



# Mudd In Your Eye

Newsletter of the Department of Chemistry, Lehigh University

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“Great importance is given to chemistry as an elementary branch of learning.” — *Lehigh Register* 1866

## LEHIGH ALUMNUS NAMED NEW CHAIR OF THE CHEMISTRY DEPARTMENT

Robert A. Flowers, II ( Ph.D. Lehigh 1991), was appointed chairman of the chemistry department in January, 2004, the fourteenth person to hold that position in the 138 years the department has been in existence.

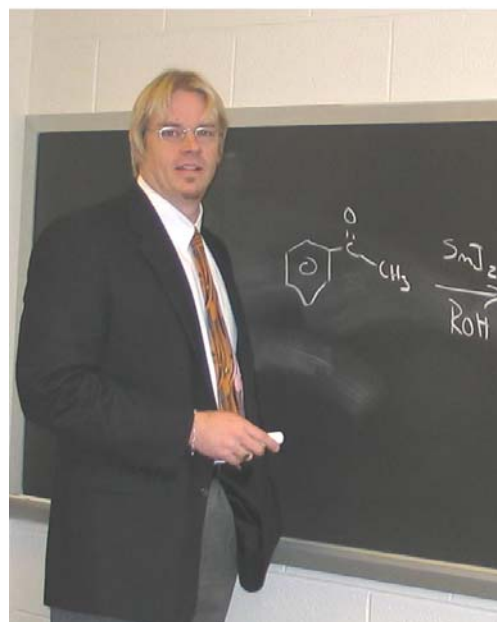
Born in Easton, Pennsylvania, Flowers developed an interest in chemistry while a student at Wilson High School, thanks to his teacher, Richard E. Eckert, also a Lehigh alumnus. But it wasn't just the chemistry that intrigued him. Eckert was a tough teacher, but “he treated us like adults. He taught us to be responsible. He had high expectations of us. I appreciated that,” Flowers said in a recent interview.

Because he excelled in chemistry and mathematics, Flowers' high school guidance counselor suggested that he major in chemical engineering. He enrolled at East Stroudsburg University which had a program where students could transfer to the chemical engineering program at Penn State after two years of basic courses at East Stroudsburg. But Flowers quickly learned that he didn't like engineering. “I really enjoyed chemistry and I liked the detail. I felt like I was being a detective.”

Flowers got his “love of organic chemistry” from Clarence Murphy, his organic chemistry instructor at East Stroudsburg. “He was a very interesting lecturer,” Flowers notes. “He would not just talk about reactions, but he would give you a little bit of historical background as well.”

During the summer of 1985, Flowers came to Lehigh as part of a summer undergraduate research program. Besides meeting people and making contacts, Flowers “really liked the atmosphere” at Lehigh. That positive experience led him to attend Lehigh as a graduate student in 1987, even though he had the opportunity to attend graduate school elsewhere.

At Lehigh, Flowers worked with John Larsen on single-electron transfer reactions in coal. “That's how I became interested in my present research,” Flowers points out, “even though I don't do anything related to coal chemistry now.” For his dissertation, *A Study of the Single Electron Chemistry of Coal* (Lehigh Library DISS 1991 F644s), Flowers did a lot of electron-spin resonance in collaboration with Bernard Silbernagel at Exxon. In



Robert A. Flowers, II (courtesy Arthur D. Bates)

using a suite of analytical techniques, Flowers admits that he “learned to be a problem solver because coal is a complex substrate. It has a lot of carbon atoms with the periodic table sprinkled in it. I felt I learned a lot of chemistry that maybe I wouldn't have been exposed to in a traditional type of problem.”

After leaving Lehigh in 1991 Flowers did a post-doc with Ned Arnett at Duke University. By this time Flowers had rejected the idea of working in industry after talking to friends who described their experiences. One in particular told him that he had spent two years working on a project, only to have it cancelled. “I understand the reasons for that,” Flowers admits, but “it was horrifying to me that you could devote two years of your life or longer and have to drop the work. I just didn't want to be in that situation.” By this time Flowers had also discovered through his tutoring of undergraduates in organic chemistry that he really enjoyed teaching as well.

Arnett and Flowers worked on three different projects—the mechanism of the action of Vitamin K (in collaboration with Paul Dowd of the University of Pittsburgh), the homolysis and heterolysis energies of carbon-carbon and carbon-heteroatom bonds, and the interaction of lithium ions with peptides, the latter in collaboration

with Dieter Seebach of the ETH (Eidgenössische Technische Hochschule Zürich). In addition to the science, Arnett provided another valuable experience. Knowing that Flowers was interested in academia, Arnett discussed in some detail how to write a research proposal. This included not just the overall construction, but also how to think about budgets and what language one should use.

After leaving Duke in 1994, Flowers joined the faculty at the University of Toledo, where he was promoted to associate professor rank. “I was happy there,” Flowers relates. “I had great colleagues. But as my research career was beginning to take off, I had trouble attracting enough graduate students into my program.” Eventually several institutions contacted him, and he moved to Texas Tech in 2001.

One day while he was working on a research proposal, Flowers was contacted by Doyle Daves, who was the Lehigh chemistry chair from 1981–1988. “I knew he had retired,” Flowers recalls, “so I thought maybe somebody died or something bad had happened. He asked if I was interested in applying for the chairmanship [at Lehigh] and I said ‘No.’” After discussing the matter with his wife, Flowers called Daves back and told him he had changed his mind.

“My role here,” Flowers explains, “is to move the department forward and devote my energy to rebuilding the department. I take that seriously. But I also think that part of my responsibility is to maintain my research program.” Flowers understands that his new duties will require him to reduce the size of his research group from the fifteen he had in Texas. Yet he plans to continue in three areas—the use of lanthanides in organic synthesis, protein refolding and renaturation, and molecular recognition.

Convinced that the students have a large stake in the department, Flowers has already organized a graduate student seminar committee and a similar committee on instrumentation with the assistance of Art Bates. Flowers makes it clear that “students are the main users of instrumentation, so I think it is reasonable to have them help develop some of the policies in their use.” With the assistance of Dr. Rebecca Miller, he has put together a brochure for undergraduates on the department faculty and their research interests. “I believe very strongly in undergraduate research,” Flowers emphasizes. “They can take what they learn in the classroom and in the laboratory and

make contributions to some very interesting research problems.” He is emphatic in maintaining that he wants “a more student-focused department.”

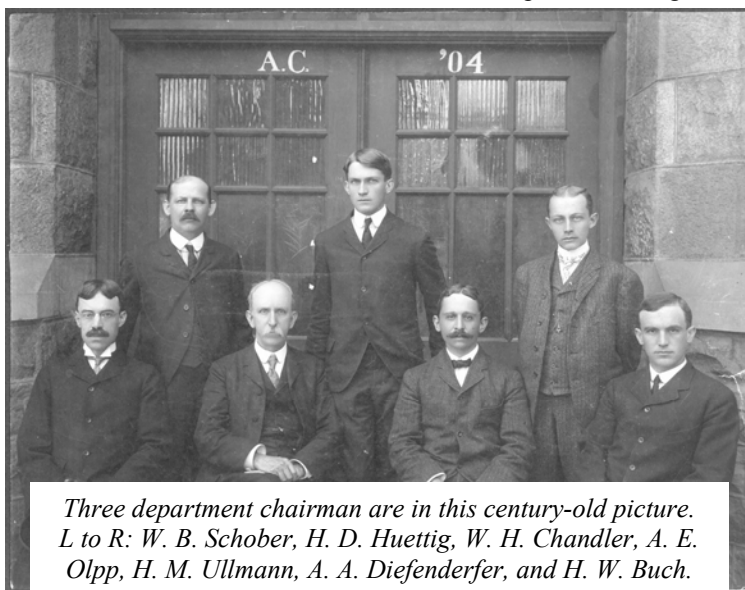
Perhaps one of the greatest challenges facing Flowers

is the addition of “ten faculty over the next five years.” His goal is “to move toward biological chemistry and research related to nanochemistry and materials chemistry. If we can interact from a chemist’s perspective with our colleagues in material science or biological sciences or chemical engineering, we can create strong research centers.”

When asked about what he would like to say to the department alumni, Flowers responded, “The

department is going to be undergoing major changes in the next five years and I will appreciate any support that they can provide. I don’t mean just money, although that’s nice, but any advice that they can provide is welcome. I’m willing to listen to anyone who is interested in the future of the department. I hope to come back to people in a year and say that we are moving in the right direction and I’ve been successful in working hard to move the department forward.”

—*J. J. Bohning*



*Three department chairmen are in this century-old picture. L to R: W. B. Schober, H. D. Huettig, W. H. Chandler, A. E. Olpp, H. M. Ullmann, A. A. Diefenderfer, and H. W. Buch.*

#### PREVIOUS CHEMISTRY DEPARTMENT CHAIRS

Charles Mayer Wetherill	1865–1871
William Henry Chandler	1871–1906
William Bush Shober	1906–1914
Harry Maas Ullmann	1914–1938
Harvey Alexander Neville	1938–1952
Earl James Serfass	1952–1959
Edward Delbert Amstutz	1959–1968
Frederick M. Fowkes	1968–1981
G. Doyle Daves	1981–1988
Henry Leidheiser, Jr.	1988–1989
John W. Larsen	1989–1992
Kamil Klier	1992–1996
Keith J. Shray	1996–2001
John W. Larsen	2001–2002
G. Doyle Daves	2002–2003

## ALUMNI NEWS

**Ronald L. Amey** (B.S. 1974, Ph.D. Univ. Illinois) is a Research Scientist with INVISTA, the new company formed as a spin off from Dupont's nylon fiber and intermediates. INVISTA also purchased Dupont's polyester, Lycra, and Terathane business.

**David Angst** (Ph.D. 1992; [dangst@tqs.com](mailto:dangst@tqs.com)) is a Senior Engineer at Triquint Semiconductor in Breinigsville, PA. Having "survived the Great Communications Industry Bust Cycle at several companies," he managed to stay in basically the same line of work—failure mode analysis of semiconductor lasers. Only four remain of the department of 66 engineers he once worked with, but Dave reports he is enjoying the lab research at Triquint. He says that "it's always great to hear from old friends who remember when Mountain Hawks were Engineers."

**Kurt F. Davidson** (M.S. 2002) and **Glenn Allen** (M.S. 2002) recently intercepted at the annual RadTech Conference in Charlotte, North Carolina. RadTech is the association for the advancement of ultra-violet and electron beam (UV & EB) technology. Kurt works for Whitford Corporation in Frazer, Pennsylvania, as a coatings chemist, and Glenn is employed at Akzo-Nobel, New Brunswick, New Jersey.

**Michelle A. DeCrosta** (B.A. 1979, M.S. 1981, Ph.D. 1986) was recently named Director of Quality Management at Pliva Pharmaceuticals in East Hanover, New Jersey. Michelle's tasks include managing method development and validation, methods improvement, technology transfer, analytical technical support, process development support, contract services, technology transfer, automation and metrology activities.

**Keith Kardos** (Ph.D. 1994) was promoted to Vice President at OraSure Technologies, Inc.

**Jeffrey A. Leiby** (M.S. 1989) has commenced a new position with GlaxoSmithKline at their King of Prussia site in the cardiovascular and urology medicinal chemistry group. Jeff was formerly a Research Chemist with Pfizer in Kalamazoo, Michigan.

**Thomas F. Lemke** (Ph.D. 1968) has retired as Director of Global Affiliations from International Nickel, Huntington, West Virginia.

**Gregory J. McManemin** (M.S. 1968) has completed two decades of R&D with the Analytical Research Department at Merck Research Laboratories (Rahway) working principally with chromatographic and mass spec methods for pharmaceutical characterization. Greg was formerly with Exxon (Linden, NJ) and prior to that with AT&T's former Western Electric Division (later Lucent) in Allentown, Pennsylvania. He has been active in the Society for Applied Spectroscopy and the North Jersey Chromatography Group.

**Robert A. Outten** (Ph.D. 1987) has joined the Process Research Department of Sandoz, a Division of Novartis Pharmaceuticals. Bob specializes in stability and reference standards studies.

**Gary K. Smith** (M.S. 1977, Ph.D. 1978) has been with GlaxoSmithKline in Research Triangle Park, North Carolina for 22.5 years. His research in the Department of Assay Development and Compound Profiling focuses on biochemistry and cell biology, with a strong emphasis on cancer and the role of apoptosis in therapeutics.

**Brian R. Strohmaier** (M.S. 1980) has created an ACS short course on "Leadership Principles for R&D Managers and Scientists." This course will be webcast in live sessions by the American Chemical

Society later in 2004. It is described at <http://chemistry.org/elearning>

**James D. Stuart** (Ph.D. 1969) took an early retirement from the University of Connecticut in May 2003 after teaching for 33 years. He was rehired for the spring 2004 semester to teach environmental chemistry. Jim continues to do analytical research, and has one Ph.D. student yet to finish. Jim also serves as a consultant to Perkin Elmer.

**John L. Stuart** (Ph.D. 1993) has been at Schwarz Pharma as a QC Manager responsible for product stability for three years. Schwarz Pharma is located in Seymour, Indiana, midway between Indianapolis and Louisville, Kentucky. Schwarz develops and markets innovative drugs for unmet medical needs with a focus on the therapeutic areas of neurology, urology as well as cardiovascular (Uniretic and Univasc) and gastro-intestinal diseases (including the first generic Omeprazole, Colyte).



*Chemistry Department Open House – 20 April 1934*

## NEW ALUMNI – CLASS OF 2004 (JANUARY AND MAY)

### PH.D. CHEMISTRY

**John A. Barkanic** – *Dissertation:* Plasma Etch Characteristics of Nitrogen Trifluoride Gas Mixtures.

**Mathew C. Henry** – *Dissertation:* Structural Studies of Surfactants at Air-Water Interfaces and Reverse-Phase Chromatographic Interfaces Using Sum-Frequency Spectroscopy and 2-D Correlation Analysis.

### PH.D. POLYMER SCIENCE AND ENGINEERING

**Xinyu (Cindy) Huang** – *Dissertation:* Controlled Radical Miniemulsion Polymerization Via the Raft Process.

**Ioan Marcu** – *Dissertation:* Study of the Incorporation of Alkoxyisilane Monomers Into Model Latex Systems.

**Siriwan Phattanasuddee** – *Dissertation:* Aggregation of Polystyrene Latexes Stabilized with Conventional, Reactive, and Polymeric Surfactants.

### M.S. CHEMISTRY

John R. Ashbaugh, Kristen A. Corinchock, Michael J. Isaacs, Paul H. Krolikowski, Catherine Z. Matthews, Stephen L. Moylan, Elizabeth A. Piaggese, Chad J. Quinn, and James L. Sabatowski.

### M.S. PHARMACEUTICAL CHEMISTRY

Pierette Banker, Richard Caldwell, Luckshman Coomaringam, Steven Dock, Allyson Doerr, Kyle A. Fliszar, David J. Good, Sandra A. Kopp, James J. Krikke, Kristi O. Lenz, Elyse A. MacDonald, George C. Ngwa, Lee T. Schaller, Jamie A. Swanson, Scott R. Throner, Valerie S. Weiss, Jeremy G. Webber, and Zhengyang Xin.

### M.S. AND M. ENG., POLYMER SCIENCE AND ENGINEERING

Michael T. Aida, Steven L. Bowers, Tara L. Everett, William H. Hill, and Mark A. Wright

### B.A. CHEMISTRY

Melissa I. Klein

### B.S. CHEMISTRY

Jeffrey A. Gladding, Kathryn A. Lucas, and Stephanie Menjivar.

### B.S. BIOCHEMISTRY

Adam C. Baughman, Kevin A. Cassidy, Julie C. Diorio, Nicole D. Facompre, Dana E. Klush, Katherine R. Lee, Judy Li, Michelle Marshall, Ajita Shukla, Neetu Singh, and Eugene Vovchuk.



Three distance education graduates came to campus for the June commencement. L to R: Elyse MacDonald (GlaxoSmithKline), Jeremy Weber (MGI Pharma) and Kristi Lenz (QS Pharma). Weber is Lehigh's first graduate from the department's web-based distance education program in pharmaceutical chemistry.

### IN MEMORIAM

**Frederick C. Strong III** (M.S. 1941) died March 3, 2003, at the age of 85. Born in Denver, Strong earned a B.A. from Swarthmore and a Ph.D. from Bryn Mawr in 1954. After industrial positions at Superior Metal Products Co., Lea Manufacturing and Enthone, Strong started an academic career at Wesleyan University in 1943, followed by brief positions at Cedar Crest College, Villanova University and Stevens Institute of Technology. In 1960 Strong became professor and chairman of the chemistry department at the InterAmerican University of Puerto Rico. Three years later he moved to the University of Bridgeport, and then to the National Tsing Hua University in Taiwan and the University of El Salvador. He joined the faculty at the Universidade Estadual de Campinas in Brazil in 1973, where he stayed until he retired. Strong was the second editor-in-chief of *Applied Spectroscopy* and worked as a technical expert with the United Nations Industrial Development Organization in Paraguay and Tanzania.

## ALPHA CHI SIGMA CHAPTER ORGANIZED AT LEHIGH

Lehigh's chapter of AXΣ had its humble beginnings in the fall semester of 1999 as The Lehigh Alchemists, an organization dedicated to promoting chemistry through community service and education programs. The club was founded with the specific intent of establishing a chapter of AXΣ at Lehigh. The founding officers of The Lehigh Alchemists were Brian Timko '02 (president), Ben Andersen '02 (vice president), Tessa Allen '01 (secretary), and Tom Finetti '01 (treasurer).

In the following two years the colony grew by twenty new members and in October of 2003 the Supreme Council of AXΣ issued a charter creating the Gamma Omicron chapter at Lehigh University. This was celebrated by a formal ceremony at which the entire Supreme Council officially installed the chapter. The chapter continues to grow, with eight more members initiated in the 2003-2004 academic year. Gamma Omicron is currently sponsoring the Rutgers University colony, which has four starting members and hopes to continue its own growth in the next academic year.

The 1999–2000 academic year was one of growth and learning. Monthly meeting seminars were attended by people such as Professor Marie Messmer and Lisa Regalla '98, then director of the Discovery Center in Bethlehem, Pennsylvania. The club participated in community service at Governor Wolf Elementary School under the direction of Professor James Roberts. It was also involved with STAR academy, a program that brings local middle and high school students to Lehigh for tutoring, as well as for the experience of what a college has to offer. The club brought the students into the Lehigh chemistry labs for a taste of organic synthesis.

With the help of Colonel William Meyers, AXΣ Grand Collegiate Alchemist, and Joanna Ossinger, manager of expansion, five students found themselves at the University of Maryland on 2 December 2000. The pledging ceremony was an all day event that resulted in the initiation of Tessa Allen '01, Enrique Mancillas '02, Abby Oelker '02, Saloney Patel '02, and Brian Timko '02.

Alpha Chi Sigma Fraternity was organized at the University of Wisconsin at Madison late in 1902 by a group

of chemistry undergraduates. The founders held a vision of a national fraternity from the start, contacting the University of Illinois in early 1903. After a flurry of rapid correspondence between Alpha Chi Sigma and the Wisconsin Secretary of State, the fraternity was officially incorporated on January 22, 1904. The second chapter, *Beta*, of this fledgling fraternity ended up at Minnesota, not Illinois.

Alpha Chi Sigma grew rapidly in the traditional academic centers of the country during the first three decades of its existence. The Depression and then World War II, however, stalled that growth. Enjoying the educational



*Alpha Chi Sigma initiation formal, 21 February 2004.  
L to R: Nicholas Castle, Ned Heindel, Jeremy Eberhardt, Shawn Elabdouni, Brian Boyars, Tessa Allen (Mooney), Matthew Stewart, Jonathan Havel, Linda Wu, Li-Jen Huang, Elaine Murry, Sarah Muse, Julie Molinari, Keith Schray, Abby Oelker, Brian Timko, and Lauren Williams.*

expansion following the war, the fraternity experienced growth in the “newer” universities and in areas such as the southwest in which the fraternity had been unsuccessful previously. The political and social unrest of the late 1960s and early 1970s ravaged the American fraternity system, regarded by dissenters as symbolic of “the establishment.” Alpha Chi Sigma was not spared; many chapters at “old” schools noted for excellence in chemical education

were lost and great strains were placed on others.

Alpha Chi Sigma entered its second century with renewed vigor, utilizing new strategies to expand and deliver on the promise of its Three Objects—to bind its members with a tie of true and lasting friendship, to strive for the advancement of chemistry both as a science and as a profession, and to aid its members by every honorable means in the attainment of their ambitions as chemists throughout their mortal lives.

The word “alchemy” may have little or no meaning to many people, but it has played a vital role in the development of science. Stretching at least as far back as ancient Egypt, known then as *khem*, alchemy's crude mix of chemistry, philosophy, religion, astrology, occultism, physics, magic and mythology became the foundation of our modern chemical knowledge.

Alpha Chi Sigma teaches these roots of chemistry, illuminating the thoughts and ideals of the past to give depth to the profession few would find on their own. Learning the path that led from the pursuit of multiplying gold to that of preparing new medicines enhances our appreciation of today's chemical sciences.

—*Jeanne Berk*

## STUDENT HONORS

### GRADUATE LIFE LEADERSHIP AWARD



The Graduate Student Life Office awarded **Donald H. McCullough III** the Graduate Student Life Leadership Award, which “recognizes an outstanding graduate student leader who has shown exemplary scholarship, leadership, and service to the Lehigh graduate student community.” Donnie was recognized at a Stu-

dent Life Leadership Awards banquet in late April. He has completed his second year as a graduate student, working with professor Steve Regen.

### MORRISON FELLOWSHIP

**Michelle Batz**, a graduate student in the department of chemistry, is the recipient of the 2004 Donald and Eileen Morrison Graduate Student Fellowship. Her mentor is Professor Greg Ferguson. The Morrison Fellowship was established in 2001 by Donald and Eileen Morrison. Morrison received a B.S. in chemical engineering and an M. S. degree in chemistry from Lehigh in the early 1950s.



He worked at the Marshall Space Center in Huntsville, Alabama, and later succeeded his father as president of the Morrison Ink Company in Cleveland, Ohio, which his father founded. That company was sold in 1996 to Color Systems, Inc. In 1960 Morrison received the Ault Award for outstanding technical achievement from the National Association of Printing Ink Manufacturers.

### AMSTUTZ FELLOWSHIP

**Matthew Ray** is the recipient of the 2004 Edward D. Amstutz Graduate Summer Fellowship. His mentor is Professor Li Jia. The Amstutz Fellowship is awarded to an outstanding graduate student pursuing a degree in chemistry. It was established in memory of Edward D. Amstutz, the Howard S. Bunn Distinguished Professor Emeritus of Chemistry at Lehigh. He was a member of Lehigh’s chemistry depart-



ment for 34 years and served as its chairman for eight years. He retired in 1970 and moved to Arkansas, where he died in 1983. The fellowship was made possible through gifts from faculty members, friends and former students of Amstutz.



### FREE COURSES FOR CHEMISTRY ALUMNI

Lehigh’s chemistry department is making a special offer for its alumni to help them refresh or update their skills. If you are a Lehigh chemistry or biochemistry alumni, you may audit any of the department’s graduate courses for non-credit that are available through LESN or LESN-online. Chemistry alumni can get free access to courses at the rate of one non-credit course per semester.

Available courses include chemometrics, medicinal chemistry, pharmaceuticals, advanced analytical or organic chemistry, bio-organic mechanisms, modern process R&D, organic polymer chemistry, spectral analysis, heterocyclics, pharmaceutical chemistry management, and toxicology.

“We hope this free service will encourage all Lehigh chemistry alumni to continue their education,” says Ned Heindel. “Any of our chemistry alumni anywhere, who wish to receive a free course, will be given total access to our large selection of on-line web-mounted courses. Our offer will be particularly convenient for those grads who work at LESN client sites, since they can watch the live satellite broadcasts in real time.”

For more information see the LESN class schedule page [http://online.lesn.lehigh.edu/courses/free\\_chem\\_courses/index.htm](http://online.lesn.lehigh.edu/courses/free_chem_courses/index.htm) or contact Jill Sharkey at 610-758-4373, [jasn@lehigh.edu](mailto:jasn@lehigh.edu).



### UNDERGRADUATE STUDENTS COAUTHOR PAPER

Eighty-four students in the undergraduate organic chemistry laboratory course (Chem. 58) for the Spring 2004 semester are listed as coauthors of “Bile Acid-Based Resins as Hydrophobic Sponges” to be published in *Polymer Preprints* later this summer.

As part of a research program on the removal of organic contaminants from water sources conducted by Professor Steven L. Regen, each student ran an absorption experiment of the model solute and thus contributed one or two data points to the study. These results indicated that each polymer studied showed a linear increase in the amount of solute that was absorbed with increasing concentrations in solution. Coworkers **Vaclav Janout**, **Donald H. McCullough**, **Tracy Vrablik** and **Bingwen Jing** also contributed to the paper. Regen’s work is supported by the National Science Foundation.

## NEW FACES

**Rebecca Miller** has been appointed a Professor of Practice and Graduate Administrator. Her responsibilities include teaching general chemistry and a new graduate seminar course. As administrator of the graduate program



she will organize new graduate student orientations, recruit new students, plan campus visits, advise on-campus students and distance ed students, match distance ed students with research mentors, develop and maintain the department website, and develop and publish departmental brochures for graduate

program. Miller earned a B.S. degree in chemistry from Shippensburg University and a Ph.D. in chemistry from Duke University. Before moving to Lehigh she was general chemistry coordinator and undergraduate advisor at Texas Tech University. She can be reached at [rsm4@lehigh.edu](mailto:rsm4@lehigh.edu).

Originating at Duke University more than ten years ago, the term “Professor of Practice” is generally used to describe full-time faculty members who are not on a tenure track. There are many modifications of the original Duke concept. Lehigh appointed its first Professor of Practice in 2001. Miller is the first to hold this position in the chemistry department.

Another new face is **John R. Taylor**, Industrial Liaison Officer. John is Lehigh’s ambassador to the life sciences industry. Not only does he seek to attract small



start-up pharmaceutical and health care products companies into the campus incubator and the adjacent industrial parks but he also works to improve the Department’s distance education programs which are broadcast to the pharmaceutical industry. John works with potential

new clients for distance ed courses and identifies corporate educational needs which the university might provide. John can be reached at [jrt9@lehigh.edu](mailto:jrt9@lehigh.edu).

Before coming to Lehigh, Taylor spent the last 20 years at Merck & Co., Inc. During his tenure at Merck he successfully and creatively built the company’s global philanthropy program—including a wide range of social investments—from one of predominantly U.S. focus valued at \$48 million, to one with global reach and influence and a value in excess of \$375 million in 2002.

Taylor’s career in industry also includes extensive management experience in human resources both at Merck and with Air Products & Chemicals, Inc.

## NEW CESAR FELLOW

**Frank Michelotti** is the latest person to join the Center for Emeritus Scientists in Academic Research (CESAR). Frank has had a varied research career both as an inventor and research scientist and administrator. He



began his career at J.T. Baker as a polymer chemist and developed a family of polyurethane pre-polymers for the adhesive and sealant markets incorporating both epoxy and urethane linkages in the same molecule. While at Baker, Frank led a group that developed a line of diagnostic organic specialty chemicals as

well as new inorganic antacids. Frank was also involved in pheromone research and was instrumental in the development of BAG-A-Bug for Japanese beetles. He also introduced Bacillus T. to homeowners to combat gypsy moth in the larval stage and developed effective controlled release formulations for the Japanese beetle and gypsy moth pheromones.

Frank served six years as Director of Laboratory Safety and Health at Lehigh where he developed an overall chemical safety program for the university. During his tenure at Lehigh Frank also co-founded a company called Advanced Chemical Technologies to market a family of innovative corrosion inhibitors he and his colleagues invented. This company was later sold to Ashland Chemicals.

The **CESAR program** offers undergraduate science majors at Lehigh University a unique opportunity to obtain firsthand research experience under the supervision of a retired industrial scientist. Students learn valuable research techniques and approaches to solving research problems in a mentoring environment. The program gives them a window on the industrial perspective and promotes their understanding of the research process.

CESAR started in 1999 with a grant from the Merck Company Foundation. Most recently the Foundation made an additional grant to fund the addition of two more retired scientists and the renovation and equipment of laboratory space for the scientists and their students. CESAR Fellows have already supervised original research for more than 35 Lehigh undergraduates during the academic year.

The 2004 summer intern program involves six students from Lehigh, Lafayette and Muhlenberg. They are supported by a grant from Imclone Systems, Inc.

There are now eight CESAR Fellows and the Director of CESAR is Ted Mellin, former senior investigator in the Department of Animal Pharmacology at the Merck Research Labs. For more information see the CESAR web site at <http://www.lehigh.edu/~inche/CESAR.html>.

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## ***WE WANT TO HEAR FROM YOU***

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