiaoqiao Zeng (Ph.D.) (Tao Xu)

**MAY 2013**
Tune-Hsiao Hsiao (Ph.D.) (Chhiu-Tsu Lin)
Ekta Mishra (Ph.D.) (Victor Ryzhov)
Megan Leigh Murtaugh (Ph.D.) (James Horn)
Sandra Michelle Osburn (Ph.D.) (Victor Ryzhov)
Zheng Zhang (M.S.) (Timothy Hagen)

Graduate Student Highlights

**Rajashekar Naredla** (Ph.D. candidate, Prof. Klumpp) was awarded the John D. Graham scholarship.

**Sandra Osburn** (Ph.D. graduate, Prof. Ryzhov) accepted a post-doctoral fellowship with the University of Melbourne, Australia, starting right after her graduation in May 2013. The fellowship will last for one year, with the possibility of a one-year extension.

**Mai Thao** (Ph.D. candidate, Prof. Gaillard) won a travel grant to attend and present at the 36th Meeting of the American Society for Photobiology in Montreal. Thao is also the recipient of the Midwest Society for Cosmetic Chemists Scholarship and an NIU Dissertation Completion Fellowship.

**Mai Thao**, along with **Kalyan Karumanchi** (Ph.D. candidate, Prof. Gaillard) attended the International Meeting for the Association for Research in Vision and Ophthalmology in Seattle, in May 2013.

**Phumvadee Wangtrakuldee** (M.S. candidate, Prof. Hagen) was the recipient of a travel grant from the American Chemical Society – Division of Medicinal Chemistry to attend the upcoming ACS Meeting in Indianapolis.
Spring 2012 Awards Banquet

ACS Introductory Chemistry Award......Emily Anderson (Highest Honor), Kristyn Barrett & Cathy Leo

Freshman Chemistry Achievement Award Honorable Mention
Tommaso Collela       Brian Maule       Alex Moy
Joel Dennison         Lindsey Maurer      Allie Parthic
Lynn Gorecki          Kevin McGuire      Samuel Pettigrew
Sean Hayes             Allison Mengel    Jordan Mitzelfelt
Freshman Chemistry Achievement Award.........Marinah Toh & Marc Welc

Outstanding Sophomore Award...............................John Price
ACS Undergraduate Award in Analytical Chemistry ..........Robert Rickard
ACS Undergraduate Award in Inorganic Chemistry ..........Daniel Jeffries
Outstanding Junior Award......................................Sean Booth
Chemistry Alumni Undergraduate Scholarship ..........Michael Mascitti & Katherine C. Powers
Van Acker–Duminy–Kovarik Scholarship....................Tressa Sharma
Rosalie Reynolds Memorial Scholarship..................Andrew Heimer
Dean’s Award..................................................................John Price
9th Annual Sigma Xi Graduate Student Presentation Competition, 2nd Place ..............................................Mai Thao
NIU Chemistry Club Edwards-Hyland Award..................John Price
NIU Chemistry Club Outstanding Undergraduate Research Award..........................Adam Tracy
Rock River ACS Undergraduate Research Award ...........Sara Billenstein
American Institute of Chemists Award.........Sean Booth and Ticia Burgie
Outstanding Senior Award .....................................Sean Booth and Ticia Burgie
Midwest Chapter of the Society of Cosmetic Chemists Scholarship ..........................Lauren Grabstanowicz
Carter G. Woodson Scholar ..............................Dionne Griffin
Kevin Cull Memorial Teaching Award ....................Kenneth Boblak, Lauren Grabstanowicz, & Travis Helgren
Most Outstanding Doctoral Dissertation....................Zhenzhen Yang
Dissertation Completion Award............................Megan Murtaugh
John D. Graham Scholarship .................................Megan Murtaugh
Outstanding Graduate Student Award .......................Erum Raja

John Price
Outstanding Sophomore Award
(with Marc Adler and David Ballantine)

Sean Booth
Outstanding Junior Award
(with Chong Zheng and David Ballantine)

Sean Booth & Ticia Burgie
Outstanding Senior Award
(with Jon Carnahan and David Ballantine)

Katharine C. Powers
Chemistry Alumni Undergraduate Scholarship
(with Jon Carnahan and David Ballantine)
Spring 2013 Awards Banquet

ACS Introductory Chemistry Award .......... Sean Weaver (Highest Honor), Ghadir Al Sualeek & Mankawalpreet Wazir

Freshman Chemistry Achievement Award Honorable Mention
Hajer Alhamdan Joseph Hurley Danielle Nelson
Amanda Corral Francesco Incandela Matthew Woodbury
Javier Diaz Rachel Kempe Nelle Youel
John Dlabal Veronica Minor
Samuel Goddard Kyle Mondron

Freshman Chemistry Achievement Award .................. James Gorman & Jacqueline Perkins

Outstanding Sophomore Award .................. Jacob Felckowski & Sean Hayes
Outstanding Junior Award ........................................... Julio Sanchez
ACS Undergraduate Award in Analytical Chemistry ........... Tyler Hayes
ACS Undergraduate Award in Inorganic Chemistry ........... Audrina Pryer
ACS Undergraduate Award in Organic Chemistry ............ Vladislav Skrypai
Chemistry Alumni Undergraduate Scholarship ............. Tyler Hayes
American Institute of Chemists Award ........... Joshua Demuth & Nikita Patel
Outstanding Senior Award .................................................. Jared Trout

Rock River ACS Outstanding Research Award .................. Jared Trout

NIU Chemistry Club Outstanding Research Award ....... Katarzyna Bujarska

Undergraduate Research & Artistry Day
People’s Choice Award .......................................................... Saba Hamid

First Place, STEM Category ........................................ Rick Jeswein

Rosalie Reynolds Memorial Scholarship ............. Jarrod Ragusin
Jerrold H. Zar Memorial Scholarship in Science Education ... Tressa Sharma

Dean’s Award ................................................................. Max Korzec

NIU Chemistry Club Edward-Hyland Award .......... Audrina Pryer

Rhoten A. Smith Assistantship .......... Eyrusalam Bedasso & Dionne Griffin
Van Acker–Duminy–Kovarik Endowed Scholarship .......... Shena Stanley

Kevin Cull Memorial Teaching Awards .................. Tsehaye Eyassu & Kimberly Henderson

10th Annual Sigma Xi Graduate Student Presentation Competition .... Mai Thao

Great Journeys Assistantship ....................... Devi Kalyan Karumanchi

Outstanding Graduate Student Award .................. Xiaoqiao Zeng

John D. Graham Endowed Scholarship .......... Rajasekhar Naredla

Dissertation Completion Award .................. Mai Thao
In this photo set, undergraduate chem club members Hugh Fritz and Xinyuan Miao attempt to show the cohesion of water molecules by pouring water into a container with a small piece of wax paper serving as a lid. Unbeknownst to Prof. Chong Zheng, the lid is removed and he soon finds himself under a deluge of water! Prof. Zheng truly takes one for the team to make the Fall 2012 demos a rousing success.

2012-2013 Award Winners

James Gorman
Freshman Chemistry Achievement Award
(with Jim Horn)

Sean Hayes
Outstanding Sophomore Award
(with Marc Adler)

Jared Trout
Outstanding Senior Award
(with Jon Carnahan and Dave Ballantine)
In this photo series, a “pumpkin” created by department glassblower Jason Gordon is filled with chemicals to create polyurethane foam. Long, repeating chains of molecules are formed rapidly as the molecules expand to 30 times their original size in this quick and exciting reaction.
John Price
2012 NIU Chemistry Club Edwards-Hyland Award Winner
(with Diane Edwards and Ed Hyland)

Audrina Pryer
2013 NIU Chemistry Club Edwards-Hyland Award Winner
(with Jon Carnahan and Dave Ballantine)

Saba Hamid won People’s Choice Award at the 2013 Undergraduate Research and Artistry Day. Saba’s poster, entitled “A Comparative Analysis of the Non-Enzymatic Glycation to the Bovine Lens: A Model to Probe the Structural Alterations of the Diabetic Lens”, was overseen by Prof. Elizabeth Gaillard.

Rick Jeswein (R) tied for First Place, STEM Category at the 2013 Undergraduate Research and Artistry Day. His research supervisor is Prof. Tim Hagen. Rick’s winning poster was entitled “IspF Inhibitors and Anti-Malarial Activity”.

Anne Barrett Swanson (B.S., ’70) returned to the department on Friday, October 12, 2012, during NIU’s Homecoming to give a seminar, reflecting on her journey from NIU throughout her career.

In this photo, Anne accepts a Distinguished Alumni Award from former department chair Joe Vaughn and current chair Jon Carnahan. Anne, along with fellow alum, Mary Wirth (B.S., ’74), were recognized as Distinguished Alumnae by the College of Liberal Arts and Sciences.
The Northern Chemist

Thank you alumni and friends! The faculty, staff, and students of the Department of Chemistry and Biochemistry wish to express our appreciation for your continued support and generosity, especially in this challenging economic environment.

We are proud to acknowledge gifts from the following alumni and friends during the 2011 and 2012 calendar year. Organizations listed below in italics represent corporate/matching gifts.

Michael Faraday Society ($1,000 & above)
Steven W. Anderson (Ph.D., ’85); Robert M. Arduini (B.S., ’85); Michael (B.S., ’73) & Norma Cornell; Ronald (M.S., ’69; Ph.D. ’72) & Elizabeth Hennis; Thor (B.S., ’65; Ph.D., ’72) & Darlene Jondahl; Gary & Isabelle (B.S., ’80; M.S.Ed., ’87; M.S.Ed., ’07) Kovarik; William (M.S.Ed., ’50) & Dolores (B.S.Ed., ’51) Minkema; Dennis Evans & Mary Wirth (B.S., ’74); John C. Wood; Thomas M. Zydowsky (B.S., ’75; M.S., ’78)

Marie Curie Circle ($250–$999)
Charles (B.S., ’68) & Ann Achilles; Ellen Cull & Michele Zavos; John (B.S., ’58) & Mary Davison; James M. Dejovine (Ph.D., ’74); John (B.S.Ed., ’51; M.S.Ed., ’53) & Gilda Ferrara; Glenn (B.S., ’56) & Nancy Green; Robert S. Gronke (B.S., ’82); Irma C. Hernandez-Lyon (M.S., ’90); Arnold Hampel (B.S., ’63) & Denise (B.S., ’84; M.B.A., ’95) Kennedy; Kim (Ph.D., ’01) & Nicole Lobring; Marc (B.S., ’70) & Charlene (B.A., ’70) Longino; David A. McGregor (B.S., ’87); Cynthia A. Pommerening (Ph.D., ’00); Heather Price (B.S., ’89); Carol E. Rolf (M.S.Ed., ’75; M.B.A., ’06) Rouseva; Ruth N. Rolf Trust; Paul (B.S., ’74; M.S., ’78) & Corinne (B.S., ’75) Schmidt; John & Ginette (B.S., ’88) Tolleson; Laura L. Unger (B.S., ’76); Harold J. Vickery (B.S., ’73); Paul (B.S., ’05) & Virginia Weber; Barry (B.S., ’88) & Blenda Williams; Yongqian Ying (M.S., ’98); Abbreviations: Abbott Laboratories Fund; Johnson 

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Special Thanks to Alumni Speakers
In recent semesters, a number of alumni have graciously returned to give a talk as part of our departmental seminar series. Special thanks to Anne Barrett Swanson, Dean Emeritus, Sonoma State University, Rohnert Park, Calif. If you are interested in an invitation to present a seminar, please contact Lee Sunderlin at sunder@niu.edu or 815-753-6870.

We make every effort to acknowledge the generosity of our alumni and friends (the above is in recognition of donations made during the 2011 & 2012 calendar year). We regret any errors and omissions. If for any reason you wish to remain anonymous, please tell us on your contribution form, or when the volunteer from the Huskie Telefund contacts you.
Let Us Hear From You...

Please update information about yourself. We look forward to hearing from you and hope you will also consider making a contribution to the department.

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DEGREE      YEAR

DEGREE      YEAR

OTHER:

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- Van Ackerman-Duminy-Kovarik Scholarship Fund
- Department of Chemistry & Biochemistry Scholarship Fund (please see story on page 3).

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Top Scholars of 2012 and 2013

Each spring, the department holds its annual Chemistry Club Awards Banquet, recognizing our top chemistry students for their academic achievement, service, and leadership. Thanks to the generosity of our alumni and friends, many student awards are presented including the following endowed scholarships.

The **Chemistry Alumni Undergraduate Scholarship (CAUS)** is awarded to a continuing undergraduate based on overall academic excellence. The 2012 recipients were Michael Mascitti and Katherine C. Powers. The 2013 recipient is Tyler Hayes.

The **Kevin Cull Memorial Teaching Awards** are presented to outstanding graduate teaching assistants at all levels of instruction. Last year’s recipients were Kenneth Boblak, Lauren Grabstanowicz, and Travis Helgren. This year’s recipients are Tsehaye Eyassu and Kimberly Henderson.

The **NIU Chemistry Club Edwards-Hyland Award** is given to a junior who is an active member of the Chem Club. The winners are John Price (2012) and Audrina Pryer (2013).

The **John D. Graham Scholarship** is given to a graduate student based upon scholarship, including both academic and research achievements. Last year’s winner was Megan Murtaugh. This year’s winner is Rajasekhar Naredla.

The **Rosalie Reynolds Memorial Teaching Scholarship** is given to a junior or senior based on overall grade point average and intention to pursue a career in teaching. The 2012 recipient was Andrew Heimer. The 2013 recipient is Jarrod Ragusin.

The **Van Acker-Duminy-Kovarik Scholarship** is awarded to an incoming undergraduate or graduate student with preference given to students planning to study inorganic chemistry and/or pursue a career in teaching. The 2012 recipient was Tressa Sharma and the 2013 recipient is Shena Stanley.

For a complete listing of awards and recipients, see pages 9 and 10 or visit niu.edu/chembio/giving.