



ALUMNI NEWS

DEPARTMENTS OF CHEMICAL & BIOMOLECULAR ENGINEERING AND CHEMISTRY SUMMER 2005

School of Chemical Sciences Corners Market on Cottrell Scholars

A recent article, entitled "Is It Something in the Water? Cottrell Scholars at the University of Illinois at Urbana-Champaign" singled out the University of Illinois as the only institution to have 10 Cottrell Scholars over the past decade. With five Cottrell Scholars, Purdue holds the num-

ber two position. The article appeared in the newsletter of the Research Corporation, the foundation that funds the highly competitive and prestigious Cottrell Scholars program.

Shortly after this article ran, an 11th University of Illinois Cottrell Scholar, Chad Rienstra, was selected. Rienstra, assistant professor of chemistry, with interests in biological NMR spectroscopy, has also been recognized with an NSF CAREER award and the 2005 Analytical Chemistry Award from Eli Lilly.

Of those 11 Cottrell Scholars at the University of Illinois, seven have been from the School of Chemical Sciences. The

Cottrell Scholars program, established in 1994 by the Research Corporation, awards early-career faculty who show promise as future leaders and who also excel at teaching, especially at the undergraduate level.

Research Corporation is a private foundation that supports basic research in the physical sciences.

In addition to Rienstra, the Cottrell Scholars affiliated with SCS are Nancy Makri (1994), Martin Gruebele (1995), Yi Lu (1997), David Y. Gin (1999), Wilfred A. van der Donk (2000), and Neil L. Kelleher (2002).

Jim Beck Gives Back

Jim Beck, Ph.D. '61, never set out to get rich; he never thought about being a philanthropist. He simply followed his interests, persevered when things got tough, and, when all was said and done, realized he had more money than he knew what to do with. Students at the University of Illinois, both undergraduate and graduate in chemistry and microbiology, are the happy beneficiaries of Beck's largesse.

Beck, who was the first in his family to go to college, much less graduate school, has endowed scholarships and fellowships in both chemistry and microbiology. His gifts will ultimately total in the seven figures.

"Well, I figure I can't take it with me," he says with typical understatement.

Beck's family moved from Paris, IL, to Terre Haute, IN, when he was 10. He built his first chemistry lab in fifth grade. When it came time to go to college, nearby Purdue seemed an obvious choice. Unfortunately, Beck ran out of money after a couple years. Luckily, after serving during the Korean War, he was able to take advantage of the G.I. bill to finish his undergraduate degree. This time he headed to the University of California, Berkeley. Beck's uncle lent him his life savings of \$1,100 so he could get to California. Beck excelled at Berkeley, graduating with highest honors and Phi Beta Kappa.

Beck thought at that point he had it all figured out; he would go out and get a job as a chemist and live happily ever after.

"I was very naïve," says Beck.

The only job he could get paid about \$350 per month.

"After all this sacrifice, that seemed inadequate." When someone suggested



Jim Beck on a wildlife tour

graduate school Beck was taken aback. "I never even thought about a PhD..."

Nevertheless, Beck quickly realized that getting his doctorate was the next logical step. So, he identified the four top schools, which included Illinois, and made his decision. "I only applied to Illinois,"

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From the Director's Desk

Biomolecular chemistry—or chemical biology, as it is also known—is truly one of the most exciting new directions for our two departments. The idea that we can decipher human biology at the level of individual proteins and small molecules has enormous implications for understanding and treating disease. Our school continues to be deeply rooted in basic chemistry and chemical engineering principles—those are core values and concepts. But our faculty and students increasingly seek to apply their expertise to solve biologically-based questions and we are doing very well at this.

In this issue we announce further progress in chemical biology and biomolecular engineering. You can see that SCS faculty continue to receive major grants in the area, and alumni who have dedicated their careers to biomedical careers are helping ensure continued excellence with their generosity. Elsewhere in this newsletter, the report from the Research Corporation, a story about senior Kristen Kierulf, faculty members Bill Hammack and Neil Kelleher, and alumnus Jim Beck demonstrate the phenomenal quality of our students, our faculty, and our alumni.

Thomas Rauchfuss

To reach the editor...

You can reach our office by email at scsnews@scs.uiuc.edu or by fax at (217) 333-3120. Please continue to send your news and also include comments on the newsletter, alumni and development programs and any questions you may have on any of the above. Have an idea for a story? We enjoy hearing from you.

SCS *Alumni News* is published twice a year by the School of Chemical Sciences at the University of Illinois at Urbana-Champaign. The newsletter is produced for the school by the College of Liberal Arts and Sciences Office of Publications.

Written by Deb Aronson

Kristen Kierulf: Supreme Multitasker & Future Role Model

If, as the saying goes, women are like Swiss army knives because they multitask with ease, then Kristen Kierulf is the deluxe super turbo-charged model. The Chicago-area native earned two degrees, one in chemistry and the other in microbiology, wrote an undergraduate thesis, and conducted research in Professor John Katzenellenbogen's laboratory, and served as president of the National Organization for the Professional Advancement of Black Chemists and Chemical Engineers from 2003-2005.

How did she manage all this?

"I like to be organized," says Kierulf. "I am a woman of lists."

But something you can't tackle with lists was a kind of invisible but nonetheless daunting barrier of being from a working-class, minority family. Kierulf's mother died when she was 7. She was raised by her father and her two older brothers. "I have three dads," she likes to say.

Kierulf credits at least part of her drive to her older brother, who received his bachelor's degree in chemistry from the University of Illinois at Chicago and is now studying for the seminary. Kierulf was also inspired by her mother's death.

"I realized then that if I was going to get anywhere I had to study and work hard," she says. She describes her years at Illinois as "not social." "I focused on the books," she says.

All that work has paid off. This fall, she will attend Northwestern University to pursue a Ph.D. in microbiology and a master's degree in public health.

Because Kierulf had always been interested in how things worked, she started out as a bioengineering major, but it was not a good fit. On a tip from a

fellow student, she went to see Debe Williams, director of academic advising and career services.

"Debe is more than an advisor, she is my friend," says Kierulf. "I would go talk to her about anything that was bothering me; I can get uptight because I am compulsive and a perfectionist. Debe would always calm me down and set me right."



At the Kierulf/Mighty nuptials, from left: Claire Williams, Reginald Mighty, Kristen Kierulf Mighty, Alex Williams, Debe Williams, and her husband, Mark Williams.

Kierulf also found a home in John Katzenellenbogen's lab, where she worked since 2002, first doing mutagenesis on estrogen receptors *in vitro* and then on assay development. Her thesis, which was on the assay development work, received the Bailar Award for best undergraduate

thesis. Katzenellenbogen is the Swanlund Professor of Chemistry and an affiliate of both the Beckman Institute and the Department of Bioengineering.

Kierulf is pursuing a doctorate primarily because she wants to continue laboratory research, but also to be a role model.

"There are not a lot of minority or women chemists. It's lonely and a little isolating to be the only minority in your classes," says Kierulf, who found the experience disheartening. But every time she wanted to quit, her brother and Williams convinced her to hang in there. And hang in there she did.

And she has chosen the master's in public health as a way to help other people.

"For poor people I see how important the public health system is; there just is not enough education out there."

In typical Kierulf style, she got married ("to a wonderful man I met while finishing high school") the same day she graduated. She took her husband's name, so she is now Kristen Mighty. Which, somehow, says it all.

Beck continued from page 1

he said. "Illinois was the number one graduate school in chemistry; graduates of the program ran companies and were not just good chemists, but good managers and leaders."

"I didn't have a whole lot of confidence that I could make it through, but I got a Roger Adams fellowship, which meant I could start my research immediately," Beck remembers.

He joined Dr. Kenneth Rinehart's lab. Rinehart was only a couple years older than Beck and the two clicked. It marked the beginning of Beck's interest in antibiotics research. After a post-doc in Zurich, Beck returned to the U.S. and worked for Eli Lilly his entire career. That career led to 48 U.S. patents and 35 scientific publications. He retired in 1988.

Beck never really gave much thought to making large gifts to his alma mater, until he started having to withdraw money from his IRA, starting in about 1997. "I didn't really need the money much so I thought I would give it to charity. The first scholarship I thought of on my own. Since I had such a difficult problem paying for college as an under-

graduate, I assumed there were a lot of poor kids getting left out of chemistry and microbiology," says Beck.

Later, after establishing the Beck scholarship program for undergraduates, Beck came to visit campus and learned that, these days, graduate students face more hardships than undergraduates in paying for their education. So he turned around and funded graduate student fellowships also.

"I was unaware of the situation until Jeff Roley, at the University of Illinois Foundation, explained it to me."

Beck recognizes that the fields of chemistry and microbiology are converging as more and more genetic information is discovered. The two fields together do the kinds of work that Beck did throughout his career.

By establishing these scholarship and fellowship programs, Beck has been looking to the future, but he also enjoys looking into the past. Since retiring he has become interested in genealogy and in colonial history. Genealogical research is a lot like chemistry, he avers.

"It's essentially the same business," he says. "You use libraries, search the literature, not for molecular structure, but for a relative."

All of Beck's ancestors were in America in the colonial period and he has enjoyed tracking them down, imagining what life was like back then. This led to another hobby, which is collecting documents signed by famous people from American history. Beck owns three documents signed by Abraham Lincoln, one by John Adams, one by Ben Franklin. His collection totals 40 in all.

"Some collectors see it as an investment, but I'm not in it for that," says Beck, who has determined that he is related to Lincoln, as well as Patrick Henry and Dolly Madison. Beck, ever the researcher, points out that many people are related to early figures in American history. If you go back just seven generations, you will have 256 great-grandmothers, who will have had thousands of descendants, so the numbers are in your favor that someone you are related to will be famous!

There is no telling what the future holds for Beck, but one thing is clear, thanks to his foresight—many Illinois students will be that much closer to reaching their dreams.

Debe Williams Goes Beyond Advising Duties

Debe Williams loves her job as career services and academic advising director. She has worked hard to make her office a kind of island in the storm, where students feel comfortable to come check their email, check in with her, celebrate their triumphs, and get support during troubled times.

"If you are a chemistry or chemical and biomolecular engineering student, you are one of my kids. I look after you," says Williams. "Students come to me for everything: they think they are in the wrong major; they are getting pressure from their parents to stick with it even when their heart isn't in it; how to handle credit versus non-credit courses; they just broke up with their boyfriend or girlfriend; they got an award and are so excited; they had a breakthrough in the lab and want to celebrate it; they need a job and have no clue what they want to do. My job is all about relationship building and is the most rewarding thing I could do."

But sometimes one student makes a particular impression. And so it was with Kristen Kierulf.

"In life, sometimes you just connect with people," says Williams, who met Kierulf three years ago when Kierulf came to discuss changing majors. From then on, Kierulf was a regular visitor to Williams' office.

And so, when Williams heard that Kierulf was going to cancel the traditional wedding she had planned with her fiancé, Reginald Mighty, because of the cost, Williams offered to hold the wedding at her own home. The wedding, which was held the afternoon of commencement day, went off without a hitch. The food showed up just as the couple was pronounced husband and wife, and everyone had a good time.

"Kristen simply glowed," says Williams, of her new "lifelong friend."

The School of Chemical Sciences graduated a total of 148 undergraduates during the academic year of 2004-05. Sixty of



those received degrees in chemical and biomolecular engineering (ChBE), and 78

received their bachelor's degree in chemistry. Among the employers of our graduates were Pfizer, Abbot, Merck, Schering-Plough, Bristol-Myers-Squibb, Chiron, Intel, Proctor and Gamble, Kraft, Shell, Glaxo-Smith Kline, Johnson and Johnson, DuPont, and Lubrizol.

In addition, the school awarded 30 master's degrees and 64 doctorates.

Chemistry, Life Sciences Meet & Form a New Frontier

The interface of chemistry and life sciences is one of the most exciting fields of scientific study to emerge today—"proteomics." Proteomics, a category of "chemical biology," unites chemical and biological methodologies to expand our knowledge of living systems, including our understanding of how proteins interact with each other, their environment, and other molecules. This novel research approach offers enormous potential to enable us to better understand the

"Put simply, modern analytical instrumentation allows the accumulation of gigabytes of data from characterizing a biological sample, but sifting through the data and extracting the needed information is now the task of experts."

human disease process, resulting in the promise of improved, more targeted treatment options.

Members of the School of Chemical Sciences (SCS) continue to lead the charge into this new frontier. In addition to establishing the U. of I. Neuroproteomics Center, funded by the National Institute of Drug Abuse and announced in the last newsletter, SCS faculty were recently awarded another major grant in support of the advancement of the proteomics field.

Jonathan Sweedler and Neil Kelleher, professors of chemistry and bioengineering, have received a \$3.15 million, three-year grant from the Roy J. Carver Charitable Trust. A portion of these funds will enable the purchase of a powerful 15-Tesla superconducting magnet, which is the heart of an ultra-high-performance Fourier-Transform Ion Cyclotron Resonance Mass Spectrometer; only the second one established in the nation.

The Carver Trust grant will be administered by The Biotechnology Center at the University of Illinois, which provides state-of-the-art research infrastructure to investigators both on and off campus. The new mass spectrometer will allow researchers an "unprecedented ability

to analyze subtle molecular changes in cell and human biology—mostly at the level of proteins and small molecules," says Kelleher, co-principal investigator on the grant.

The structure of protein molecules cannot be predicted simply by analyzing the human genome; this is where mass spectrometry comes in. This advanced technology can precisely detect the subtle molecular changes that occur in both normal and disease-associated human proteins. Professor Kelleher already uses an 8.5 Tesla instrument in his lab and is experienced in the software development required to use the magnet to analyze small, intact proteins. The 15-Tesla



Professor of Chemistry
Jonathan Sweedler

model will enable scientists to probe chemical modifications in larger, more complex proteins.

The second half of the award will provide bioinformatics support to the U. of I. Urbana-Champaign campus.

"Put simply, modern analytical instrumentation allows the accumulation of gigabytes of data from characterizing a biological sample, but sifting through the data and extracting the needed information is now the task of experts," says Sweedler, the Lycan Professor of Chemistry and director of the Biotechnology Center. "Researchers in most cases are left data-rich but knowledge-poor."

These advances in technology have provided researchers with the daunting task of analyzing mountains of biological data gathered at the protein and molecular level. In addition to the mass spectrometer, the Carver Trust grant will also support a team of bioinformatics experts to assist in implementing customized, advanced integrated software systems to analyze and interpret the proteomics, genomics, and metabolomics data obtained by modern instrumentation at U. of I.

Roy J. Carver received his bachelor's degree in engineering from the University of Illinois in 1934. The Carver Trust has awarded close to \$12 million to Illinois in support of scientific research and projects. The mass spectrometer will be housed in the Institute for Genomic Biology, now being built on Gregory Drive between Bevier Hall and the Morrow Plots.



Professor of Chemistry
Neil Kelleher



Neil Kelleher upon receipt of his Presidential Early Career Award for Scientists and Engineers (PECASE) from President Bush at the White House on June 13, 2005. The PECASE is the highest honor bestowed by the U.S. government for outstanding scientists and engineers beginning their independent careers.

Hammack Named Jefferson Science Fellow

Bill Hammack, associate professor of chemical and biomolecular engineering, has been named a Jefferson Science Fellow, one of five selected nationally by the Department of State for roles of scientific diplomacy.



Hammack is committed to helping people appreciate and understand engineering in their everyday lives. His weekly radio essays, titled *Engineering and Life*, do that by exploring and explaining everything from polymers used in soft contact lenses, the importance of glass in our lives, how nylon revolutionized our lives, Tupperware and thermosetting plastics, and the incredible chemical metallurgy of the latest razor.

He teaches a popular course, *The Hidden World of Engineering*, to give non-engineering students an appreciation for how engineers think. It is taught in a



Bill Hammack recording a radio commentary

unique way that lets the students work in teams and actually do engineering.

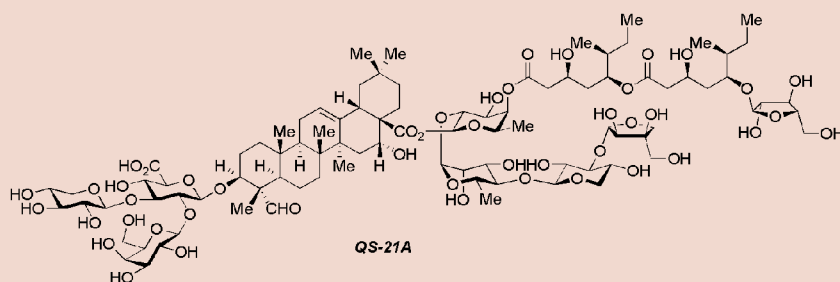
Hammack has also received the President's Award from the American Society for Engineering Education, the Science in Society Award from the National Association of Science Writers, and the Science Writing Prize in Broadcast Media from the American Institute of Physics.

Hammack received his master's and doctorate degrees in chemical engineering from the University of Illinois in 1986 and 1988, respectively. After a stint at Carnegie Mellon as an assistant professor, he came back to Illinois where he has taken a leadership role in making technology understandable to the populace.

Gin Synthesizes Disease-Fighting Molecule

David Gin, associate professor of chemistry, and his research group have successfully synthesized QS-21A, an important molecule that helps the body fight cancers and malaria.

The molecule has previously been demonstrated to boost the body's immune response to melanoma, breast cancer, small-cell lung cancer, prostate cancer, HIV-1, and malaria, and is being used in about 80 clinical studies. The QS-21A in these studies comes from natural sources, such as the bark of the South American tree, *Quillaja saponaria* Molina. However, the molecule occurs in very small quantities. By synthesizing the molecule it can be made more widely available.



Gin has focused on QS-21A because of its biological activity. A lot of experimental cancer vaccines do not work without QS-21A. In addition, QS-21A was the perfect vehicle to refine the carbohydrate coupling reactions the lab had developed.

However, QS-21A is an enormous molecule, making it difficult and complicated to make. Gin estimates that it took up to 60 separate steps to synthesize QS-21A. This single project took about five years and four people working on it full-time.

With a molecule this large it often happens that parts of the molecule are chemically intolerant of other methods for the synthesis of parts of the molecule. For example, some parts of a molecule of this size might be intolerant of bases or acids, which complicates the synthetic plan. The challenge in synthesis is to develop new chemical reactions to efficiently combine smaller molecules in a controlled way to get to the bigger one.

The skills Gin's students have learned on this and other related projects are of great interest to the pharmaceutical industry, who have hired many of Gin's students.

The next step for the QS-21A molecule is to determine which part of the molecule is the most bioactive and remove those parts of the molecule that don't serve that purpose. In this way, the molecule will be easier to make and to market.

"Once we can synthesize a molecule from the ground up we can modify it at will," says Gin. "Whereas if you were to isolate it from the natural source you cannot pick it apart atom by atom if you wanted to change something. We can modify specific parts to find out which parts are important to biological activity and in doing so we can figure out how it works in the human body. How it works is not known yet, only that it works."

Gin's group also is working to synthesize QS-7, another immunoreactive molecule found in the *Quillaja saponaria*.

Richard Bankert, MS '63, PhD '66, Chem (H. Laitinen), died February 24, 2005, following complications from heart surgery. Dr. Bankert worked for The Franklin Mint from 1973 until he retired in 2002. He is survived by his wife, Pat; five children; and six grandchildren.

Joseph H. Burckhalter, MS '38, Chem (R. Fuson), died May 9, 2004. He was 91 years old. Dr. Burckhalter worked as a senior research chemist at Parke-Davis, where he was co-inventor of the antimalarial agent amodiaquin. In 1947, Dr. Burckhalter joined the University of Kansas as the first chair of the department of medicinal chemistry. In 1960 he left to teach at the University of Michigan where he became the first chair of the graduate program in medicinal chemistry. In 1983 he became research professor at the Florida Institute of Technology, Melbourne. Dr. Burckhalter co-invented the first stable antibody-labeling agent. He later worked with Robert Seiwald to develop the antibody-labeling agent fluorescein isothiocyanate. This compound played an important role in identifying the cause of AIDS and is still widely used for its accurate diagnosis of infectious diseases. He is survived by his wife, Julia; two sons; a daughter; and two grandsons.

Lorenzo (Ren) Burdett, PhD '49, Chem (H. Laitinen), died July 23, 2004, two weeks before his 88th birthday. He worked for Union Oil Research in Brea, California, for more than 40 years. Dr. Burdett was married for 59 years and is survived by seven children and 19 grandchildren.

Darrel J. Butterbaugh, PhD '38, ChemE (R. Adams), died February 27, 2005. He worked as a bench chemist and later in management for Rohm & Haas his entire career. He was also a graduate of Harvard University's Advanced Management Program. Dr. Butterbaugh retired in 1971 and pursued a passion in archaeology by volunteering his chemistry expertise to the University of Pennsylvania's Museum of Applied Science Center for Archaeology. He was sent to various sites around the world to preserve adobe structures. He is survived by his wife,

Janet; three daughters; seven grandchildren; and two great-grandchildren. Contributions in his memory can be made to the UIF Partnership for Chemistry Fund.

Clayton F. Callis, MS '46, PhD '48, Chem (J. Bailar, Jr.), died March 9, 2005. He was 81. His research, which involved application of nuclear magnetic resonance to the study of phosphorus compounds, was of fundamental scientific importance and of great significance to Monsanto, where he spent his professional career. At the time of his retirement in 1985, Dr. Callis was director of environmental operations of Monsanto Fibers & Intermediates Co. Dr. Callis was very active in the American Chemical Society, both on the national level and in the St. Louis section. He served as ACS president in 1989. Dr. Callis, whose wife, Sara, died in 1991, is survived by two daughters and four grandchildren.

Howard P. Hetzner, AB '36, Chem, died October 30, 2004. He was 98 years old. Dr. Hetzner began his career as a research chemist for Standard Oil. In 1942 Dr. Hetzner married Pauline Hemp, of Berkeley, California. From 1942-44 he served his country as a petroleum specialist for the Petroleum Administration for War in Washington, D.C. After the war he worked for the Atomic Energy Program. Later in his career he returned to Standard Oil, where he worked from 1959 until he retired in 1977. Dr. Hetzner loved to play clarinet, which he did in numerous bands and small ensembles. He also enjoyed woodworking, traveling, and reading. Dr. Hetzner's wife of 42 years, Pauline, preceded him in death. He is survived by his children Paula Klein of Rio Rico, Arizona; Peter Hetzner of Lodi, and Martha Nilsen of Tiburon, as well as eight grandchildren.

Blaine C. McKusick, PhD '44, ChemE, died in his sleep on January 5, 2005. He was 86 years old. Dr. McKusick was a member of the University of Delaware Research Foundation for many years and worked for DuPont for 37 years in the central research department, the agricultural chemicals department, and the Haskell laboratory for toxicology and industrial medicine. Dr. McKusick's work with war gases during World War II led him to a

lifelong goal of getting the United States to sign the war-gas treaty. His goal was achieved when the U.S. Senate ratified the treaty in the late 1990s. Dr. McKusick received numerous awards throughout his career, including the University of Delaware Medal of Distinction for humanitarian and scientific contributions to society. He is survived by Emily Morris, his wife of six years; his three children from a previous marriage; and a grandchild.

Douglas R. Stephens, MS '59 and PhD '60, ChemE (H. Drickamer), died May 9, 2004. Dr. Stephens worked for 43 years at the Lawrence Livermore National Laboratory, where he conducted research in high pressure. During that time, he was a principle investigator for analysis of moon rocks from the Apollo 11 mission. In the 1970s and 1980s he headed experimental projects in coal gasification. Later in his career he did risk assessment for military applications. Dr. Stephens was a fellow of the American Institute of Chemical Engineers.

Robert Thorn, PhD '42, Chem (T. Phipps), died when a fire broke out in his home on October 26, 2004. Dr. Thorn, a retired Argonne National Laboratory chemist, was 89. He is survived by his son, Craig; a grandson; two brothers; and several nieces and nephews.

Richard D. Trelease, BS '40, Chem, died July 10, 2004. Mr. Trelease worked for 40 years as a research chemist at Swift & Co. While with Swift, Trelease worked to improve rations sent to WWII servicemen. He was instrumental in developing processed meat, frozen foods and freeze-dried technology—work that paved the way for food used in the space program. After retiring, Mr. Trelease volunteered as a consultant in developing countries. In Kazakhstan, he supervised the creation of factories for preserving local food supplies. He is survived by his wife, Arlyne; six children from a previous marriage; five stepchildren; 21 grandchildren; and seven great-grandchildren.

ALUMNI NOTES

Victor Buhrke, BS '50, MS '52, PhD '54, Chem (Clark), received the 2005 Jenkins Award. Named in honor of Dr. Ron Jenkins, the award was established to recognize scientists who make significant contributions to advance and improve X-ray methods that analyze materials. Victor, whose career has spanned 50 years, was recognized for his contributions in X-ray fluorescence and X-ray diffraction in research, engineering, applications, training, consulting, and management.

Mits Kubota, MS '58, PhD '60, Chem (Brown), retired after 41 years on the faculty of Harvey Mudd College. He swims five days a week at the college pool and is engaged in his obsession with cymbidium orchids. Mits trained many undergraduates who continued their PhDs at U. of I.

George P. Nassos, BS '61, ChemE, is director of the MS in Environmental Management program at the Stuart Graduate School of Business at the Illinois Institute of Technology. After 32 years in industry, George joined Stuart right after the program was established in 1995. It now ranks among the top 15 programs in environmental management among about 460 accredited graduate business schools in the world.

Steve Miller, MS '72, PhD '74, Chem (Wetmur), is a ChevronTexaco Fellow with that company's Energy Technology Company. His responsibilities include leading projects in developing new catalyst and processing technology for both the upstream and downstream businesses, advising on long-range corporate research, and helping develop and manage R&D joint ventures.

Brock Siegel, PhD '74, Chem (Beak), is Vice President at Applera Corp (Applied Biosystems; Celera Genomics) in San Francisco, California. His focus is on new DNA sequencing chemistry, protein engineering, and genome database correlations. Opening chemical genomics to pharmaceuticals and diagnostics has been keeping him busy.

Ving J. Lee, MS '73, PhD '75, Chem, (Rinehart), has been named CEO and chief scientific officer at CB Research & Development in New Castle, Delaware. He joined the company in early 2004 after serving as a consultant since 1999. From 2002 to 2004, Lee was also chief scientific officer and vice president of discovery research at Anacor Pharmaceuticals.

Frank Calabrese, BS '77, ChemE, is National Sales Manager for The Grieve Corporation in Round Lake, Illinois. He is directly responsible for marketing, advertising, and both domestic and international sales for all Grieve products, which include Class "100" clean room ovens for the pharmaceutical industry.

Debra Hughes, BS '81, ChemE, is serving as lead operations planner for styrene and aromatics at Lyondell in Houston, Texas.

Charles S. Baer, PhD '82, Chem, (Faulkner), has been transferred to Memphis to serve as a product development manager at DuPont. In his new position Charles is responsible for four insecticides. Before his transfer, Charles was in Dupont's U.S. registration group for 14 years.

Rod Gerling, BS '87, ChemE, is a process engineer at Akzo Nobel Aerospace Coatings in Waukegan, Illinois. He is currently focused on optimizing throughput in the Batch Manufacturing Department.

Zen-Yu Chang, PhD '88, Chem (Coates), is working as a research scientist for GE Water and Process Technologies in the Houston area. After 12 years working in synthesis, he is now focusing on developing new products in the hydrocarbon process and fuel additive industry.

Milan Mrksich, BS '89, Chem, (Zimmerman), professor of chemistry at the University of Chicago, has been designated as a Howard Hughes Medical Institute investigator. He will receive research support for seven years in recognition of his excellence.

George R. Haynes, BS '90, Chem, is currently president and CEO of D&H Professional Pharmacies LLC, a pharmacy services organization in Philadelphia, Pennsylvania. In August 2005, George will be installed as president of the Pennsylvania Pharmacists Association.

William F. Banholzer, PhD '93 (Masel) was selected as Chief Technology Officer at Dow Chemical. Previously at GE, he was VP for Global Technologies for Advanced Materials.

Justin Gallivan, BS '94, Chem (Schuster), currently assistant professor at Emory University, was named one of 25 Beckman Young Investigators for 2005, in honor of U. of I. alumnus Arnold Beckman.

Eric J. Houser, PhD '94, Chem (Rauchfuss), at the Naval Research Laboratory, is co-inventor of SniffEx, an R&D 100-winning technology that features a micromechanical sensor for detecting explosives with sub-part-per-trillion sensitivity.

Margaret E. Kosal, PhD '01, Chem (Suslick), recently was featured in *Chemical & Engineering News*. The article describes, among other things, how with Dr. Suslick, she was part of the founding team for a start-up sensor development company called ChemSensing. Dr. Kosal is currently a science fellow at Stanford University's Center for International Security and Cooperation, particularly on threats from nanotechnology. Recently, Dr. Kosal has participated in several terrorism response exercises and was invited to speak on improvised chemical terrorism.

Drop us a line

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Margaret Kosal, PhD '01, Chem, makes her 1,000 skydiving jump above the fields of Vandalia, Illinois. Kosal is in the 7 o'clock position.

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