From the Chair

Allow me to begin by extending greetings to you, our alumni and friends, from our faculty, staff, and students. This is the first time I have communicated with you since assuming the demanding role of Chair of the Department of Chemistry and Biochemistry in September 2004, and I am embarrassed to admit that it has been too long since we updated you with our departmental newsletter, Chemical Compositions. I could offer many excuses, but I would then have no space to tell you about recent developments and challenges in the Department of Chemistry and Biochemistry. Please accept my apology along with my promise to do a better job of staying in touch.

The past year has been an exciting, yet challenging, time in which numerous changes have affected our department, most of which have been for the better. For example, we have added three outstanding junior and one senior faculty members, whose research interests add breadth and depth to our already strong program. They are Chris Bielawski (p. 6), Graeme Henkelman (p. 7), Brad Holliday (p. 7), and Dick Crooks (p. 6). In the coming year, we anticipate adding several new Assistant Professors and are conducting an active search to fill the newly endowed Welch Chair of Science with an established scholar. The addition of these new faculty members is critical to maintaining excellence in teaching and research and to replace retiring and departing faculty. Indeed, Dick Lagow, Nate Bauld, and Steve Webber retired this past year, and Ray Davis is completing “phased retirement.” We wish all of them well. John Tesmer and Brian Pagenkopf recently moved to other academic institutions to pursue their careers. It is with sadness that I inform you that Dan Ziegler (p. 19), one of our distinguished biochemical colleagues, passed away in November 2005. I remember Dan from my first days at UT, as we often discussed possible mechanisms of oxidations catalyzed by flavin-containing monooxygenases. He stimulated my early thinking as my group began its first research project at the interface of synthetic organic chemistry and biochemistry. He was a tremendous mentor who taught me (with only limited success), and my group (with much greater success) the intricacies of enzyme kinetics. We shall all miss his presence.

Members of our department have collected many accolades and awards over the past year, and many of these are summarized on pp. 12-13. All of these are important, but I think Al Bard’s receipt of the prestigious 2004 Welch Prize for his major accomplishments in the field of electrochemistry and the effect of these on the discipline of chemistry, and Grant Willson’s selection as a 2005 Hero of Chemistry by the American Chemical Society for his demonstrated excellence in the research and development of a commercial product are especially noteworthy. Graduate and undergraduate students alike continue to be recognized for their outstanding achievements by awards from various companies as well as both public and private foundations. Members of our staff have also been recognized for their outstanding service to our department and the university. We are extremely proud of all of these individuals as together they help us move toward our goal of being one of the top departments in the country.
proteomics, structural biology, and high throughput screening of medical schools, and private companies. This marks the first time research efforts between the University of Texas at Austin, Texas coordination for translational medical therapeutic and diagnostic development (TI-3D) (p. 2). The objective of this enterprise is to marshal the collective talents of faculty in the Colleges of Natural Sciences, Pharmacy and Engineering with those of faculty in several medical schools in the state to facilitate translational medical research in Texas. Both The University of Texas and the Robert A. Welch Foundation have contributed generously to this novel concept in biomedical research, and I look forward to describing future developments.

Being a top department clearly brings with it other challenges. Contemporary education and research is becoming more interdisciplinary, and the department must adjust to these changes in a variety of ways. Indeed, we would like to be one of the national leaders in forging new directions for education and research. Toward the former, we are beginning to revitalize how undergraduate courses in general and organic chemistry are taught and how we can improve the undergraduate experience. Initiating novel types of broadly-based research collaborations such as TI-3D will enable us to capture federal and industrial funding for our research programs.

However, there are critical problems we must face and solve. Welch Hall has served us well over the years, but it is no longer adequate to meet the needs of a modern, top-ranked department. Extensive renovation is necessary so faculty and students can pursue their educational and research interests in an appropriate environment. Attracting and retaining top faculty is a priority, and now more than ever we need endowed positions to provide faculty with research funds so they can undertake risky projects that will lead to exciting new discoveries and eventual external funding. Students are an essential part of the fabric of our department, and attracting the best graduate students to our program requires the additional incentive of fellowships. Scholarships help support our undergraduates and may allow them to spend time gaining an experience in research rather than flipping burgers or busing tables at local restaurants. Excellence funds are needed to ensure that worthy departmental projects and needs can be funded. For example, our library lacks electronic back files for many journals that are routinely used by members of our department.

To address these challenges, we have launched several initiatives, and I hope to appraise you of our progress in future issues of Chemical Composition. In the meantime, we appreciate your support and welcome your comments. We look forward to hearing from you and invite you to drop by and reconnect on a future visit to Austin.

From the Chair (continued)

Dr. Larry R. Faulkner Says “Good Bye” After Eight Remarkable Years as University President

This past June, President Larry Faulkner announced his resignation from the University of Texas at Austin. Faulkner was appointed the university’s 27th president by the Board of Regents in 1997, and he took office the following year. Only two presidents in the university’s history have served longer, and it would be hard to say whether he did so much in his time. In giving his reasons for leaving, Dr. Faulkner explained that he and his wife, Mary Ann, feel that this is the best time for a change of leadership. “We perceive our change as one between committing to service through and beyond the legislative session of 2007, or stepping down on a schedule that leaves time for a successor to prepare for that session,” Faulkner stated in his formal statement to the university community. “Given the alternatives, it is clear to us that this is the moment for change.”

The Board of Regents has conducted a nation-wide search for a new president, and Faulkner will transfer the position directly to William C. Powers, Dean of the UT Law School, on February 1, 2006. Faulkner will then serve as president of Houston Endowment, Inc., a private foundation in Houston that generates funds for charitable organizations and educational institutions. Houston Endowment’s chairman, D. Kent Anderson said of Faulkner’s appointment, “After a nationwide search, we are pleased to have identified someone who is so knowledgeable about this region. His outstanding record of performance fits well with the principles we value at Houston Endowment.”

Outstanding record of performance, indeed, for Dr. Faulkner has quite a lengthy list of accomplishments both before and during his eight-year presidency. After receiving a Ph.D. in chemistry at The University of Texas at Austin, Faulkner joined the faculty at Harvard University for four years. He then moved on to The University of Illinois at Urbana-Champaign where he served as provost, dean of the College of Arts and Sciences, and head of the Department of Chemistry. He conducted research in the areas of electrochemistry and analytical chemistry, and coauthored “Electrochemical Methods: Fundamentals and Applications,” for which he has received national recognition. Dr. Faulkner received the Distinguished Alumnus Award and a Doctor of Science Honoris Causa from Southern Methodist University where he received his undergraduate degree, and was elected to the American Academy of Arts and Sciences in 2003.

His significant achievements here at the University of Texas are numerous and it is difficult to narrow them down to just a few. Under his leadership vast improvements have been made at university, community, and state levels. From the re-opening of the observation deck of the campus Tower on the university’s 115th birthday to the development of the Blanton Museum of Art, President Faulkner has given the university community—as well as Austin’s residents—several things of which to be proud. He implemented a flat-rate tuition program for the Colleges of Liberal Arts and School of Law, and focused on the aims of improving our four-year graduation rate. As for university employees, Faulkner is responsible for a faculty expansion program to generate 500 new positions over ten years and annual salary increases for faculty and staff members.

Many of his successes as president have been felt specifically in the Department of Chemistry and Biochemistry. In 2001 the Department of Biomedical Engineering, and the Center for Nano Science and Molecular Technology (of which our own Dr. Paul Barbara is director) were established. In 2004 we gained high status in federal funding for research, making us second only to MIT in funding to non-medical universities. This year the university formed a partnership with Mexican institutions on nanotechnology, and President Faulkner helped make Austin the destination for next year’s World Congress Information Technology Summit which has been referred to as the “Olympics of Technology.” The event is expected to generate $44 million for the local economy.

Perhaps the greatest triumph of the last eight years is the capital campaign, launched by President Faulkner, which will have raised nearly $2 billion by the time he leaves office. For this and all other advances made by the university during his time here, the entire university will likely be sad to see him go. James R. Huffines, the chairman of the University of Texas System Board of Regents, articulated the general sentiment in response to Faulkner’s announcement of resignation: “I think that all the members of the Board agree with me when I say that Larry Faulkner is the very best president of a national research university in the country—perhaps the best president ever. He has been an invaluable asset to UT Austin, to the System and to Texas. His announcement of his resignation and the conclusion not only of his tenure as president,…but a historic milestone for this institution. Larry Faulkner’s remarkable legacy to UT is that he has not only achieved great things, he has established a very solid foundation for the future.”

April Wright
The Centre for Nano- and Molecular Science and Technology (CNM), founded in October 2000, is a multidisciplinary nanotechnology research center. The Center’s mission is to foster research, education, and outreach in nanotechnology at the University of Texas at Austin (UT Austin). The CNM has made substantial progress toward establishing UT as one of the leading university programs in Nanoscience and Nanotechnology.

The CNM has extensively fostered nano research at UT through Development and operation of a top-ten nano shared research facility, Direct participation in faculty recruiting and retention, research leadership on campus, graduate education, community outreach, and direct research funding.

Some 107 faculty members are currently affiliated with CNM, of whom 25 are from the Chemistry and Biochemistry Department.

**CNM Shared Research Facilities:**
The CNM shared instrumentation facilities offer a broad range of state-of-the-art tools for nanoscience and nanotechnology for hands-on use by UT students, faculty and staff. The available instruments include a high-resolution transmission electron microscope (TEM), a dual beam system (FIB/SEM), electron beam lithography (EBL), atomic force microscope or scanning electron microscope (AFM), and other tools for device fabrication and testing, laser spectroscopy etc. The facilities now include over $12 million worth of equipment purchased with the funding from the SPRING Program, The Welch Foundation, NSF, The Keck Foundation and the NRL.

The facilities are used by over 300 postdoctoral and student researchers from 55 faculty groups, in 12 departments and three colleges at UT for a total usage of over 1,500 hours per month. The shared facilities are among the best at any university in the country and are an important tool for faculty recruitment and retention. They also represent a clear competitive advantage for research and educational activities of our faculty and students.

The CNM has already enabled over 160 refereed publications since 2003, in most cases, in entirely new research areas for UT.

**CNM Facilitated Publications**

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**Doctoral Portfolio Program in Nanotechnology:**
In 2004, the CNM introduced a doctoral portfolio program in nanotechnology. This certification program provides a formal mechanism for recognizing and rewarding students who obtain the broad educational background necessary to become leaders in nanotechnology after graduation. This program is an efficient and effective introduction to nanotechnology for students from a wide range of technical disciplines. Over 49 students from 7 departments have enrolled in the program since its inception in fall 2004. Students in the program complete 12 semester hours of coursework and attend a nanotechnology seminar every week.

**CNM Building Project:**
The construction for the new $55 million Nano Science and Technology building (NST) broke ground in March 2005. The building includes a sub-basement, five floors of accessible space, and a mechanical penthouse- total top-out height of 131'-4". The five-story, 64912 sq. ft. building will have 22,111 sq. ft. of assignable space for office and laboratories including a 2500 sq. ft. clean room.

This new NST building, located on the north side of the Experimental Science Building, will open in summer 2006. The unique interaction laboratories including a 2500 sq. ft. clean room. The NST facilities will contain a greatly expanded and enhanced CNM shared instrumentation facility, including a unique bio-nanotechnology Keck clean room facility. The NST facilities will accelerate nanotechnology research and education, faculty collaboration, knowledge transfer, and outreach activities.

**University of Texas Nanotechnology Initiative (UTNI):**
UTNI is a university-wide planning and coordination process to establish the UT Austin as a leader in nanotechnology by enhancing research, education, and knowledge transfer in nanotechnology at UT and with partners in other universities, in industry, and in the public sector. UT already has a highly active and well-recognized nanotechnology effort which has had many recent successes. UTNI strives to make even more rapid progress and thereby position UT among the top few programs in Nanotechnology world-wide.

CNM provides organizational support and funding for UTNI programs that are designed to more effectively integrate and coordinate nanotechnology efforts on campus. This includes the NanoNews@UT newsletter, the Nanotechnology Seminar Series Program, Nano-Night (university-wide nanotechnology poster session for UT students) and strategic planning effort for UT nanotechnology programs.

**Outreach Programs:**
CNM is also diligent in the effort to increase public literacy in nanotechnology. In 2004-05, CNM organized outreach activities for the Austin Children’s Museum, Huntington High School, Austin Community College, UT Science Undergraduate Research Group, and Explore UT participants. Our outreach initiatives are designed to expose a general audience, regardless of age or educational background, to nanotechnology through lab-tours, presentations and hands-on activities.

The informative presentations and lab tours are part of a community outreach program. Presentations include an explanation on the basics of nanotechnology, a brief history of semiconductor technology and a discussion of the societal implications of nanotechnology. Tours of the CNM include a display of the characterization and fabrication instruments as well as a hands-on demonstration using lasers, fiber optics, atomic force microscope or scanning electron microscope.

**Syed Kamal**
Welcome, New Faculty

Christopher W. Bielawski

After completing my B.S. in chemistry with Jeffrey S. Moore at the University of Illinois at Urbana-Champaign, I took my Ph.D. in chemistry with Robert H. Grubbs at the California Institute of Technology. Before coming to UT, I completed a postdoctoral research fellowship with David A. Tirrell, also at the California Institute of Technology.

Here’s an interesting statistic: plastics and other man-made polymers are currently used more than steel, aluminum, and copper combined. If you stop and look around, it’s easy to believe— for better or worse, they have become a major part of your life. Everything from high-temperature engine components to contact lenses to (less tasty) milkshakes contain some type of polymer that was, at one point, made in a laboratory like those found in Welch Hall. This is even more impressive when you consider that the field of synthetic polymer chemistry is still relatively young. One of my heroes, Wallace Hume Carothers (considered by many to be the father of this field), was interested in responsive polymers— that is, polymers which sense and respond to the environment, as my research interests and endeavors. In particular, I am interested in responsive polymers— that is, where polymers sense changes in their environment and respond by altering their physical properties. For example, one exciting project we are working on is the development of self-healing conductive polymers. Imagine traveling to a far-away location (personally, that would probably be somewhere in the Mojave Desert). In this day and age, you would undoubtedly bring with you an electronic device of some sort (like a GPS or a cell phone). The last thing you want is for that device to fail because of faulty manufacturing (or worse, if you’re like me and you drop it half way up the face of a large rock). Well, there is simply no way to run to your favorite electronics shop and buy a replacement. (Or a more serious note, numerous aborted space missions have been attributed to electronic failure.) It turns out that most of these types of failures are due to stress-induced microcrack formation which ultimately leads to “shorted” electronic circuits. I believe we can solve this problem with responsive polymers. Through the synthesis of new conjugated polymers that can undergo reversible polymerization, we are working on the development of electronic materials which are capable of sensing when their structure has been compromised and respond with an autonomic-repair mechanism.

When I’m not in lab, I’m usually thinking about… coming back to lab. However, occasionally, and as my research program has progressed, even less than occasionally, it can be found at the Hyde Park Gym (an Austin original) throwing weights around or in the Mecca of rock-climbing (Joshua Tree, California) trying to garner enough energy to do so, one day, lead a 5-10.

Richard M. Crooks

I began my research career as an undergraduate at the University of Illinois in Urbana studying electrochemistry with Prof. Larry R. Faulkner before moving on to graduate school at UT with Prof. Allen J. Bard in 1981. For the last 12.5 years I’ve been on the chemistry faculty at Texas A&M University, so although I’m a new faculty member I’ve spent many years in Texas and have lots of friends and collaborators at UT.

My research group’s interests include electrochemistry, nanomaterials, catalysis, and bioinsensing. For example, we are interested in learning how the physical and chemical properties of metallic and bimetallic catalysts affect their selectivity and efficiency. Nanoscale catalysts in the 1-3 nm size range are of particular interest, because very slight changes in the size of these materials can dramatically affect their catalytic properties. The group also has a long-standing interest in chemical and biological sensors. In recent years this effort has focused on the design of microfluidic and nanofluidic sensors. For example, we have found that it is possible to fabricate biosensors using membranes containing a single channel that is derived from a carbon nanotube. An interesting aspect of these devices is that they detect the presence of a single molecule or particles one at a time. At present, we are using nanotube-based sensors to detect biomaterials such as viruses and DNA. Along these same lines, we are studying biosensors based on microfluidic systems. The idea here is to develop electrochemical detection methods for array-based sensors that have low limits of detection similar to those normally associated with fluorescence.

My wife, Julie, is also a UT-Austin graduate, and she’s reconnecting with the University by running the UT editorial office of the ACS journal Langmuir. I’ve been a senior editor for Langmuir, which is the ACS journal of colloids and surfaces, for about two years.

It’s great to be back in Austin, and I’m looking forward to many years of collaboration and research projects with our students and faculty. Julie and I will also probably find some time to go for a swim at Barton Springs, listen to music at Anton’s, or take in a sunset from Mt. Bonnell.

Bradley Holliday

My first formal exposure to the subject of chemistry came when I was a sophomore in high school. Luckily for me my first chemistry teacher was one of the best teachers I have ever encountered…he also happened to be my uncle. His passion for chemistry and educating was contagious and I was hooked. In fact, the teaching bug is in my blood coming from a family of teachers on various levels. Based on this, I had little doubt when I enrolled at Allegheny College in Meadville, Pennsylvania that I was going to major in chemistry and at the time I was so set to follow in my uncle’s footsteps as a high school chemistry teacher. A summer research experience at the University of Kentucky after my sophomore year ignited my interest in academic research which was further fueled by work in Professor Russell Hughes’s Laboratory at Dartmouth the summer of my junior year at Allegheny.

After deciding on Northwestern University for graduate school based on the wide continuum of active research in Inorganic Chemistry that was underway there, I joined the group of Professor Chad Mairkin to pursue my interests in organometallic chemistry. My work there focused on the synthesis, characterization, and reactivity of a series of homobimetallic and mononuclear Rh(I) complexes. These were assembled utilizing hemilabile ligands and afforded structures and metallopolymers. Initial research efforts in my group are centered around understanding atomic and chemical processes at surfaces and metallopolymers. The incorporation of active metal centers directly into the backbone of conducting polymers has the potential to produce new hybrid materials which take full advantage of the properties of both conducting and catalytic materials, and could help aid in the design of novel catalytic materials.

One of the reasons that supported nanoparticles are interesting to chemists is that small metal particles can be more reactive than bulk metals. I am collaborating with surface scientists and electrochemists to better understand the details of reactions on nanoparticle catalysts. An exciting project currently underway at UT Austin involves a multidisciplinary effort to understand how nanoparticles and bimetallic particles can produce better and cheaper catalysts for fuel cells. Theoretical studies are an integral part of this effort, and one that will be even more important as better computational methods are developed.

Graeme Henkelman

I joined the chemistry department in the summer of 2004. After doing a Ph.D. in Seattle and post-doctoral research at the laboratory in Los Alamos, My wife Beth and I are happy to be settled in Austin. I am one of five theoretical chemists in the department. Austin is fortunate to have such a large group of theorists, both in chemistry and related fields. The interdisciplinary institutes such as the Institute for Theoretical Chemistry, the Texas Materials Institute, and the Computational and Applied Mathematics program make Austin an exciting place for a theorist to start a research group.

Research in our group is centered around understanding atomic scale dynamics at surfaces and in materials. One of the important challenges in theoretical chemistry is bridging the gap between the fast time scale on which atoms move and the human time scale on which interesting dynamics on the gas phase or solid state take place. It is currently being used to study the formation of small metal nanoparticles on or visible on surfaces. A better understanding of the process by which nanoparticles form and coalesce will aid help in the design of novel catalytic materials.
In order to take the department to the next level and to meet the needs outlined in this newsletter’s “From the Chair” article, Steve Martin has appointed a development committee to define our goals, assess our needs, and map out a development plan. The committee has begun its work and has set a five-year goal to be nationally recognized as one of the top three chemistry departments at a public university. We are in the process of identifying specific needs and we have been working closely with development officers in the College of Natural Sciences and the University to craft a strategic plan. We look forward to sharing elements of the plan as soon as it has been finalized, but we can safely say that we will focus on both endowments and annual giving. The importance of annual giving cannot be overstated. Generating $50,000 of income a year would require a million dollar endowment so you can see why we seek and appreciate annual giving as much as we do. We will keep you posted as our plan evolves, and we appreciate your continued interest in, and support of the Department of Chemistry and Biochemistry at the University of Texas.

**Development News**

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**How can you HELP the Department of Chemistry & Biochemistry at UT?**

We hope that you are as proud of our department and the university as we are, and your help is what enables us to build on that pride. Gifts from our alumni and friends help to enhance the quality of our education, work, and research, enabling us to constantly raise our standards of excellence. If you choose to be a part of our success by donating, you will have the opportunity to determine how your gift is dispensed. Every gift is significant and appreciated!

**Ways to donate:**

**Annual Giving**

Yearly gifts from alumni and friends can be directed to the Office of the President (for university-wide disbursement), or any of the university’s schools, colleges, or departments. Here are a few of the ways your annual gift may be used:

- Facilitating innovative new programs
- Providing scholarships to students in need
- Supplementing professional opportunities and faculty awards
- Enhancing classroom technology

For more information, or to make a gift online, visit [www.utexas.edu/supportut/how_support](http://www.utexas.edu/supportut/how_support) or call toll free 1-866-875-9651.

**Matching Gifts**

Many companies support the charitable contributions of their employees by doubling or tripling their donation! Does your employer match gifts? To find out, visit our quick and easy matching service at [www.matchinggifts.com/utexas](http://www.matchinggifts.com/utexas).

**Endowments**

Gifts for endowments are invested by the university, and the interest generated is used for whatever purpose you wish. You may take up to five years to fund an endowment, and they are managed in such a way that they will increase over time. Here are some of the ways in which endowments are used:

- Financial aid
- Student merit awards, scholarships, and fellowships
- Funding for exploratory research
- General Excellence awards
- Book funds for research libraries
- Professorships and Chairs

For more information, or to set up an endowment, visit [www.utexas.edu/supportut/endowments](http://www.utexas.edu/supportut/endowments) or call toll free 1-866-4UTEXAS.

**Gift Planning**

Many UT alumni and friends have chosen to include a gift to a department, college, or the university in their estate plans. Our Office of Gift Planning has the knowledge and expertise required to answer your questions, and help you secure your family’s future, in the way that is most beneficial to you.

Visit them online at [www.utexas.edu/supportut/giftplanning](http://www.utexas.edu/supportut/giftplanning) or call toll free 1-800-687-4602.

**In Return**

Every gift to the university makes a difference, and we honor those who contribute to our goals and achievements. By donating to the Department of Chemistry and Biochemistry at The University of Texas, you may be eligible for membership to one of many special organizations, such as:

- The Texas Leadership Society
- The Littlefield Society
- The President’s Associates
- The Chancellor’s Council

To learn more, visit [www.utexas.edu/supportut/recognition](http://www.utexas.edu/supportut/recognition).

Be sure to specifically designate your gift to The Department of Chemistry and Biochemistry.
Honors and Promotions

Faculty Awards

Dr. Eric Anslyn  
Arthur C. Cope Scholar Award for 2006  
For outstanding achievement in the field of organic chemistry

Dr. Alan Bard  
2004 Welch Award  
Dr. Allen J. Bard was awarded the 2004 Welch Prize in Chemistry  
“For his major accomplishments in the field of electrochemistry and the effect of these on the discipline of chemistry itself.”

Dr. Alan Cowley  
Gauss Professorship from Goettingen Academy of Sciences  
Awarded to important scientists in one of Gauss’s fields of interest

Dr. James R. Chelikowsky  
David Adler Lectureship Award  
Dr. Chelikowsky will be receiving the David Adler Lectureship Award at the 2006 March meeting of the American Physical Society in Baltimore, MD.

Dr. Norman Hackerman  
National Associate of the National Academies  
For extraordinary service to the National Academies in its role as adviser to the Nation in matters of science, engineering, and health.

Dr. Jim Holcombe  
Fellow of the Society for Applied Spectroscopy  
For service to the Society and for exceptional contributions to spectroscopy

Dr. Brent Iverson  
2005 Arthur C. Cope Scholar Award  
For excellence in organic chemistry

Dr. Mike Krische  
The Society of Synthetic Chemistry, Japan, 2005 - Lectureship on Organic Synthesis  
Johnson & Johnson Focused Giving Award for basic biomedical research

Dr. Svetlana Leytner and Dr. Dmitrii Makarov  
Novartis Graduate Fellowship in Organic Chemistry for Minorities and Women

Dr. Ben Liu  
Elected Fellow of the American Association for the Advancement of Science  
For exploiting nature’s strategies of glycodiversification and enzyme catalysis, and for outstanding contributions to a new era of bio-organic chemistry.

Dr. Stephen Martin  
Elected Fellow of the American Association for the Advancement of Science  
For distinguished contributions to the fields of synthetic organic, natural product, and biogasent chemistry.

Dr. Jason Shear  
Arthur F. Findeis Award for Achievements by a Young Analytical Scientist, American Chemical Society

Dr. Keith Stevenson  
2006 SEAC Young Investigator Award  
For significant accomplishments during the first seven years of his career

Dr. Grant Willson  
Hero of Chemistry, American Chemical Society for work in semiconductor process technology, 2005 Hero of Chemistry, American Chemical Society for excellence in the research and development of a commercial product that has led to the advancement, welfare, and progress of humanity.

Dr. Alan Lambowitz Elected to the National Academy of Sciences

Alan Lambowitz was elected to the National Academy of Sciences in spring 2004 and a celebratory reception was attended by his many colleagues and friends. Dr. Lambowitz holds joint appointments in the Department of Chemistry and Biochemistry and in the section of Molecular Genetics and Microbiology in the School of Biological Sciences. Dr. Lambowitz is also director for the Institute for Cell and Molecular Biology (http://www.icmb.utexas.edu). Dr. Lambowitz’s work on self splicing group II introns has lead to the development of systems that allow genes to be placed into precise locations within a genome and has applications in biotechnology development including gene therapy.

Student Awards

Emily Barton  
Top prize of $20,000 in the University Co-op / George H. Mitchell Undergraduate Student Awards for Academic Excellence

Jennifer Davoren  
Hoffman-La Roche Inc. Award for Excellence in Chemistry

Martin Pettersson  
Brand-Meyer Squibb Graduate Fellowship in Synthetic Organic Chemistry

Anna Smith  
Novartis Graduate Fellowship in Organic Chemistry for Minorities and Women and the National Science Foundation Graduate Research Fellowship

Staff Awards

We are pleased to announce that several of our dedicated staff members have been awarded Staff Excellence Awards this year. The department is fortunate to have an excellent support and technical staff that assist us in reaching our research and teaching goals.

Sylvia Jean  
University of Texas Staff Excellence Award

Jeff Evelyn  
College of Natural Sciences Staff Excellence Award

David Korts  
Department of Chemistry and Biochemistry Staff Excellence Award

Honors and Promotions

Department Helps Celebrate Norm Hackerman’s 93rd Birthday: In March, friends and colleagues gathered to honor Norm’s 70-year career as a successful teacher, researcher and administrator. Norm is a former chair of our department, former president of UT, former president of Rice University and was awarded the National Medal of Science among his many other honors. On hand to help celebrate were President Larry Faulkner, Chairman Stephen Martin, Dean Mary Ann Rankin and long-time friend and colleague Alan Cowley.

A toast to (L - R) David VandenBout, Dimitrii Makarov, Svetlana Leytner

2006 Staff Awards group photo, lr to rr  
Sylvia Jean, Monika Hill, Sandra Godfrey, Donna Reber, Vladimir Mastryukov, Terry Watts

2005 Staff Awards, Sylvia Jean, Terry Watts

2005 Staff Awards group photo, lr to rr

David Korts, Jeff Evelyn

Jennifer Davoren  
Hoffman-La Roche Inc. Award for Excellence in Chemistry

Martin Pettersson  
Brand-Meyer Squibb Graduate Fellowship in Synthetic Organic Chemistry

Anna Smith  
Novartis Graduate Fellowship in Organic Chemistry for Minorities and Women and the National Science Foundation Graduate Research Fellowship

2006 Staff Awards, Sylvia Jean, Monika Hill, Larry Faulkner, Sandra Godfrey, Donna Reber

2005 Staff Awards, Sylvia Jean, Terry Watts
During his 44 years with the Chemistry Department, Nate authored or coauthored 150 scientific publications, one book and three book chapters, supervised at least 50 PhD students and 10 Masters students, and mentored numerous undergraduate students in his laboratory. His teaching contributions included, besides the usual array of sophomore organic courses, graduate reactions mechanisms, ion radical special topics, and molecular orbital theory.

Nate married Jane Scoggins in 1971. They have five children and seven grandchildren. Jane, an English major, retired from teaching after 30 years to focus on her writing and issues related to child advocacy. She is an accomplished author of over 20 children’s books, including the very successful Hector’s Escapades: First Night Out.

and Rights for Children. Nate says that while he thoroughly enjoyed his 44 years at UT, he is now equally enjoying having more time to spend with Jane and his family and to pursue his long-term interest in bible teaching and, more recently, his interest in bible apologetics.

Raymond E. Davis Retires

Raymond E. (Ray) Davis will retire from teaching at the end of this academic year after 40 years with the department. We want to alert you to the fact that there is a symposium on crystal engineering in honor of Ray being held on the weekend, April 29th, 2006. For more information about the Ray Davis Retirement Symposium/Celebration, contact Bobby Barnett (bobby.barnett@utexas.edu) or Joel Oliver (joel@uoregon.edu) and look for information on registration and the program on our web site at http://kbonnet.qualsys.com/admin/davis_flyer.pdf.

Richard J. Lagow Retires

Richard J. Lagow, Louis Nicolas Vanquelin Regents Professorship in Inorganic Chemistry, retired in January, 2005 after nearly 29 years of service in the Department. Dick was born in 1945 in Albuquerque, New Mexico. In 1963 he matriculated at Rice University where he lettered in football and received his BS in Chemistry in 1967, and a PhD also from Rice in 1969 working with John Margrave. After receiving his doctor’s degree, Dick moved directly to MIT where he was an Assistant Professor from 1970 until 1976 when he joined the faculty of the University of Texas as an Associate Professor. Dick was promoted to Full Professor in 1980. He was holder of the Louis Nicolas Vanquelin Regents Professorship in Inorganic Chemistry in the Department for many years.

Dick led a multifaceted research group with interests in fluorine chemistry, carbon chemistry, lithium chemistry with applications to synthesis, materials science, and polymer chemistry. His group is best known for their broad contributions to inorganic and organic synthesis to development of new methodologies and catalysts.

During his 44 years with the Chemistry Department, Nate authored or coauthored 150 scientific publications, one book and three book chapters, supervised at least 50 PhD students and 10 Masters students, and mentored numerous undergraduate students in his laboratory. His teaching contributions included, besides the usual array of sophomore organic courses, graduate reactions mechanisms, ion radical special topics, and molecular orbital theory.

Nate married Jane Scoggins in 1971. They have five children and seven grandchildren. Jane, an English major, retired from teaching after 30 years to focus on her writing and issues related to child advocacy. She is an accomplished author of over 20 children’s books, including the very successful Hector’s Escapades: First Night Out.

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Hurricane Katrina Brings New Faces to the Department

This fall, 2005, Professors Sessler and Anslyn are playing host to Professor Bruce Gibb from the University of New Orleans. Professor Gibb’s expertise lies in the synthesis and properties of cavitands (bowl-shaped host molecules) and nano-capsules. His group, now straddled between the Sessler and Anslyn groups, is endeavoring to keep their research going after evacuating New Orleans with hurricane Katrina bearing down on the city.

As was probably the case with most of the people from New Orleans, Dr. Gibb planned for a three or four day evacuation with his wife Corinne (the group’s lab manager) and daughter Naomi. Having watched the disaster unfold in a Mississippi motel, they sorted out their personal lives and sent out e-mails and phone messages to their friends and colleagues in the supramolecular chemistry field. By the time Dr. Gibb had located his group members, he had received offers of laboratory and office space from a dozen members of the supramolecular community. Undoubtedly, many of the offers came from people who had seen Bruce, only a few weeks earlier, conclude his talk at the International Conference on Calixarenes with a five-minute discussion on the dangers that hurricanes posed to New Orleans! Ultimately, Bruce and Corinne chose Austin because of the expertise the department has in supramolecular chemistry, and because it is close enough to New Orleans without being too close to the aftermath.

With the heart-warming help of a myriad of strangers and new friends, equipment from the Sessler and Anslyn groups, a technician from MicroCal to fix the group’s Isothermal Titration Calorimeter (another victim of Katrina), and a funding loan from Dr. Sessler until an NSF Supplemental Grant kicked in, the Gibb group is up and running. Perhaps not on all cylinders, but it’s moving forward, rather than being stuck in the post-Katrina ooze.

Dr. Gibb says there are several take-home messages from the adventure. First, always appreciate normality. Both on a personal and a professional level, it is difficult to keep your head above water when your house has failed miserably on that count. Second, look for those silver linings. Growth on the professional level is difficult when nature socks you one, but there are other ways to develop. And finally, never, never – especially during hurricane season – give a five-minute synopsis at international meetings on hurricanes and what they might do to New Orleans!

Bruce Gibb, edited by April Wright

Each fall the American Chemical Society encourages children of all ages to explore the wonders of chemistry during National Chemistry Week. This year the Austin Children’s Museum featured a community event called “The Joy of Toys” which took place on October 19th in downtown Austin. Several UT Chemistry & Biochemistry graduate students were on-hand to help the visiting youngsters take part in their own experiments. The experiments, many of which included take-home activities, demonstrated various principles of Chemistry at a level which the children could comprehend. Take a look at these activities, as well as a wide array of resources for parents and teachers, on the American Chemical Society’s web site for kids at www.chemistry.org/kids.
Maria Ana Carenaru, 10/14/1986 – 9/19/2005

Maria Ana Carenaru, 38, died of cancer Monday, September 19, 2005 in Des Moines, Iowa. Maria was born in Bucharest, Romania. Her father was a physician and her mother a physicist. She moved to Gothenburg, Sweden with her family in 1976 and lived there for five years. Her parents divorced in 1977 and she moved to Salt Lake City, Utah with her mother, brother, and grandmother in 1981. She graduated from Murray High School in 1985, received her B.S. in chemistry from The University of Utah in 1989, her Ph.D. in chemical physics from The University of Texas at Austin in 1994, and her M.B.A. from St. Louis University in 2000.

Maria worked at Sigma Aldrich from 1994 to 2000, Dupont Protein Technologies / Solay from 2000 to 2005, and taught statistics at St. Louis University during spring semester 2005. She began work at Kemira Nutraceuticals in February, 2005 and was looking forward to beginning her new life in Des Moines.

Maria is survived by her father Ioan, her mother Irina, and her brother John.
As always, we welcome updates on your personal and professional news. Reminiscences of student experiences are appreciated also.

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