

# GREETINGS FROM THE CHAIR

Since our last newsletter, the Chemistry Department has continued to thrive and evolve. The scholarly and teaching activities of our faculty remained strong over the past year with 170 publications, and the granting of 18 PhD degrees, 13 MS degrees, and 65 BS degrees.

Our personnel changes this past year were few as compared to the previous year. Our friend and colleague Christian Schafmeister has moved on to Temple University, where he is an Associate Professor of Chemistry. In late August, Dr. Geoff Hutchison joined our department as an Assistant Professor; his expertise is materials chemistry, from both the experimental and theoretical perspectives. We are also delighted to welcome Sage Bowser, a graduate of CMU, as our new NMR assistant. To our new colleagues we offer a warm welcome and to those that have left us, we offer our best wishes for success and happiness in their new endeavors.

The graduate program remains strong with a size of 212 graduate students and 51 postdoctoral students. The excellence of the Department's research program is a direct reflection of the high quality of its students and postdocs. The Department continues its active recruiting efforts and a new marketing brochure will be unveiled this year. The Fall 2007 graduate class is comprised of 39 students, about half from the USA and half from abroad. The Department is also active in growing and improving the graduate program through new interdisciplinary efforts on campus; these include the MD/PhD program, the Molecular Biophysics and Structural Biology program, and the Computational Biology Program among others.

The undergraduate program remains exemplary. It has continued to earn external recognition collectively and through awards to our undergraduate majors individually. Currently we have 190 declared majors in chemistry. Most of our majors carry their education beyond the traditional

coursework and are active in research (72% of the 2007 class performed undergraduate research), teaching (37% of the 2007 class participated in the Undergraduates Teaching Undergraduates program), and service (59% of the 2007 class participated in outreach activities). We are very proud of the excellence, vitality, and work ethic of our undergraduate students.

In this issue we recognize some of the achievements of our entire Department from the undergraduate program through to the senior members of our faculty. You will read a vignette about Justin Baca, who recently received his PhD, and you will read about our undergraduate researchers' trip to Harrisburg. We are very pleased to highlight Professor Dennis Curran. During the past year, his research was recognized for its excellence by receiving multiple awards from the American Chemical Society.

We remain very proud of our alumni and their achievements. On page 3, we feature Abul Hussam, who received his PhD with Johannes Coetzee in 1982. Dr. Hussam has developed an inexpensive and user-friendly device to remove arsenic from drinking water. His work has been internationally recognized by the award of the \$1 million Grainger Challenge Prize for Sustainability. His innovation should have a profound impact on the quality of life in third world countries that are plagued by a lack of accessible drinking water.

Our feature section on pages 6 and 7 describes the various funds that were created through donations and are available for use by the Department of Chemistry. Pitt receives 12% of its funding from the state, 30% from tuition, and 42% from external research funding. The remaining 16% comes from donations and endowments. Such funds are essential to the Department for funding special programs, providing financial assistance to students, and recognizing substantive student achievements. I hope that you will find this article interesting as well.

We are very proud of all of the Department's current members and of our alumni; as the Chair I am very pleased to present our annual newsletter to you.



Issue 4  
Fall 2007

## In This Issue

- 2 Staff Recognition:  
Lori Neu
- 3 Outstanding Alumni:  
Abul Hussam
- 4 Undergraduate  
Highlights
- 5 Phi Lamda Upsilon
- 6 Fund Raising Impact
- 8 Faculty Highlights:  
Dennis P. Curran
- 9 Faculty Updates
- 10 New Faculty
- 11 Department  
Milestones
- 12 In Memoriam

## Staff Recognition: Glassblower Lori Neu

Lori Neu is one of a rare breed.

One of the newest employees in the chemistry department, Neu has no advanced degree, yet is an esteemed and essential collaborator with researchers in chemistry, physics, engineering, medicine and more.

A scientific glassblower, Neu is one of a select few with the specialized skills to fabricate and repair laboratory glassware. Her trade's professional association, the American Scientific Glassblowers Society, counts only 616 members worldwide.

Neu's predecessor, Bob Greer, retired in December, leaving her as the University's one and only glassblower. In addition to serving the needs of Pitt researchers, for a fee she fabricates and repairs scientific glassware for other institutions as well.

Because about half of her work is made up of fabricating custom pieces, trial and error plays a role as she devises glassware to meet a particular need.

"It's kind of an art form for me," she said, comparing her work to architecture. "I'm building out of the glass."

Although she is the lone glass shop employee, Neu is a self-described people person and thrives on interacting with the scientists who will use her creations.

"I really enjoy the micro jobs," she said, finding the tight tolerances required fascinating. One of her memorable jobs was building an apparatus that needed to be airtight with openings for electrodes that measured only a fraction of a millimeter. The piece held a very small amount of liquid and a stir bar — a specially coated magnet that allows mixing solutions from outside a vessel — that was the size of a grain of rice.

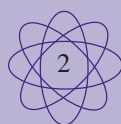
Neu was exposed early to scientific glassblowing. A native of Carneys Point, N.J., she grew up in an area that, due to an abundance of silica sand, is a hotspot for glassmakers. It's no accident that Carneys Point also is home to Salem Community College, Neu's alma mater, which offers the nation's only scientific glassblowing degree program.

While their numbers are dwindling — there once were four dozen scientific glassblowers in the Pittsburgh area but now Neu is the only one — Neu is convinced there always will be a niche for her increasingly rare skill.

While Neu has only been at Pitt a short time, she has big plans for the glass shop. She's in the process of updating and reorganizing the shop and soon will be able to offer expanded capabilities. A drill press is being customized for her so she will be able to use diamond core drill bits to bore holes for her customers.

She also hopes to start a course to teach basic scientific glassblowing to chemistry department graduate students, all of whom will need to have some glassblowing skills.

—Kimberly K. Barlow



## Outstanding Alumni: Abul Hussam

### Pitt Alumnus Receives \$1 Million Prize for Filter That Removes Arsenic From Drinking Water

A simple, inexpensive filter that removes arsenic from drinking water has won its inventor, Pitt alumnus Abul Hussam, the \$1 million Grainger Challenge Prize for Sustainability.

The device, called the SONO filter, is saving lives in Hussam's native Bangladesh.

Hussam said he never could have created the device—which purifies water through a series of sand, wood, brick, and iron composite filters—without the knowledge of analytical chemistry he acquired as a doctoral student here.

Hussam, today an associate professor of chemistry and biochemistry at George Mason University, earned his PhD degree in analytical chemistry at Pitt in 1982.

While at Pitt, Hussam became adept at trace analysis, or finding minute traces of substances in water. That skill would come in handy in the late 1990s, when Hussam's brother, a physician in their hometown of Kushtia, Bangladesh, shared with Hussam his suspicion that some of his patients were suffering from arsenic poisoning.

The only way for Hussam to know whether arsenic was causing the symptoms his brother was seeing in his patients—painful skin nodules, liver problems, and weakness—was to measure its concentration in water samples. That represented the first step in building the SONO filter. Once Hussam knew the level of arsenic in groundwater, he could design a filter powerful enough to eliminate the poisonous mineral. Drawing on his studies at Pitt, Hussam developed a device for measuring arsenic and found that many of the wells he tested—including two he had drunk from while growing up—contained three-to-40 times the maximum amount of arsenic considered safe.

Hussam said the analytical chemistry he learned while studying at Pitt under his doctoral advisor, Johannes Coetzee, currently an emeritus professor, and coadvisor Stephen Weber, a Pitt professor of bioanalytical chemistry, was “absolutely essential” to developing the SONO filter.

After leaving Pitt, Hussam had lost touch with his advisers. But soon after *The Washington Post* published a story about his award-winning invention, Hussam received a phone call from a man who asked him detailed questions about trace analysis. Hussam did not catch the caller's name at first.

“He asked me, ‘What was the species of arsenic I had found in the water?’” Hussam recalled. “And I thought that this person really knew what he was talking about because very few people ask me that question. ‘Asked to mail the caller copies of his research papers, Hussam began taking down the man's name and address. As the caller spelled his name—Johannes Coetzee—Hussam realized he was speaking with his former adviser.



“It was a very pleasant surprise when I read the article about Abul,” said Coetzee, who retired in 1989 after 37 years at Pitt and now lives near Washington, D.C. “When we talked, he said it was the best day of his life. I was delighted.”

Coetzee added, “I'm not shocked that Abul created the SONO filter, because he certainly had the ability. His filter is a major contribution to science and to the welfare of Bangladeshis. I think he can be a role model for young chemists. He applied the knowledge from his doctoral studies to a practical matter of great importance. You may have 1,000 people with Abul's competence, but only one will make a great achievement.”

For Hussam, reconnecting with Coetzee brought back happy memories of the U.S. city and campus he had come to love in the late 1970s and early 1980s.

Pittsburgh was the first American city Hussam lived in—his “hometown America,” he calls it. His wife, Meherun Nahar, graduated from Pitt in 1983 with a master's degree in chemistry; she also studied under Professor Weber, Hussam said. Their son was born in Pittsburgh.

“I tell my best students to go to Pitt, because the facilities and education are superb. What I learned at Pitt helped me tremendously. I was fortunate to work with the top scientists in analytical chemistry.”

The Grainger Challenge Prize was created in 2005 to spur the development of arsenic filters that would be simple and affordable (no electricity required, for example) and within the manufacturing capabilities of developing countries. The competition was sponsored and administered by the National Academy of Engineering and the Illinois based Grainger Foundation, which supports efficient and globally beneficial innovations in engineering.

Hussam said he has set aside 70 percent of his \$1 million prize to fund further development and distribution of the SONO filter. His goal is to produce 1,000 of the handmade devices each week. The cost of the filter's plastic casing drives the price to about \$40. As of this year, 30,000 of the filters have been distributed in Bangladesh, 20,000 of those for free, he said. One SONO filter purifies enough water in two hours to serve the daily needs of a family of five, according to Hussam.

Several American communities have contacted him about the SONO filter. Groundwater in parts of the United States, particularly in northern states such as Minnesota and the Dakotas, contain a significant amount of arsenic, he noted. But a new filter must be developed for American households to accommodate the stronger water flow produced by indoor plumbing, said Hussam, who is using some of his Grainger prize money to fund research at George Mason University on an arsenic filter for industrialized countries. “I thought my work [on the SONO filter] was over,” Hussam said, “but it seems that it has just begun.”

—Morgan Kelly

This article originally appeared in the summer 2007 issue of *Research Review*. It has been edited for length and used with permission.

## CALL FOR NOMINATIONS

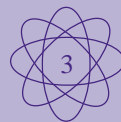
The Department is soliciting nominations for *Chemistry Department Alumni Awards*. Nominees should have a bachelor's, master's or doctoral degree from the Department. The basis for the nomination can be excellence in research, teaching, management, or volunteer efforts. Nominations should include:

1. Your nominating letter
2. At least one but no more than three seconding letters
3. A CV for the nominee
4. Contact information for the nominee

Please see the alumni section of our Web page at <http://www.chem.pitt.edu>

for more information  
Nominations should be posted by  
December 1, 2007  
to:

Assistant Chair  
Dept. of Chemistry  
University of Pittsburgh  
Pittsburgh PA 15260





2007  
Undergraduate  
Senior Awards

*The Merck Award*  
Eric A. High  
Brad A. Lentz

*The Silverman Prize*  
Nancy A. Lalanne

*The American Institute of  
Chemists Award*  
Melissa A. Forry

*The SACP College Award*  
Lilly Roy

*The Mary Louise Theodore  
Prize*  
Gregory J. Adamczyk  
Thaddeus T. Boron, III  
Megan L. Friend  
Eric A. High  
Craig K. Kozminski  
Neil A. Robertson

*The Phillips Medal*  
Andrew S. Petit  
Zachary D. Pozun



## ACS-Student Affiliate Corner

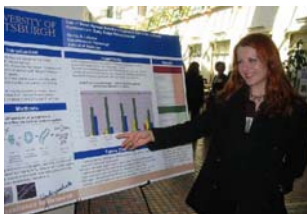
On April 29, 2007 our department celebrated our graduating seniors' achievements with a recognition ceremony and brunch for our graduates and their families. Dr. Adrian Michael congratulated the graduates on behalf of the Department and each student received a small gift to mark



their special day. The ACS-SA Senior Affairs Committee did a great job of planning and coordinating this special event.

## Pitt Day in Harrisburg: Excellence in Undergraduate Research – 20 March 2007

The annual Pitt Day in Harrisburg is organized by the Pitt Alumni Association. This year 13 undergraduate researchers (10 from the Oakland campus and 1 each from the Johnstown, Bradford, and Greensburg campuses) volunteered to showcase their original research and creative efforts to Pennsylvania state legislators. A fourteenth poster summarized undergraduate research across all schools on the Oakland campus. Upon arrival and after a short briefing, the students set up their posters in the Rotunda where any passersby could stop and read them. Later in the afternoon, the posters were moved around the corner to the atrium where the Chancellor's speech and the formal reception occurred. While this annual event has been occurring for at least 14 years, this is the first

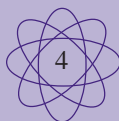
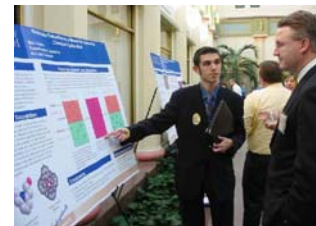


On August 27, 2007 a brand new academic year began in Chevron. After a quiet August, it is great to have the Ashe lobby once again filled with students. The sounds of education - lecturers at the blackboard, students working on homework problems and classes coming and going - have once again returned. We are so happy to welcome all the new and returning students to our department.



time it has been focused on showcasing Undergraduate Research. After lunch and before the reception/poster session, the undergraduates visited legislators or their aides in their offices for appointments arranged by Pitt's Governmental Relations office.

Displays summarized the contribution that undergraduate students from the Chemistry Department contributed to the 2007 event. The profiles of the three students (which they handed out to legislators in lieu of business cards) are displayed, as are the agenda, the Alumni Association's web page, several pictures, and a 11" x 8.5" version of each student's poster. On a rotating basis, about every two weeks, the 4' x 3' poster of the three Chemistry-affiliated students will be displayed.



## Phi Lambda Upsilon (PLU)

Phi Lambda Upsilon (PLU) is a National Honorary Chemistry Society founded with the purpose of promoting high scholarship and original investigation in all branches of pure and applied chemistry. The University of Pittsburgh represents the Xi chapter of PLU with its foundation in 1917.

In the 2006-2007 academic year, PLU organized a number of social and academic events for the Chemistry Department including the annual new graduate student picnic in August and the annual Holiday party in December. Our biggest event is planning the Francis Clifford Phillips Lecture, which is the longest running graduate chemistry lecture series organized by graduate students. Although the Phillips Lecture is typically held in the spring semester, our invited speaker, Dr. Chad Mirkin of Northwestern University representing the Inorganic Chemistry division, will give two lectures on October 16<sup>th</sup> and 17<sup>th</sup> of 2007 due to scheduling conflicts. Dr. Mirkin is one of the leading researchers in the nanotechnology field. Following Dr. Mirkin's talks in the fall, we look forward to the 53<sup>rd</sup> Phillips Lecture, which will be

held from January 24-25 of 2008. Our lecturer will be Dr. X. Sunney Xie of Harvard University representing the Analytical Division.

Keeping with the tradition of previous years, in the 2007-2008 academic year we are again planning events welcoming the incoming graduate students and other various academic and social events for the Chemistry Department.

Our elected officers for the 2007-2008 year are:

President – Chad Shade (Third Year)  
 Vice-President – Diane Mitchell (Fifth Year)  
 Treasurer – Julia Varga (Third Year)  
 Secretary – Jessica Sarver (Third Year)

We look forward to the 2007-2008 academic year and are excited about the new opportunities, which will hopefully help better serve the graduate students and the Department.

### 2006-2007 Graduate Student Fellows

#### American Chemical Society

*Joshua Pierce*  
*Benjamin Stevens*

#### Baranger Award

*Melissa Sprachman*

#### Bayer Fellowship

*Sruti Bhaumik*

#### Frederick Kaufmann Fellowship

*Brett Allen*

#### Goldblatt Fellowship

*Byong-Kyu Shin*  
*Jia Luo*

#### Graduate Excellence Fellows

*Jung-hyun Puh*  
*Kristi O'Neal*  
*Roman Ivanov*  
*Xiao Wang*  
*Zhongyu Yang*

#### Hurd Safford Graduate Teaching Awards

*Mark Ams*  
*Leonardo Alvarez*  
*Valerie McCarthy*  
*Keith Moquin*  
*Chad Shade*  
*Byong-Kyu Shin*  
*Ryan Stayshich*  
*Jessica Thomas*

#### K. Leroy Irvis

*Diego Valencia*

#### Lauren Ashe Fellows

*Olukorede Augusto*  
*Carl Brunetta*  
*Melissa Burger*  
*Marshall Chakrin*  
*Dezhi Fu*  
*Kristina Gehring*  
*James Hale*  
*Amy Hamsher*  
*Bradley Hutnick*  
*Hannah Kaczka*  
*Matthew Kofke*

#### Melissa Liberatore

*Tamika Madison*  
*Cain Morano*  
*Jaren Moretti*  
*George Norton*  
*Sami Osman*  
*Adam Rosenberg*  
*Elizabeth Sanger*  
*Salvatore Spagna*  
*Melissa Sprachman*  
*Diego Valencia*  
*Thomas Vargo*  
*Kiley White*  
*An-Hung Yeh*  
*Justin Young*  
*Zhongfeng Zuo*

#### Warga Fellows

*Hannah Kaczka*  
*Elizabeth Sanger*

#### Provost's Award

*Salvatore Spagna*  
*Amy Hamsher*

#### Sunoco Fellowship

*Ryan Bird*

### 2007-08 Mellon Fellowship Awardees



*Hui Fang*



*Maceiej Walczak*

### 2006-07 Novartis Fellowship Awardee



*Michael Green*

## The Department of Chemistry and Fundraising

### Where do you want to make an impact?

#### Information please

We are very interested in hearing about the accomplishments of our alumni and former colleagues in the Department of Chemistry. If you have news to share please complete the top portion of the enclosed envelope or contact Michele Monaco by telephone (412-624-8200) or e-mail ([monaco@pitt.edu](mailto:monaco@pitt.edu)) so that we can share your information with the rest of our readers. The information that you provide to us will be included in future mailings or on the Departmental website.

We are looking forward to hearing from you!

Attached to every newsletter that we have published, you may have noticed an envelope wherein we request donations for the benefit of the Department of Chemistry. Fundraising (or development) is an essential ingredient for the Department's success and has a direct impact on our students.

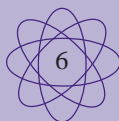
Often those that decide to create a fund or decide to contribute to an existing fund, do so for very personal reasons. Nevertheless, some general groupings can be made. For example, alumni of the Department's undergraduate program may feel very strongly about how the Department's faculty and programs impacted their lives and therefore choose to contribute to funds that directly impact the undergraduate program. Alternatively, we have those alumni who were graduate students in our program and have gone on to successful careers in education, government or industry that choose to contribute to funds which have direct impact on the graduate program. A third group of friends and alumni simply contribute to general funds so that we may earmark proceeds to some of our most pressing needs. Over the past two years, we have participated in "targeted" development campaigns to impact very specific areas. In 2006, we decided to target the undergraduate analytical labs to upgrade instrumentation that was old and out of date. The 2006 campaign netted nearly \$15,000. By matching this amount with other Department of Chemistry funds, we were able to purchase two rebuilt gas chromatographs and some spectrophotometers. In 2007, we embarked on a smaller targeted campaign to raise funds to supplement the endowment for the Phillips Prize. The 2007 campaign brought several warm messages from former

awardees and a much deeper appreciation for what our awards and honors mean to our alumni. Donations to this effort continue to arrive.

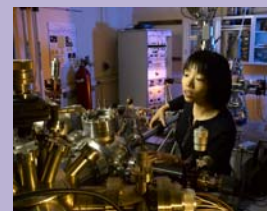
You may not be aware that the Department of Chemistry manages over twenty endowment and gift funds. These various endowment and gift funds are in some cases general in their intended use while others are targeted for specific departmental activities and awards. The Table on the next page summarizes some of these individual endowment and gift accounts that are used to benefit our students within the Department of Chemistry.

The reason for providing you with this information is to express our gratitude to those who have donated and continue to donate to the Department. As you can plainly see, it is your choice as to where you would like to make an impact on the Department of Chemistry.

As always, if we can offer any specific assistance or answer any of questions please do not hesitate to contact us.

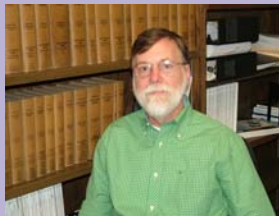


<b>FUND NAME</b>	<b>INTENDED USE</b>
<b>Ashe Memorial Fund</b>	Support for general research and study in the Department of Chemistry.
<b>Averill Endowment</b>	Support for undergraduate scholarship.
<b>Basu Endowment</b>	Fellowship for outstanding post-comprehensive graduate student.
<b>Chemistry Annual Giving Fund</b>	This general fund provides monies for activities that benefit the Department of Chemistry.
<b>DeWitt C. Clapp Endowment</b>	This endowment provides unrestricted funds to benefit the Department of Chemistry.
<b>Dunkelberger Memorial Fund</b>	Cash award for outstanding academic achievement by a sophomore or junior undergraduate student.
<b>Goldblatt Endowment</b>	A fund to support graduate student research.
<b>J. Daniel Bode Fund</b>	Financial support to graduate students honored with the "Professor Hurd Safford Teaching Award".
<b>Joseph Rothermel Fund</b>	Financial support to graduate students honored with the "Professor Hurd Safford Teaching Award".
<b>Kaufman Memorial Fund</b>	Support for the annual Kaufman Lectures and a fellowship to a new graduate student.
<b>L. Dennis McKeever Fund</b>	Effective 2010, this fund will be used to support undergraduate research efforts.
<b>Mary Louise Theodore Fund</b>	Provides scholarships to outstanding undergraduate students.
<b>Michael Neely Walker Fund</b>	Provides unrestricted financial support for the benefit of the Department of Chemistry.
<b>Michael Strem Family Fund</b>	Provides financial support for graduate students to attend national meetings.
<b>Phillips Prize Endowment</b>	Cash award and medal for the outstanding Chemistry senior undergraduate.
<b>Rex Shepherd Memorial Fund</b>	Created to support graduate students and to fund a future seminar series.
<b>Richard F. Zarilla Fund</b>	Provides financial support to undergraduate students with high academic standing.
<b>Rossi Scholarship Fund</b>	Provides two annual scholarships to outstanding undergraduate students.
<b>Undergraduate Teaching Endowment</b>	This endowment supports the UTU (Undergraduates Teaching Undergraduates) program.

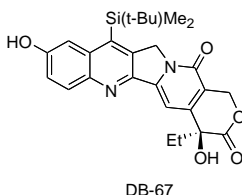
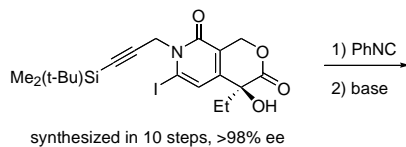


## Faculty Highlights:

### Dennis P. Curran, Bayer Professor and Distinguished Service Professor of Chemistry

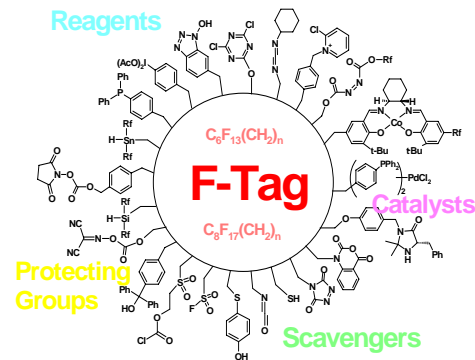


Modern organic synthesis is an enabling discipline for many enterprises, including drug discovery. Our longstanding interest in cascade radical reactions evolved in unexpected directions when we discovered that silyl analogs of camptothecins (so called “silatecans”) were powerful anti-tumor agents. After a long and exciting roller coaster ride through pre-clinical development, one of our silatecans, DB-67, has recently entered a Phase I clinical trial for cancer chemotherapy at the University of Kentucky.

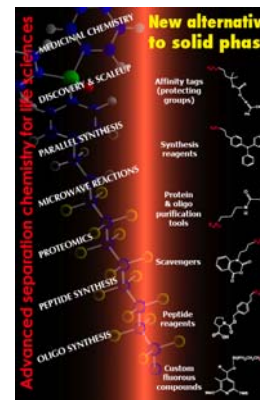


Synthesizing drug candidates is not the only way to contribute to drug discovery. Methods for fluororous synthesis and separation, developed in our group, have proven to be very useful in both traditional and parallel synthesis settings. Recently, these methods have been pushed beyond small molecule chemistry for applications like biomolecule synthesis and even proteomics.

In the early days, fluororous chemistry seemed slow to catch on, especially in industry. To facilitate uptake, we founded Fluorous Technologies, Inc (FTI). This thriving small company focused on research and development of cutting edge new technologies and products.



now has about a dozen full time employees and sells fluororous products to the chemical and biological communities.



Beyond these commercialization projects, the vast majority of our ongoing work is best classified as basic research. We are learning how well we can make natural product stereoisomer libraries by fluororous mixture synthesis, discovering the ins and outs of asymmetric reactions of axially chiral amides, and looking into new analogs of the macrocyclic anticancer agent dictyostatin. The force motif behind all our work is a cadre of enthusiastic students and postdocs.





## Faculty Updates: Faculty Nuggets

**Shigeru Amemiya** received an NSF CAREER Award.

**Sandy Asher** won the Pittsburgh Spectroscopy Award and was named a Fellow of the Society of Applied Spectroscopy.

**George Bandik** received the Outstanding Professor Award from Fraternities and Sororities.

**Kay Brummond** was the 2007 Recipient of the Carnegie Science Center Award for Emerging Female Scientist, was named the 2006 recipient of the ACS Akron Section Award, and in November of 2006 was promoted to Full Professor.

**Dennis Curran** was named the Blaise Pascal International Research Chair, Prefecture de la Region D'Ile-de-France (Paris) 2007-2008. In addition, he received the 2<sup>nd</sup> International Society of Fluorous Technology (ISOFT) Award, 2007 (shared with John Gladysz), The Pittsburgh Award, Pittsburgh Section, and the ACS Morley Medal, Cleveland Section, ACS.

**Ken Jordan** was promoted to Distinguished Professor of Computational Chemistry and was also named an AAAS Fellow.

**Kaz Koide** received the 2007 Thieme Chemistry Journal Award.

**Adrian Michael** was co-chair of the 2006 Gordon Research Conference on Bioanalytical Sensors and is chair-elect of the SACP for 2007. In addition, he edited a book entitled "Electrochemical Methods for Neuroscience, Vol. I, published by CRC "Frontiers in Neuroengineering".

**Scott Nelson** was the 2006 Bristol-Myers Squibb Lecturer at Princeton University.

**David Pratt** is the chair for the Gordon Research Conference on Biological Molecules in the Gas Phase, 2007. He also was elected to an honorary membership in Phi Beta Kappa.

**Peter Siska's** textbook, entitled "University Chemistry", was published by Pearson Benjamin Cummings this year.

**Megan Spence** received the 2007 Ralph E. Powe Junior Faculty Enhancement Award and was a recipient of the 2006 Eli Lilly Analytical Chemistry Grant.

**Alex Star** received the Thieme Chemistry Journal Award, 2006 and Who's Who in Science and Engineering, 2006-2007.

**Michael Trakselis** was chosen for an NIH Mentoring Workshop for Junior Faculty.

**John Yates** was the winner of the ACS 2007 Peter Debye Award in Experimental or Theoretical Physical Chemistry. He, along with Karl Johnson, published a textbook entitled "Molecular Physical Chemistry for Engineers".

CMMS Open House



Ted Cohen  
50-Year  
Career Celebration



Retirement of  
John T. Yates, Jr.



## New Faculty:

### Geoffrey Hutchison



*Materials and Nanoscale Chemistry. Computational Materials Design. Rational Design and Materials Synthesis. Electronic Materials. Nanoscale Dynamics.*

Our group will develop new materials, as well as microscale and nanoscale functional devices literally from the bottom up. We focus on building electronic materials from molecular subunits, both organic and inorganic, using a variety of techniques to rationally design the desired properties. This encompasses chemical synthesis, characterization (both physical and chemical), combined with theoretical modeling and simulation. Topics currently of interest include single molecule springs and molecular piezoelectric materials, nanoscale and microscale transistor design and behavior, and reversible surface self-assembly.

Geoff's undergraduate degree is from Williams College, his Ph.D. is from Northwestern University, where he studied with Prof. Tobin J. Marks and Mark A. Ratner, and he did postdoctoral research at Cornell University with Prof. Héctor D. Abruña. His wife is a veterinarian.

### Joel R. Gillespie



*Manager, Materials Characterization Laboratory (MCL), Eberly Hall.*

In addition to setting up and managing this new departmental instrumentation facility, Dr. Gillespie will also serve as a liaison to other university facilities including the Petersen Institute of Nano-Science and Engineering (PINSE), providing user training as well as advice on experimental capabilities, experiment design, and data analysis.

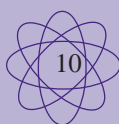
Dr. Gillespie is a native of Virginia and received his Ph.D. in Biological Chemistry from the Johns Hopkins University School of Medicine in Baltimore, MD. After postdoctoral training at the University of California and Stanford University, he joined the faculty of the Virginia Bioinformatics Institute (VBI), a public research institution on the campus of Virginia Tech, where his admittedly eclectic research interests included the design of protein-based biomaterials and sensors for biological threat agents.



**Carol Fortney**  
*Analytical and Instrumental Analysis  
Lab Coordinator*



**Sage Bowser**  
*NMR Assistant*



## Department Milestones:

### Justin Baca

Each year, according to the National Heart, Lung, and Blood Institute (NHLBI), more than a million people in the United States have heart attacks and more than half of them die. One of the contributing factors to the sobering statistics is the fact that many victims do not receive the emergency treatment and intervention they need quickly enough to save their lives. Justin Baca, a University of Pittsburgh MD/PhD candidate, is working to change that.

Baca, who graduated from Harvard University in 2001 with undergraduate degrees in chemistry and physics, is engaged in research that he hopes will enable emergency medical technicians, emergency room physicians, and other first responders to detect almost immediately decreased oxygen flow to the heart and begin administering proper care within minutes instead of hours.



As a student in the MD/PhD program, Baca spent his first two years at the University of Pittsburgh enrolled in preclinical coursework in the medical school and completing the first of his eight clinical clerkships. Now he is in his fourth and final year of the PhD program in the Department of Chemistry. Once he completes his doctorate, he will return to medical school for two more years, where he plans to finish his clinical training and graduate in 2009. During their summers, MD/PhD students complete research rotations. On top of that, Baca has been spending an average of five hours each week shadowing an emergency medicine physician at UPMC Children's Hospital.

"Right now, I'm considering emergency medicine as a career, but most medical students figure out what they plan to specialize in during their third year of medical school, so I may change my mind a few times," Baca says laughing.

—Carol Mullen

*Director of Communications, School of Arts and Sciences*  
This article originally appeared in the summer 2007 issue of the School of Arts and Sciences newsletter, *Snapshot*. It has been edited for length and used with permission.

### Bodie Douglas



At this spring's commencement, many Arts and Sciences professors could be found draping hoods over the heads of their newly minted PhDs.

But it is likely that only one of them was hooding an advisee nearly 50 years after his first.

Though Bodie Douglas, professor emeritus in the Department of Chemistry, retired in 1989, he remains an active member of the department's graduate faculty. So when Carol Fortney, a PhD student whose research was in inorganic chemistry—Douglas's field—was in need of an advisor, Douglas stepped up.

His long career in chemistry began when he was a teenager and was interrupted only by his service in the U.S. Navy during World War II.

Douglas enrolled at Tulane University at only 15 years of age. He was one course shy of graduation when he enlisted in Midshipmen's School at Columbia University. Still, he was allowed to graduate, in absentia, with his class at Tulane the same month he was commissioned.

After he came home from the war, he married his sweetheart, Gladys Backstrom. They had their first child in New Orleans, and he completed his master's degree in chemistry at Tulane in 1947. Then he moved to the University of Illinois, where he received his PhD in 1949.

He got a teaching position at the Pennsylvania State College (now University), and came to Pitt in 1952. He enjoyed teaching immensely and still can be found in his Chevron office enthusiastically showing a visitor the varied forms of crystalline molecules on his computer screen.

In 1985, he had a heart attack and had to have a quadruple bypass. Then, last year, he had chest pains and had a stent put in. But he still swims four times a week. "It's very important to me to make my heart work hard," he says.

An inveterate traveler, Douglas has visited 64 countries. Even now, at 82, he continues to travel. He was in Serbia this summer to give talks and visit friends. The main message he has learned from his travels: "Once you get to know them, all people are very much alike."

—Karen Hoffman

*Manager of Strategic Communications, School of Arts and Sciences*  
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### Barbara Svitek



Many of you will remember the smiling face of Barb Svitek as your first experience upon entering the Chemistry Department's main office. Barb has served as the Chemistry Department receptionist for the past 21 years. At the end of this year she plans to retire and move to Boston, near her grandchildren. We wish her many smiles and much joy as she begins this new stage of her life.



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## In Memoriam:

**Clifford E. Neubeck, PhD (BS Chemistry 1939)** graduated from the University of Pittsburgh with a BS in Chemistry and a PhD in biochemistry in 1943. He passed away on January 20, 2007. He was born in Erie, PA on November 6, 1917. He married in 1943 and had eight children, 19 grandchildren and 2 great grandchildren. He was employed by Rohm and Haas Co. from 1943 until 1982 as a biochemist involved in the production and application of microbial industrial enzymes. His main interest was in the field of pectinases (fruit extract enzyme for the creation of jellies). He retired from Rohm and Haas in 1982 as the head of the enzyme lab. At that time the enzyme department of Rohm and Haas was discontinued and the assets sold to Genecor (now Genecor International), a new company formed to produce and market industrial enzymes. He became a consultant for the new company for eight years. He was an emeritus member of the American Chemical Society.

He is survived by sons James, John, and Kenneth; and daughters Margaret Bergey, Elaine Heywood, Gloria Graver, and Anita Armstrong. His wife died in 1993 and his daughter Karen Brady in 1987.

**Paul C. Lauterbur (PhD Chemistry 1962)** shared the 2003 Nobel Prize in Physiology or Medicine for his part in developing magnetic resonance imaging (MRI), died March 29, 2007. He was 77. Most recently a professor at the University of Illinois at Urbana-Champaign, Lauterbur earned his Ph.D. degree in chemistry at Pitt in 1962. Pitt's chemistry department, in the School of Arts and Sciences, named Lauterbur among the inaugural group of distinguished alumni in 2000 at the department's 125th anniversary celebration. Lauterbur won the Nobel Prize with Sir Peter Mansfield of the University of Nottingham in England for research that led to the development of MRI, a noninvasive technique that uses a magnet to generate images of the inside of an object. MRI is largely used in medicine. Lauterbur delivered the keynote speech at Pitt's 2004 commencement ceremony where Chancellor Mark A. Nordenberg conferred upon him the Honorary Doctor of Science degree. In his commencement address, Lauterbur discussed fleshing out his idea of observing organs through noninvasive images in a local diner and that techniques he learned in a graduate course at Pitt convinced him that the idea was possible.

[www.chem.pitt.edu](http://www.chem.pitt.edu)