

THE NEWSLETTER OF THE UNIVERSITY OF WISCONSIN-MADISON

## CHEMISTRY DEPARTMENT

#### **CONTENTS**

From the Chair
Current Chemistry News2
Forty Years Ago
Our Awards 6
New Badger Chemists
Other Notable News
Dean Phil Certain & Prof. John Harriman Retirement Party 14
The Chemistry Department
The Hyuk Yu Symposium & Reception
Scenes from one of the Madison PEOPLE Programs 19
Wisconsin Initiative for Science Literacy
This 'n' That
Chemistry Department Support
Donors to Department Funds
In Memoriam30

#### **2004 BADGER CHEMIST**

#### **Matthew Sanders**

Editor

Designed by the Instructional Media Development Center School of Education, University of Wisconsin–Madison

Linda Endlich

Art Direction

**Candice Heberer & Katie Drapp** 

**Production Assistance** 





#### December 2004

Dear Badger Chemists,

I am now five months into my three–year term as Chair of the Chemistry Department, and am beginning to learn the ropes. It is indeed a tremendous privilege to serve the Department in this way. But with this privilege comes an awesome responsibility. I intend to do my very best to live up to the standards of the previous chairs, and the expectations of the Department, the College, and the University.

The Badger Chemist, under the exceptional editorship of our Executive Director, Matt Sanders, is a wonderful vehicle for communicating our activities to alumni and friends. As you flip through these pages I think you will be stunned by the breadth of these activities: research accomplishments and awards, chemical education and teaching awards, outreach activities, prizes and lectureships, student awards, and much more. This is one vibrant department! No one is content to "do the minimum," but rather we (students, staff, and faculty) are all working together, making equally valuable but different contributions, toward the common goal of being the best department that we can be.



We have an opportunity this year to hire at least three new faculty members. Two of these positions are in the interdisciplinary areas of functional organic materials, and biological mass spectrometry. Successful hires in these areas will allow us to build bridges with other departments, and indeed, with other colleges. These appointments emphasize the ever—increasing role that chemistry, which truly is the "central science," plays in all of science, medicine, and technology. We also have a departmental position to fill, and in doing so we have adopted the strategy that has been so effective in recent years of searching broadly for the very best candidates, essentially independent of research area. To this end we interviewed 8 outstanding candidates in November and December, and are poised to make one or more offers in the next few weeks.

These are difficult financial times for the University of Wisconsin, as we are still trying to recover from the budget cuts of last year. Nonetheless, we will approach the future with grace and optimism, and will work with the College to maximize the impact of our resources. This issue of the Badger Chemist lists various trust funds and departmental accounts set up and maintained by the UW Foundation to which you can contribute if you are so inclined. We are all truly grateful for your past and future generosity.

The next few months promise to be stimulating and busy, as we put together faculty offers, begin the graduate student recruiting process, and generally go about our diverse businesses. We hope that your scientific pursuits continue to be rewarding. Keep in touch!

Jim Skinner Chair, Department of Chemistry chair@chem.wisc.edu



# Current Chemistry News

#### **DEPARTURES**

**Sheila Aiello** retired in February from her position as Tom Record's secretary. Sheila had been with the Department since 1985.

**Letters and Science Dean and Chemistry Professor Phillip Certain** retired in June 2004 after 34 years of service to the University as Professor, Vice Chancellor, and Dean of the College of Letters and Science.

**Sharon Foster** retired in September 2003. Sharon had worked in the Business Office since .July 2001.

**Professor John Harriman** retired in May 2004, after 40 years as a professor in the Chemistry Department. John will continue as an *emeritus* professor.

**Jerry Lancaster** retired from Chemistry in February 2004; he had worked in the Electronics Shop since 1991.

**John Lange** retired from the Chemistry Machine Shop in January 2004. He had been with the Department since 1995.

**Professor Hyuk Yu** retired in January 2004, after coming to the Department in 1967. Hyuk will continue as an *emeritus* professor.

#### **ARRIVALS**

**Phill Bloedow** joined the Department in September 2002 as a Program Assistant. He is the cheery voice you'll get if you call Chemistry at 608–262–1483.



Phill Bloedow

**Charlene Entwistle** joined the Department in November 2003, coming to our Business Office from Biochemistry. She replaced **Sharon Foster.** 

**Song Jin** started as an Assistant Professor in August 2003. He and his wife



Charlene Entwistle

Ying Ge moved from Massachusetts, where he had been a postdoc at Harvard, after receiving his PhD at Cornell. Research in the Jin group is centered on the chemistry

and physics of materials at the nanometer scale. To address these challenges in nanoscience and nanotechnology, we not only explore chemical synthesis and carry out the structural characterization of nanomate-

rials, but also investigate their physical properties, especially through device fabrication and physical property study. The emphasis is on developing rational strategies for chemical synthesis, assembly and inte-



Song Jin

gration of nanomaterials, and on elucidating fundamental synthesis—structure—property relationships, yet this interdisciplinary endeavor will also lead to a broad range of applications in nanoelectronics, optoelectronics and biotechnology. Research in our lab is highly interdisciplinary in nature. Many research projects will involve collaborations within the group, with other research groups in the department, or with physicists and/or engineers on campus.

**Hieu Tran** (PhD '98, Nelsen) returned to the Department in December 2003,

working to support research applications in the Chemistry Department Computer Center. Hieu's wife **Nguyet Tran** (PhD '98, Dahl) has worked as a Postodc and Sci-



Hieu Tran

entist in the Dahl group since her graduation, and lectured in general Chem for the Department in summer and Fall 2004.

**Craig Trew- artha** returned to the Chemistry



Craig Trewartha

Department in April 2004, replacing **Jerry Lancaster.** Craig was with the Department from 1991-1999, then worked at PSL in Stoughton for 5 years before returning to Chemistry.

**Andrew Tseng** joined the Department as a temporary assistant to **Allen Clauss** in the Organic teaching labs in August 2002.

In January 2004, he accepted our offer of a renewable position as Assistant Organic Lab Director. Andrew got his PhD in 2002 under the direction of **Professor Judith Burstyn.** 



Andrew Tseng

#### **FACULTY AND STAFF NEWS**

**Thomas Brunold** finished 8<sup>th</sup> in the Ironman competition held in Madison in summer 2003, and 5<sup>th</sup> in 2004, cutting 20 minutes off his time. In each case Thomas was the top finisher from the Madison area. Thomas finished second in the Madison Marathon in spring 2004, and **Thomas Clark**, a Clark Landis student, finished fourth.

**Robert Kirchdoerfer** and **Paul Ellison**, two second year undergraduates working in the research group of **Silvia Cavagnero**, received NSF REU fellowships to do research in my laboratory for the 2004-05 academic year. **Jamie P. Ellis,** 

a first year graduate student in my group, received a 1-year graduate fellowship and became Molecular Biophysics Graduate Trainee. This is an NIH-sponsored program. **Lisa Jungbauer**, a fifth year graduate student in my group, received the Finn Wold Travel Award from the Protein Society to present the results of her research at the 18th Protein Society Annual Symposium in August 2004. **Nese Kurt,** a postdoctoral fellow in my group, received a scholarship to attend a workshop on Women in Science and Training to pursue an Academic Career offered by COACH in S. Francisco (CA).

In December, **Mark Ediger** received the James W. Taylor Excellence in Teaching Award from the Department of Chemistry. In January, Mark started serving on the Editorial Advisory Board of the Journal of Chemical Physics, and in May, he helped to organize a symposium for **Hyuk Yu**, on the occasion of Hyuk's retirement. This year Mark also organized the Polymer Physics Gordon Conference to be held in August, and gave invited talks at Berkeley, NIST, Tohoku University (Japan), and the national ACS and APS meetings.

**Sam Gellman** delivered the Merck Sharpe & Dohme lecture at the University of Liverpool in November 2003, and the Wyeth Research Lecture at Princeton in December. In March 2004 Sam was the Merck-Frosst Distinguished Lecturer at Laval University in Quebec. In June he spoke at the 30th Reaction Mechanisms Conference. in Evanston.

Lingjun Li gave an invited talk at the 31st Annual Meeting for the Federation of Analytical Chemistry and Spectroscopy Societies (FACSS) in Portland, OR, at a symposium entitled "Analytical Methods to Characterize the Nervous System". She also gave presentations at the Society for Neuroscience Annual Meeting (2004) in, San Diego; at the 52<sup>nd</sup> American Society for Mass Spectrometry (ASMS) Conference on Mass Spectrometry in Nashville, TN, in 2004; at ASMS in Montreal in 2003; at the 2004 Pittsburgh Conference on Analytical Chemistry and Allied Spectroscopy (PittCon) in Chicago; at the Proteomics Workshop, Wisconsin Symposium III: From DNA to Molecular Medicine, in Madison in 2003; and at The Fourth North American FT-ICR MS Conference in Marshall, CA, in 2003.

Jim Maynard reports that the demo

lab was busy again this year. We supported both SPICE and the fledgling WISL outreach programs. We assisted with setting up science weekends and Phil Certain's last demo lecture, and supported area high schools with dry ice and liquid nitrogen for their science demo lectures. We assisted with Bassam Shakhashiri's demonstration segment on WKOW Channel 27. One of my original student assistants, James Broesch, graduated this year, and traveled to Costa Rica on the thirty-first of May to study primates in the wild. **Jesse Wilkins** ('05), another of my student assistants, has received a \$2500 grant and is moving upstairs to Laura Kiessling's lab. Ryan Baxter, another student in the lab, had similarly gone upstairs to the research labs the previous semester. It has been a great pleasure watching these young people grow into competent talented academics. I am sure they will become great scientists as well. I also received a professional development grant from the Academic Staff PDRC. which I used to "observe and discover best practices" at four big ten conference demonstration labs from 18-28 May 2004. The colleges I will visit are: Minnesota, Indiana, Michigan, and Northwestern.

**Bob McMahon** is a co-organizer for the series of workshops funded by the NSF Organic Chemistry Dynamics program. The workshops afford the opportunity for research discussions among early-career faculty, established faculty, and members of the NSF organic chemistry program staff. Participants at the 2003 workshop, held in Newport, RI, included Art Cammers-Goodwin (Kentucky; PhD '94, Vedejs), Natia Frank (Washington; MS '90, West), Tyler McQuade (Cornell; PhD '98, Gellman) and Sandro Mecozzi (UW-Madison). Participants at the 2004 workshop, held at the Heidel House Resort in Green Lake, WI, included **Igor Alabugin** (Florida State; PD '96-'00, Zimmerman), Dan Appella (Northwestern; PhD '98, Gellman), Rustem Ismagilov (Chicago; PhD '98, Nelsen), and Alan Kennan (Colorado State; PhD '97, Whitlock). Bob presented invited lectures at the International Symposium on Reactive Intermediates and Interesting Molecules (Reykjavik, Iceland), the Kyushu International Symposium on Physical-Organic Chemistry (Kyushu, Japan), and the Heron Island Conference on Reactive Intermediates (Heron Island, Australia) Also attending the conference in Iceland were Roger Alder (Bristol; organic visitor), Henning **Hopf** (Braunschweig; PhD '67, Goering), Asgeir Konradsson (PhD '04, Nelsen), **Pete Ogilby** (Aarhus; BS '77, Zimmerman), and in Australia were **Tim Clark** (Erlangen; organic visitor), Armin de Meijere (Göttingen; organic visitor), and Josh Schantl (Innsbruck; PD Zimmerman and organic visitor). Bob also presented lectures in Europe, where he had the opportunity to visit several former organic chemistry visitors to the Department: Essen-Duisburg (Frank Klärner), Amsterdam, Cologne (Albrecht Berkessel), Kiel, Bochum (Wolfgang Kirmse), and Aachen (Carsten Bolm).

The Reaction Mechanisms Conference (Northwestern University, June 2004) had strong Wisconsin participation. Igor Alabugin (Florida State), Sam Gellman, Bill Jones (Rochester; PD, Casey), and Frank Klärner (Essen; organic visitor 1982) presented invited lectures. **Dave Ballweg** (grad student at Northwestern; BS '02, West), Margaret Biddle (Reich), Nate Bowling (McMahon). Amanda Jones (Reich). Seol Kim (McMahon), and Susie Przybylinski (McMahon) presented posters. Randy Seburg's (Merck; PhD '95, McMahon) poster was selected for oral presentation. **Rustem** Ismagilov (Chicago; PhD '98, Nelsen), Bob McMahon, and Howard Zimmer**man** served as session chairs. Participants included many other Wisconsin alumni: Dan Appella (Northwestern, PhD '98, Gellman), **Ed Clennan** (Wyoming; PhD '77, Nelsen), Dave Crumrine (Loyola; PhD '71, Zimmerman), **Richard Johnson** (New Hampshire; PD Zimmerman), Andrei Kutateladze (Denver; PD Zimmerman), Tyler McQuade (Cornell; PhD '98, Gellman), Caroline Pharr (McMahon), Paul Scudder (New College; PhD '77, Trost), Greg Slough (Kalamazoo; Visiting Professor '92-'93, Casey), Lynn Sousa (Ball State; PhD '71, Zimmerman), Stu Staley (Carnegie-Mellon; PD Zimmerman), Phillip Thomas (McMahon), and Gary Weisman (New Hampshire; PhD '76, Nelsen). Bob **McMahon** serves on the Governing Board for the conference.

**Cathy Middlecamp** will be teaching in the ILS program starting spring 2005, the first Chemistry instructor to do so since **Aaron Idhe.**  **Ron Raines** presented invited lectures at the 3e Symposium annuel du CREFSIP in Québec City, the 227<sup>th</sup> National ACS Meeting in Anaheim, CHI symposium on Engineering Protein Therapeutics, and Gordon Research Conferences on Collagen (2003) and Bioorganic Chemistry (2004).

Dan Rich was awarded a "Distinguished Alumni Award" from the University of Minnesota Institute of Technology at the May 7, 2004 U. of M. Commencement. He received his B. Chem. degree in 1964. University of Minnesota Professor and UW-Madison alumnus, Wayland E. Noland, who was his undergraduate research advisor, was his escort at the graduation ceremony. Dan chaired the 29th National Medicinal Chemistry Symposium, which was held in the Union Theater on the Madison campus,

June 27–July 1. Over 550 registrants attended the meeting, mostly from the pharmaceutical industry. He was selected one of the 2003–2004 Novartis lecturers, and he presented lectures at the Novartis research institutes in Japan, Basel, and Vienna. Dan was a plenary lecturer at the International Proteolysis Society, Nagoya Japan, and at the International Society of Protease Inhibitors, Kyoto, Japan, in November 2003. He presented the Varroe Tyler Lectures at the Purdue University School of Pharmacy in 2003.

In 2003 **Jim Skinner** was elected Fellow of the AAAS, received the UW Chancellor's Distinguished Teaching Award, and gave the Reilly Lectures at Notre Dame. He became Department Chair in July 2004.

Bob West, Director of the Organosili-

con Research Center. continues to have a highly international group. Currently the group contains researchers from Russia, Ukraine, People's Republic of China, England, Japan, Korea, and the United States. This year Bob has presented the group's research at several international conferences in the United States as well as in Germany and Russia. Last November, while doing research at the Technion in Haifa, he was an invited lecturer at three Israeli universities. Bob went to Japan in October 2004 for a few weeks and hopes to return to Israel next November. Bob is currently in the process of helping organize the 3rd Research Trends in Science and Technology conference, to be held in Lebanon in March 2005.



Bob West on the Primrose Snowfield, August 2004. Peaks in the background are Mts. Faith and Charity.



Besides continuing as an instrumentrated pilot in his Cessna 182, Bob enjoyed mountain climbing with crampons and ice axe in the Selkirks of British Columbia last August and hiking in the Negev Desert of Israel in November. He joined another climbing group in British Columbia in August 2004. In 1969, Bob led the first mountaineering expedition to the Albert Icefield area of the Selkirk Mountains. On this trip the party climbed and named many new peaks: Mts. Virtue, Faith, Hope, Charity, Prudence, Justice, Campion, Cassiope, Primrose, Fulgurite and Greydike. These names now appear on official maps of the area. In August, Bob revisited the area with a group from the Canadian Alpine Club, and re-ascended several of the peaks. On the summits of some of the mountains he was able to find his original record, still preserved after 35 years.

Martin Zanni received the Beckman Young Investigators Award and a National Science Foundation CAREER Award. He organized the symposium "Frontiers in Biophysical Methods" at the 2003 National ACS Meeting in New York City. He now has five graduate students, his group has purchased a second femtosecond laser system, and they have published their first three papers!

**Howard Zimmerman** made his usual April trip to Washington, D. C. However, the most rewarding event was his chairing a session at the Reaction Mechanisms Conference where his former student, **Igor Alabugin** (PD '96–'00) gave an especially brilliant lecture. At that meeting there were a number of his former students. Besides. Igor, others attending included Andrei Kutateladze (PD '92-'95), Professor at the University of Denver; **Stu Staley** (PD '63– '64), who is a Professor at Carnegie-Mellon: and **Richard Johnson** (PD '77–79), a Professor at the University of New Hampshire. Zimmerman has been organizing the Pacifichem2005 Symposium on Organic Photochemistry to be held in Honolulu. There are speakers from the U.S., Canada, Japan, England, Germany and Italy.

# Forty Years Ago...

Reflections from John Harriman

When I joined the Chemistry Department in the fall of 1964–The Chemistry Building was the old chemistry building, now remodeled as Chamberlin Hall. What is now the Mathews wing was the new Chemistry Research Building (CRB). The first floor of CRB was devoted to macromolecular research, including the Ferry and Williams groups. The second floor included the Theoretical Chemistry Institute (south side) and the NMR lab and Paul Bender's office. Upper floors were for organic chemistry.

For lack of space elsewhere, my office was on the first floor of CRB in the northeast corner, next to the receiving room and loading dock. All theoretical chemistry graduate students were in an old house across Johnson St. Both Johnson Street and University Avenue had trees along the sides. I had laboratory space in the southeast corner of the basement of the old building and office space for experimental graduate students on the third floor of the wooden, central old section. Prior to setting up our own ESR spectrometer we shared one with the Willard group and some physics groups. It was located in Sterling Hall, then the (only) physics building.



John and Sue Harriman

John Ferry was chair of the Department and Paul Bender was chair of the Physical Chemistry Division. Betty Gehrman was the departmental secretary (as the position was then called). Farrington Daniels was retired but still active and Joseph Howard Mathews still had a lab. Chemistry Professor Bob Alberty was Dean of the Graduate School. The whole department met for lunch every Tuesday noon at the University Club. This was before the state open meeting law and there was no clear distinction between a formal meeting at which action could be taken and informal discussion. As a consequence, matters of interest were regularly discussed by the whole Department.

The University had an IBM mainframe computer (7090?) and faculty could apply to the Graduate School for grants of time; TCI had a Bendix magnetic drum computer but it was no longer being used. There were no personal computers. TCI also had a small staff of programmers and people who did calculations using mechanical desk calculators, although they were being phased out. Manuscripts were typed by technical typists. IBM electric typewriters were state of the art. There was no charge for departmental services or routine supplies. The old 40 MHz NMR was soon replaced by modern 60 MHz machines. The chemistry library was on the second floor, east wing, of the old building. TCI also had a small library. There were no copying machines. Notes were taken by hand in the library and reprint requests for current papers were common.

Freshman chemistry teaching was the responsibility primarily of faculty in the inorganic division, although John Willard also regularly taught freshmen. Emery Fisher, who was chair of center system chemistry, and Aaron Ihde, with responsibilities also in History of Science and Integrated Liberal Studies, also taught freshman chemistry.



John Harriman in 1970

At that time the University of Wisconsin was the Madison campus. The state colleges, later state universities, were a separate system. Within the next few years the Milwaukee school was converted to UW-Milwaukee. In principle there was just one university, with two campuses, and one faculty that met in Madison. There was no Faculty Senate; all faculty meetings were open to whatever faculty came. A little later UW-Green Bay and UW-Parkside were established and UW-Milwaukee was recognized as a separate university. A University Faculty Assembly was created as the representative faculty body for the system.



UW Chemists continue to garner significant awards.

#### **FACULTY AND STAFF AWARDS**

Helen Blackwell was selected as a recipient of the 2004 Shaw Scientist Award. These awards were established by the Milwaukee Foundation in 1992 and they are intended to advance research in the fields of biochemistry, biological sciences, and cancer. The program is designed to give encouragement to young scholar-scientists who show great promise of substantial scientific achievement. These awards are very competitive and it is a distinct honor to be chosen.

Professor **Steve Burke** received the 2004 Chancellor's Award for Excellence in Teaching. This award is the highest recognition at the University for teaching excellence and is a particularly important recognition.

**Qiang Cui** was selected as a Sloan Research Fellow for this year. These awards are intended to enhance the careers of the very best young faculty members in specified fields of science. There are typically only 116 fellowships awarded annually in seven fields: chemistry, computational and evolutionary molecular biology, computer science, economics, mathematics, neuroscience, and physics, so this is a real honor that recognizes the excellence of Qiang's scientific program.

**Mark Ediger** received the 2003 James W. Taylor Excellence in Teaching Award, sponsored by Pharmacia. The company made a large gift in 2003 to permanently endow the award.

Chemistry Building Manager **Tom Foseid** received one of two 2003-04 Classified Staff Excellence Distinguished Service Awards given this year, for classified employees with 16 or more years of experience. Tom has been with the Department since 1984, and he was very instrumental in facilitating the recently completed remodeling of the older wings. This award continues a tradition of campus awards given to the excellent staff we are blessed with here in Chemistry.

**Lingjun Li** received the American Society for Mass Spectrometry Research Award in 2004. The award was presented at the opening ceremony of the 52nd ASMS Conference on Mass Spectrometry on May 24, 2004, in Nashville, TN. 5800 researchers in the mass spectrometry field attended the conference this year. The award was selected based on a proposal entitled "Developing New MS Strategies for Probing Neurochemical Communications". Three awards are given each year to selected young investigators within four years of their tenure-track position. In addition to being a nice recognition in the field, the award also comes with \$25,000 research money.

The American Association for the Advancement of Science has announced that Bob McMahon, Cathy Middlecamp, and **Jim Skinner** have been selected as Fellows of the AAAS. Each year since 1874, the AAAS Council has elected members whose efforts on behalf of the advancement of science or its applications are scientifically or socially distinguished. Bob was honored for his "distinguished contributions to organic and organometallic photochemistry and the study and characterization of reactive intermediates and thermal and photochemical rearrangement mechanisms for organic and organometallic compounds." Cathy was honored for her "exemplary leadership in both chemistry and higher education, for service on national projects related to the learning of science, and for the development of culturally inclusive curricular materials." Jim was honored for his "distinguished contributions to statistical mechanics, particularly dephasing, spectral lineshapes, single molecule spectroscopy, and vibrational relaxation in condensed phases." This gives our department the remarkable number of three people who have been selected this year for this honor.

**Ron Raines** was named a 2004 recipient of the Arthur C. Cope Scholar Award

by the American Chemical Society. The Cope Scholar Award is given to recognize and encourage excellence in organic chemistry, and consists of \$5,000, a certificate, and a \$40,000 unrestricted research grant. It is a terrific honor and it speaks to the significance and quality of Ron's research program.

Bassam Shakhashiri was elected to the Hall of Fame for the Alpha Chi Sigma fraternity. Alpha Chi Sigma is the Chemistry Fraternity started in 1903 at Wisconsin by J. Howard Mathews (our middle building is named after Mathews). The significance of this election is best appreciated by examining the list of distinguished chemists who make up the Hall of Fame: Roger Adams; Arnold O. Beckman; Herbert C. Brown; Wallace Hume Carothers; James Bryant Conant; Elias J. Corey; Frederick Gardner Cottrell; Farrington Daniels; Peter J. W. Debye; Paul J. Flory; Mary L. Good; Joel H. Hildebrand; Darleane C. Hoffinan; Charles James; Gilbert Newton Lewis; Warren K. Lewis; Carl Shipp (Speed) Marvel; Thomas Midgley, Jr.; James Flack Morris; Lars Onsager; Donald F. Othmer; Linus C. Pauling; John Howard Perry; George C. Pimentel; Kenneth S. Pitzer; Glenn T. Seaborg; Frank Clifford Whitmore: Hobart Hurd Willard.

Professor Ben Shen has been selected to hold the first Charles Johnson Chair of Pharmacy. In addition, he was promoted to the rank of full Professor. Charles Johnson was an alumnus of the UW School of Pharmacy and had a long and distinguished career in the pharmaceutical industry before retiring to northern Wisconsin some years ago. He was a great friend of UW Pharmacy and helped support many research initiatives over the years since his retirement. The Chair was established through an endowment provided in his will last spring. This appointment is a direct reflection of the strength and significance of Ben's research program.

President Katherine Lyall and the Board of Regents have approved the appointment

of **Lloyd Smith** as John D. MacArthur Professor. This faculty Chair recognizes Lloyd's pioneering research work in DNA sequencing, analysis, and applications and it is a great honor. Professor Jamie Thompson holds the only other John D. MacArthur Chair.

Professor **John Wright** has been elected as a Fellow of the American Physical Society. His Fellowship Certificate reads "For fundamental contributions to the development, understanding, and applications of multiresonant four wave mixing methods for electronic and vibrational molecular condensed phase spectroscopy."

#### STUDENT AWARDS

Student scholarships and research awards are made possible by generous donations from alumni, friends, and companies that recognize the value of awards allowing both graduate and undergraduate students to spend more time on research, one of the strengths of this institution. Gifts like these from alumni, faculty, and friends of the Department allow us to make a difference in the academic and professional lives of our students. Teaching awards come from both Departmental and campus sources, and recognize the Department's second fundamental mission - exceptional teaching at both the undergraduate and graduate levels. In this section we salute not only the fine students who have worked hard to earn these honors, but also the donors who have made them possible.

The Outstanding TA Awards for 2002-2003 were presented in November 2003 at the Excellence in Teaching Symposium. TAs and Faculty Assistants are selected to receive these awards each year on the basis of excellent teaching evaluations from students and faculty. Awardees included (left to right) **Patti Shaefer** (Cui), **Sam Pazicni** (Burstyn), **Brian Majestic**, and **Kim Kutz** (Li).



Graduate scholarships and fellowships come from industrial and alumni donors, and also from the Graduate School and outside organizations. Awards and the students who received them during 2003-2004 included: The Abbott Fellowship went to Eric Voight (PhD '04, Burke); Jennifer Lawrence (PhD '04, Nathanson) was the Martha Gunhild Week Fellow: a Merck Fellowship went to **Yiyong He** (Ediger); and Jordan Schmidt (Skinner) continued on the Hertz Fellowship. Arianne Baker (Hamers). George Barnes (Crim). Anne Bentley (Ellis), Andrew Crowther (Crim), Adam Fiedler (Brunold), Jonathan Grimm (Lee), and Jack Sadowsky (Gellman) were all National Science Foundation Fellows. Emily Payne (Gellman) was a National Defense Science and Engineering Fellow. Michael Santiago (Burstyn) received an NRSA fellowship from NIH. New student Soo Hyuk Choi (Gellman) received a Fellowship from Samsung, and Sang-Hee **Shim** (Zanni) received a fellowship from the Kwanjeoung Educational Foundation

ACS Division of Organic Chemistry Fellowships went to **Jeffrey Johnson** (Casey; Emannuil Troyanski Graduate Fellowship) and **Matt Soellner** (Raines; Abbott Laboratories Fellowship).

Amanda Brooks (Brunold), Tim Jackson (Brunold), Lisa Jungbauer (Cavagnero), and Margaret Schmitt (Gellman) were Biophysics Trainees during 2003-04. Dalia **Dhingra** (Schwartz) is a Computation and Informatics in Biology and Medicine Trainee. Erin Carlson (Kiessling), Emily Dykhuizen (Kiessling), Wayne Kontur (Record), Sannali Matheson (Markley), Justin Murray (Gellman), and Susan Reslewic (Schwartz) were Biotechnology Trainees. Melisa Cherney (Burstyn), Heather Johnson (Thorson), Kimberly Kutz (Li), Erin McElroy (Kiessling), and Reagan Miller (Lee) were Chemistry-Biology Interface Trainees.

Divisional Awards for Excellence in Research were presented to **Yan Chen** (Analytical, PhD '04, Smith), **Timothy Jackson** (Inorganic, Brunold), **Wensha Yang** (Materials, sponsored by Rohm and Haas, Hamers), **Eric Voight** (Organic, Burke), and **Chris Elles** (Physical, PhD '04, Crim). Excellence Award recipients are advanced graduate students in each division who are

selected as leaders in their fields. The award is made possible through donations to the Department.

Two special organic Citizenship awards were given this year to **Greg Hanson** (Burke) and **Matt Bowman** (Blackwell) who went above and beyond to institute an organic "boot camp" review session for Chemistry 345 students. Matt and Greg are shown below receiving their awards from **Professor Hans Reich.** 



Undergraduate research support was provided during Summer 2003 from the following sources: Edwin M. and Kathryn M. Larsen Scholarships were presented to Melissa Ecker (Weisshaar), Emily Guerard (Blackwell), and Ryan Jeske (Blackwell); Wayland Noland Undergraduate Research Fellowships went to Kyle Pape (Landis), David Priebe (Casey), and Stephen Steiner (West); the Edward Panek Memorial Scholarship went to Fatlume Berisha (Hamers); Walter and Young-Ja Toy Scholarships were given to Fatlume Berisha, Nick Kotloski (West), Gwenyth Lee (Casey), and Laura Luther (Burke).

The following undergraduate students received scholarships during the academic semesters: **Anthony Perry** from East High received the first Ackerman Scholarship; Ben Knox also received an Ackerman Scholarship; Nathan Aumock received the Dr. Norbert Barwasser Scholarship; Shasta McGee and Michelle Stengel received Margaret McLean Bender Scholarships; Melissa Ecker, Chris Painter, and **Nicole Temple** received Don Brouse Memorial Scholarships; Fatlume Berisha and Ryan Casey received Richard Fischer Scholarships; and Ryan West won the Kimberly-Clark Scholarship. Ryan Baxter, Amanda Bowman, Craig Holler, Ryan Jeske, John Kaminski, Gwenyth Lee, Laura Luther, Jordan Olson, Priscilla **Shih**, and **Jennifer Yang** received Student Support Scholarships.

(Continued on page 9. . . )



# New Badger Chemists



#### **AUGUST 2003**

#### **Daniel Michael Besemann** (Wright)

Inhomogeneous Broadening, Dephasing, and Interference Effects in Multidimensional Vibrational Spectroscopy

#### Wei Cai (Hamers)

Chemical and Biochemical Modifications of Silicon Surfaces

#### Rakwoo Chang (Yethiraj)

Computer Simulation and Theoretical Studies of Polyelectrolyte Solutions and Diffusion in Random Media

#### **Jeffrey Steven Dougan** (Treichel)

Trinuclear Rhenium(III) Halide Clusters with Carboxylate Ligands

#### Liang Fang (Hamers)

Attachment of PI-Conjugated Molecules on Si(001) Surfaces and Its Application in Molecular/Organic Electronics

#### Michael Aaron Gelman (Gellman)

Synthesis and Biological Applications of Cationic Beta-Peptides and Styrenic Polymers

#### Joseph Michael Langenhan (Gellman)

Investigations of Strand-Forming Foldamers

#### Manchun Lu (Smith)

Surface Invasive Cleavage Reactions for Single Nucleotide Polymorphism Analysis

#### **Robert McKenzie Owen** (Kiessling)

Development of Specifically Functionalized Antagonists for the Exploration of Multivalent Receptor-Ligand Interactions

#### **Douglass Rodger Sillars** (Landis)

Mechanistic Investigations in Metallocene-Catalyzed Alkene Polymerization Through Direct Observation of the Catalytic Species

#### **DECEMBER 2003**

#### John David Bak (Wright)

Fluorescence and Atomic Defect Properties of Rare Earth Doped Barium Titanate

#### Jeff D. Ballin (Record)

Binding Studies of Model Oligopeptides to Nucleic Acids: DNA Length Dependence, Coulombic End Effect, and Amino Acid Composition Effects

#### Martin Joseph Bevan (Reich)

I. Dynamic and Thermodynamic Investigation of Thienyllithium Based Lithium/Tellurium and Lithium/Iodine Ate Complexes

#### Xiaoyu Chen (Smith)

Mass Spectrometry in Biopolymer Analysis

#### Weiguo Cheng (Yu)

Part I. Viscoelastic Properties of Random Copolymer at Air/Water Interface and the Frequency Dependence Part II. Magnetic Resonance Imagible Surface of Medical Devices and its Biocompatibility

#### **Jennifer Lynn Craft** (Brunold)

Spectroscopic and Computational Insights into Nickel Biocatalysis

#### Byron Ray Griffith (Kiessling)

Polymer Scaffolds for Protein Oligomerization

#### Chanjoong Kim (Yu)

Molecular Conformation and Dynamics of Amphiphiles Monolayers at the Air/ Water Interface

#### William Thomas Lambert (Burke)

Synthesis of the C1-C15 and C1-C22 Subunits of Halichondrin B

#### **Bradley Linden Nilsson** (Raines)

Peptide and Protein Assembly Using The Staudinger Ligation

#### Neeray Mulchand Shah (Rich)

Design and Synthesis of Novel Non-Peptide Inhibitors of Aspartic Proteases

#### William David Thomas (Kiessling)

Synthesis of Glycoconjugates for the Study of Carbohydrate-Protein Interactions

#### **MAY 2004**

#### **Heike Blad** (Markley)

Dynamics of Biological Macromolecules as Probed by NMR

#### John Emmerson Campbell (Burke)

C3-Symmetric Macrocyclic Trithiolmethyl Scaffolds for Templated Synthesis of Cyclic Natural Products

#### Joshua James Higgin (Raines)

Small-Molecule Enzyme Inhibitors Utilizing Active-Site Metal Chelation: Prolyl 4-Hydroxylase and Microbial Ribonucleases

#### James Matthew Hutchison (Crim)

Photodissociation Dynamics and Spectroscopy of Small, Isolated, Vibrationally Excited Molecules: Ammonia and Methanol

#### Jennifer Rae Lawrence (Nathanson)

Surfactant Control of Gas Uptake into Supercooled Sulfuric Acid Solutions

#### Hunkyun Pak (Yu)

Physical Properties and Application in the Confined Geometrical Systems

#### **Greta Jasmine Wegner** (Corn)

Surface Plasmon Resonance Imaging Studies of Protein Interactions Onto Peptide and Protein Microarrays

#### Juan Xie (Brunold)

Spectroscopic and Electronic Structure Studies of FE- and MN- Dependent Superoxide Dismutases: Geometric and Electronic Factors Contributing to Catalytic Activity



#### **AUGUST 2003**

Jamie Allan Coleman (Stahl)

#### **DECEMBER 2003**

Michael John Birkeland (Markley)
Jodie Lynn Brice (Stahl)
Melisa M. Cherney (Burstyn)
Beatriz Calma DeGuia (McMahon)
Bryan Charles Katzenmayer (Casey)
Andrea J. Lee (Burstyn)
Christopher Paul Pawela (Farrar)
Samuel Robert Pazicni (Burstyn)
Ting Zheng (Smith)

Shasta Lynn McGee James Ernest Meerdink Stuart James Munson John Harvey Orlikowski Michael Joseph Oswald Novita Damiyanti Rahim Daniel John Wherritt

#### **MAY 2004**

Scott Gregory Beci Michael Ray Boll Joseph Charles Cannistra Lea Marie Franco Aaron Michael Halbe Zachariah Matthew Heiden David Gordon Hogle Ryan Christopher Jeske Benjamin Ward Knox Gregory Jay Mandigo Brian Michael O'Keefe Jordan Erik Olson Kyle James Pape David Craig Priebe Elisabeth Esther Smith Stephen Alan Steiner Michelle Marie Stengel Ryan Michael West

#### **MAY 2004**

Mithra Beikmohamadi (Crim) Megan Catherine Hyland (Cui) Johanna Yin Hoi Kwok (Corn) Diane Loretta Nutbrown (Moore) Margaret Regine Pancost (Stahl) Michael Santiago (Burstyn)







#### **AUGUST 2003**

Robert Wesley Bartelt Michael Charles DeNoma Steven Dante Fontanini Kate Amanda Nelson Spencer Harlan Pack Ryan Frederick Porter Nathaniel Nickerson Taft

#### **DECEMBER 2003**

Ms. Fatlume Berisha Jeremy David Bushman Ryan P. Casey Jason Daniel Edwards Ann Marie Fleischmann Eric Michael Kleinertz David Michael Krawczyk Gwenyth O'Neill Lee



#### **Our Awards**

(continued from page 7)

2004 Daniel L. Sherk Awards for Excellence in Undergraduate Research were given to **Zach Heiden** (BS '04, Treichel), **Kari Midthun** (Smith) and **Jordan Olson** (Mecozzi). These awards are sponsored by the Sherk Fund, the Chemistry Department, and the ACS local section. Each student presented a poster at this year's Chemistry Undergraduate Poster Session.

The College of Letters and Science Faculty Honors Committee named Lawrence Klein the 2004 F. Chandler Young Distinguished Senior Honors Student. The award, including a certificate and a prize of \$2,500, was presented at the Honors Reception at the Kohl Center in May. Lawrence has maintained a 4.0 GPA in Comprehensive Honors while double majoring in Biochemistry and Physics and completing research, which led one of his referees to call him "the most scientifically mature undergraduate researcher I have come across in 22 years in Madison". He has worked most recently with Jim Weisshaar, and his research has already resulted in a poster paper delivered at the Biophysical Society Annual Meeting. Funds for this award were generously provided by the Norman Bassett Foundation in honor and memory of F. Chandler Young, who once served the Foundation as Vice President. Mr. Young for many years was Associate Dean in the College of Letters and Science and Vice Chancellor for Student Affairs at the UW-Madison.

The ACS has awarded the 2004-2006 Irving S. Sigal Postdoctoral Fellowship to Matthew G. Woll (PhD '04, Gellman). Matt is already the recipient of a 2002 ACS Organic Division Graduate Fellowship and the 2003 Excellence in Research Award. He began his postdoctoral studies in August at Harvard University in the laboratory of Professor Eric Jacobsen. There, he will be studying the use of natural biological catalysts to guide the development of synthetic substitutes that will be more broadly useful in synthetic organic chemistry. The goal is to make better medicines with less environmental impact. The award is named in memory of Irving S. Sigal, a chemist who died in the 1988 bombing of Pan Am Flight 103 over Lockerbie, Scotland. This postdoctoral fellowship is awarded each year to a scientist whose work addresses a significant problem involving both chemistry and biology. Dr. Irving S. Sigal was a medicinal chemist working at Merck & Co. Inc. when he died at the age of 35. In 1995, Dr. Sigal's widow, Catherine T. Sigal, Ph.D., established the fellowship that is currently valued at \$45,000 per year. Sigal, herself a biochemist, is employed by the Juvenile Diabetes Foundation of New York City.



## DEPARTMENT LECTURE SERIES

The first Chemistry Colloquium of the year was presented by Professor **Theodore Brown** from the University of Illinois-Urbana Champaign. His talk was titled "The Metaphorical Origins of Scientific and Artistic Creativity." Fleming Crim spoke in October on "Controlling Reactions and Watching Energy Flow in Vibrationally Excited Molecules." Bob Hamers talked about "Interfacing Microelectronics with Organic, Biological, and Nanoscale Materials" in November. Dr. Joel Nelson from WARF spoke on "PHASE TRANSITIONS: Perspectives on Alternative Careers for Chemistry Graduates." Ron Raines spoke in March on "Nature's Rope: The Chemistry of Collagen." **Hyuk Yu** spoke in April on the lessons he learned over nearly four decades in this University. Jim Skinner completed the series in May, speaking about "Dynamics in liquid water and aqueous solutions of biologically relevant molecules."

**Kurt Binder** from the University of Mainz presented the 2003 Ferry Lectures in September. He spoke on "Computer Simulations of the Glass Transition in Thin Films," and "Computer Simulation of Polymer Brushes."

**Kevin Gardner** from the University of Texas Southwestern Medical Center presented the Physical Chemistry Meloche Lecture in March. Professor **Carol Robinson** from Cambridge University presented the Analytical Meloche Lecture in April.

Look for announcements of Departmental seminars on the web at http://www.chem.wisc.edu/areas/newletter/seminars-list.html.

#### **MCELVAIN SEMINAR SERIES**

The McElvain seminar series continued to sponsor talks from a variety of speakers across industry and academia. **Robert** 

Bergman (Inorganic) from the University of California, Berkeley, and Albert Stolow (Physical) from the Steacie Institute for Molecular Sciences, presented talks in November. Professor Gavin MacBeath from Harvard was a January Analytical speaker. Professor Erik Sorenson (Organic) from Princeton spoke in February. William Nugent (Organic) from Bristol-Meyers Squibb and Professor Michael Fayer (Physical) from Stanford visited in April; and Dr. Charles Cantor (Analytical) from Sequenom Inc. and Lou Noodleman (Inorganic) from Scripps Research Institute spoke in May.

#### **LINCOLN SEMINAR SERIES**

This student presented seminar series continued in 2003-04, with talks from senior students in a variety of organic research groups. The seminars are named after **Azariah Thomas Lincoln**, the first person to be awarded a chemistry Ph.D. at the University of Wisconsin-Madison.

#### HIRSCHFELDER PRIZE

**Eric Heller** (Harvard) gave the 2003-04 Hirschfelder Prize Lectures in October 2003. Titles were: "Making waves: From quantum corrals to concert halls"; "Time-dependent methods in spectroscopy"; "The many faces of tunneling". The lectures were stimulating and beautiful and it was overall a terrific visit. **Casey Hynes** (Colorado) will give the 2004-05 lectures October 18-20, 2004.

TCI received a handsome and generous bequest of over \$2M from **Betty Hirschfelder.** (Betty died in 2002.) The money is targeted for various TCI programs, and for example provides a permanent endowment for the Hirschfelder Prize.

#### **DEPARTMENT NEWS**

Chemistry 201, "Environmental Chemistry & Ethnicity" was selected as a 2004 national model for the SENCER program (Science Education for New Civic Engagement and Responsibilities," a project of the AAC&U. It was featured at this summer's SENCER Institute in San Jose, CA. This course, taught by **Cathy Middlecamp** and **Omie Baldwin**, is the first chemistry course in the UW System to meet the Ethnic Studies Requirement.

**Bob West** and **Bob Hamers** are listed among the most cited scientists in the last two decades. Twenty-nine UW-Madison faculty members are among the most cited researchers in their fields, according to a recent citation survey by Thomson ISI, a leading citation indexing company. Citations of published research are key indicators of the influence of scholarly work. The survey, which covered 21 broad subject areas in the life sciences, medicine, the social sciences. the physical sciences and engineering, covers the period from 1981 to 1999. Less than one-half of one percent of researchers who published during that time are listed, giving some indication of the broad influence of their published works. "Having your work cited by your colleagues is high praise," says Martin Cadwallader, dean of the UW-Madison Graduate School. "It tells you that your work is valued by others and is being used by many people in your field as a foundation for understanding and advancing new knowledge." Cadwallader says he was pleased to see not only the high number of faculty who made the exclusive list, but to see that the UW-Madison faculty on the list represent a broad range of disciplines, from the natural sciences to the social sciences, education and engineering. Those UW-Madison faculty listed among the most highly cited include: Lyn Y. Abramson, psychology; Ross B, Barmish, electric and computer engineering; George E. P. Box, industrial engineering and statistics; Larry L. Bumpass, sociology; Stephen R. Carpenter,

zoology and limnology; Y. Austin Chang, material science and engineering; Carl de Boor, mathematics; Hector F. DeLuca, biochemistry; Dennis Charles DeMets, geology and geophysics; John S. Gallagher, astronomy; Oliver J. Ginther, animal health and biomedical sciences; Ric R. Grummer, dairy science: Robert J. Hamers. chemistry; Franz J. Himpsel, physics; John E. Kutzbach, atmospheric and oceanic sciences; Elmer H. Marth, food microbiology and toxicology and food science; John S. Mathis, astronomy; Alexander Nagel, mathematics; Norman F. Olson, food science; Thomas Reps, computer science; Larry Samuelson, economics; Blair D. Savage, astronomy; Mark S. Seidenberg, psychology; Thomas D. Sharkey, botany; John W. Valley, geology and geophysics; Grace Wahba, statistics; Kenneth D. West, economics; Robert West. chemistry; Kenneth M. Zeichner, curriculum and instruction.

**Something noteworthy:** new passenger elevators for the Mathews and Daniels buildings will be installed next summer.

The **Chemistry Building Addition/ Renovation** project received a "Citation Award" in the 2003 Design Share Award competition. You can see the details at <a href="http://www.designshare.com/Awards/2003/projects/project view narrative.asp?project id=386">http://www.designshare.com/Awards/2003/projects/project view narrative.asp?project id=386</a>. Design Share is an international forum for innovative schools and learning environments. The purpose of the award program is to share exemplary design ideas, case studies, and best practices that enhance learning in projects from preschool through higher education.

**Professor Timothy Lodge** (PhD '80, Schrag) from the University of Minnesota Departments of Chemistry and Chemical Engineering & Materials Science won the 2004 Polymer Physics Prize from the American Physical Society. The prize was awarded at the March 2004 Annual Meeting. Tim's citation reads "For outstanding contributions to the fundamental understanding of polymer chain diffusion and segmental-chain dynamics."

## "ONCE UPON A CHRISTMAS CHEERY"

**Bassam Shakhashiri's** 34<sup>th</sup> annual Christmas presentation played to packed

houses on the weekend of Dec. 6 and 7, 2003. As usual, it was later broadcast on Public Television stations. The 2004 shows will be Dec. 3 and 4.

#### **NATIONAL MOLE DAY**

The theme for National Mole Day, October 23, 2004, was "PI a la Mole". Chemists, especially chemistry teachers, are encouraged to celebrate National Mole Day as a way to show how chemistry is a vital, positive force in everybody's lives.

was encouraging feedback from around the country regarding glass shops making Wisconsin lines for their customers. Tracy will be in charge of planning the seminar program for next year's symposium, to be held in June 2005.

With a generous grant from the Institute of Chemical Education, we completed the construction of a portable glassblowing podium. The podium was designed to be used for educational outreach programs. Tracy participated in Professor **Shakhashiri's** annual "Once upon a Christmas Cheery" program and visited a local junior high school



(Photo courtesy of Yi Hi (Kiessling).)

#### **GLASS SHOP NEWS**

**Tracy Drier** has had a busy year in the glass shop, with 1,000–1,500 projects completed. He also attended the annual scientific glassblowers symposium in Saratoga Springs, New York. The symposium is a great opportunity to share information and techniques with other scientific glassblowers and stay current with the latest techniques and equipment. This year's agenda included technical seminars on glass-related topics, hands-on workshops, technical papers, presentations and technical posters. Tracy presented a poster on our own Wisconsin Schlenk line **(Stahl)**. There

where he did glassblowing demonstrations for 7<sup>th</sup> and 8<sup>th</sup> grade science classes. They were all very curious and had many questions. The podium also made it possible for Tracy to participate in Madison's New Year's Eve celebration, US Bank Eve at the UW Space Place site.

On the artistic side, Tracy participated in the biannual light exhibition put on by Professor Steve Feren and the UW Art Department. Participants came from all around the country.

## A DECADE OF CHANGE FOR THE CHEMISTRY LIBRARY

By Emily Wixson Chemistry Library/Reference and Instruction ewixson@library.wisc.edu

Visit the Chemistry Library, Room 2361, Chemistry Building, for the first time in ten years, and you will observe many changes. Apart from the journal and book



stacks standing in the same location at the back of the library, the physical layout was changed during the 2001 remodeling project. The circulation desk now stands to the left of the entrance. A half-glass wall

encloses the copy center to the right of the entrance. Staff offices and a computer terminal room line the far-left wall. These spaces have windows and half-glass walls that create a sense of openness. Round tables and lightweight chairs replaced the dark, heavy, wooden, rectangular library tables and chairs.

Most noticeable is the light in the library. The wall separating the library from the second floor balcony was pushed out and replaced by a floor-to-ceiling glass wall. This glass wall lets in light and affords an eye-level view of the colorful glass mobile

hanging in the first floor lobby entrance. Sunlight filters through the mobile and casts a glow in the library at different times of the day. A low shelving unit holds the most recently received issues of current journal subscriptions. Comfortable lounge furniture makes this area an inviting space to peruse the new journal issues, prepare for class, or read a book.

You will not see the greatest difference between the Chemistry Library of 1994 and today's Chemistry Library. The greatest difference is the transition from print copy to electronic versions of library materials during the last decade. Electronic access to library materials has revolutionized the way libraries do business and the way scientists access information for their research and teaching. Journal articles and reference works such as CRC Handbook of Chemistry and Physics are now delivered directly to the researcher's desktop via the UW-Madison Libraries' web site (www. library.wisc.edu). Requests for articles not owned by campus libraries are processed and delivered electronically. Students access electronic course reserve readings through their "MyUW" accounts. Fewer people visit the library because they can conduct literature searches and access scientific literature from their offices and labs. The Chemistry Library maintains a web site (www.chemistry.library.wisc.edu) to provide information about the library and guide users to library resources.

What follows are some examples of the electronic library world chemists at UW-Madison now inhabit.

\* The Chemistry Library maintains subscriptions to print and online

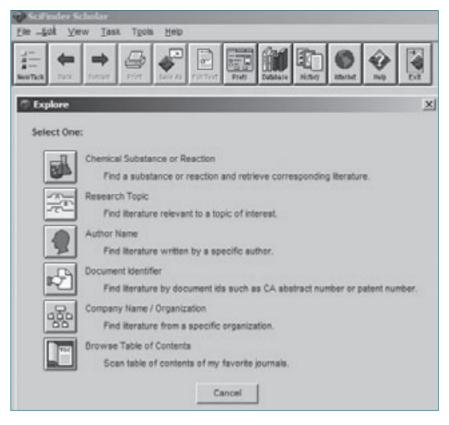
- versions ACS journals. Library users can still find the *Journal of the American Chemical Society* Volume 1, 1879, to present in the journal stacks. Users can also access the entire JACS online via the UW-Madison Libraries web site.
- \* Beginning with 2004 issues, Royal Society of Chemistry journals are available electronically only. We no longer purchase print subscriptions to RSC journals.
- \* Along with the most current edition, the Chemistry Library retains print versions of older editions of the venerable <u>CRC Handbook of Chemistry and Physics</u>. Users may now access and search the web edition via the CRC web site.
- \* Knovel Engineering & Scientific Online References provides online access to standard chemistry handbooks like Lange's Handbook of Chemistry, Hawley's Condensed Chemical Dictionary (14th Edition), Smithsonian Physical Tables (9th Revised Edition), and Chemistry of the Elements (2nd Edition). It also indexes reference books in related fields like adhesives, biochemistry, ceramics, food science, environmental science, pharmaceuticals, polymers, and safety.
- \* During a recent book-shifting project, space was preserved for the latest print edition of the <u>Kirk-Othmer Encyclopedia of Chemical Technology.</u> This 25+ volume set is also available online.

#### R Lange's Handbook of Chemistry (15th Edition)

Table: Table 1.15 Physical Constants of Organic Compounds

Table Type: Interactive Table Search Query: keyword1=(acetic acid) Rows Selected: 2 out of 4397

@ A	dd lows	→ Delete AZ Sort		Change Column Order	O Parts	Export (	Pro Table						
0	no.	material or substance name	mol. formula	mol. weight	Beilstein ref.	density (g/cm <sup>3</sup> )	refractive index	melting point (°C)	boiling point (°C)	flash point (°C)	solubility in 100 parts solvent	no.	0
	A-Z											A-Z	
7	20	Acetic acid	CH3CO2H	60.05	2, 96	1.0492 <sup>20</sup> 4	1.3718 <sup>20</sup>	16.7	118	39 (CC)	misc aq. alc. eth. CCI <sub>4</sub>	20	Е
V	21	Acetic acid-d	CH <sub>3</sub> CO <sub>2</sub> D	61.06	2 <sup>3</sup> , 202	1.059	1.2715 <sup>20</sup>		115.5	40	misc aq, alc, eth, CCI <sub>4</sub>	21	Þ



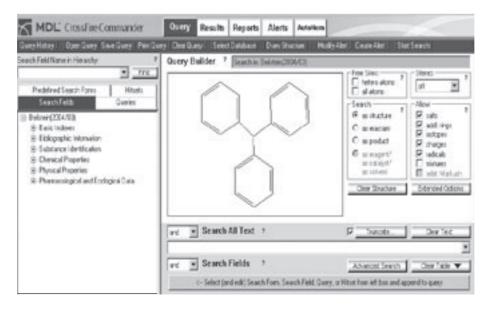
#### SciFinder Scholar

- \* Gmelin retains its place in the reference collection, but you will not find the print Beilstein Handbook in the Chemistry Library. Access to both Gmelin and Beilstein is via MDL CrossFire software. CrossFire is searchable in multiple ways, including chemical structure, formula, physical property parameters, chemical reaction, and bibliographic data. Chemistry Library staff maintain the Beilstein Help site (http://chemistry.library. wisc.edu/beilstein/home.htm) to assist users with searches and client accessibility.
- \* Black bound volumes of <u>Chemical Abstracts</u> no longer line the back shelves. SciFinder Scholar interface provides access to Chemical Abstracts, CAS Registry file, a reaction database (CAS Reacts), a commercially available substances database (ChemCats), domestic and international regulatory information (ChemList), and Medline. Many types of searches are possible:

author, natural language, chemical structure (partial or exact), name, formula, chemical reactant or product. Links to citing and cited references from 1999 forward are provided. The chemical substance record contains calculated property data for many substances.

With the delivery of so much information via the Internet, one might question the necessity of library staff. On the contrary, library staff is vital to connecting users with the complex and vast network of available information. We pursue campuswide licenses and deliver multidisciplinary library resources to a dispersed audience across the library network. We assist users in navigating the electronic library and provide reference assistance. We provide document delivery for materials not available on campus. We instruct users in the use of various electronic interfaces and troubleshoot access problems. We conduct course-related instruction to guide students to appropriate and relevant information. We maintain the Chemistry Library as a place for researchers to pursue research interests and ideas. We advocate for sustained library support of the work of the chemistry community.

If you haven't been to the Chemistry Library lately, the Chemistry Library staff invites you to stop by during your next visit to the Chemistry Building. We would be happy to give you a tour and introduce you to the myriad online chemistry information resources. For more information, contact **Sharon Mulvey** (608-262-2254, smulvey@library.wisc.edu) or **Emily Wixson** (608-262-4423, ewixson@library.wisc.edu), or use our email reference service, askchem@library.wisc.edu.



MDL Crossfire interface for Beilstein and Gmelin









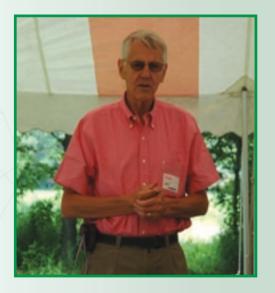














University of Wisconsin-Madison Chemistry Department 2003-2004



The Hyuk Yu Symposium and Reception Fall 2003











Scenes from one of the Madison **PEOPLE** Programs













## Wisconsin Initiative for Science Literacy

During the 2003-2004 school year the Wisconsin Initiative for Science Literacy began new programs and expanded existing ones, reaching audiences across the country through National Public Radio and PBS, at professional society meetings, and at schools in several states. New programs included a cooperative effort involving science, arts and the humanities, and expanding the popular "Conversations in Science" series to UW dorms. WISL also expanded the participation of undergrads in "Science is Fun" presentations, sponsored further appearances on campus by distinguished speakers, offered new "Science Saturday" courses, and expanded its web site. In addition, the Madison Metropolitan School District recorded on video many WISL-sponsored programs and broadcast them on the district's cable TV channel (channel 10).

#### **Conversations on Creativity**

Creativity, expression, and passion are essential qualities that inspire science, the arts, and the humanities and form common bonds among them. Conversations on Creativity explored this connection through a series of discussions by distinguished faculty from all three disciplines. WISL invited the Center for the Humanities and the U.W.-Madison Arts Institute to collaborate. Two scientists participated, Chemistry Professor Charles Casey and Oncology Professor Richard Burgess. Representing the humanities were Professor of History Emeritus Stanley Kutler and English Professor Henry Turner. Professor of Dance Li Chiao Ping represented the arts. The talks were free and open to the public, and each drew audiences of 80 to 100. The speakers discussed elements of creativity in their work and how they go about thinking creatively. The goal of Conversations on Creativity is to explore and celebrate the intellectual and emotional links between science, the arts, and the humanities and to de-mystify science. These conversations were telecast several times on cable channel 10 in Madison.

### Conversations in Science for Teachers

Conversations in Science for Teachers has completed its fourth year. The series is open to all Dane County teachers. It offers them a two-hour conversation with top University researchers. The purpose is to re-invigorate the teachers' enthusiasm for science by exposing them to cutting-edge research, and to encourage researchers to communicate with a broader audience. The series is co-sponsored by WISL, which arranges for the presentations, the Madison Metropolitan School District, which enrolls the teachers, and Edgewood High School, which provides the auditorium in the new Sonderegger Science Center. This year, all presentations were recorded by the school district and shown on cable channel 10 in Madison. The presentations were:

- Associate Professor of Electrical and Com puter Engineering **Daniel W. Van der Weide**, "How Will Microelectronics and Molecular-scale Biology Converge?"
- Professor of Psychology and Women's Studies **Janet Hyde**, "Science Versus the Media on Psychological Gender Differences"
- Professor of Chemistry and Genetics **David C. Schwartz**, "Single Molecule
  Approaches for the 'New Biology'"
- Professor of Journalism **Deborah Blum**, a Pulitzer Prize winner, "Tales of the Cloth Mother: A Story of Science, Love and Primate Research"
- Professor of Industrial Engineering and Engineering Physics **Vicki Bier**, "Infrastructure Protection Against Terrorism"
- Professor of Chemistry and Material Science **Robert Hamers**, "The Nanotech Revolution"
- Professor of Medicine **Molly Carnes**, "Estrogen Replacement Therapy-Where Did We Go Wrong?"

### Conversations in Science in the Dorms

As the popular Conversations in Science for Teachers completed its fourth year, WISL began Conversations in Science in the Dorms, co-sponsored by University Residence Halls. The Conversations drew up to 100 students. The programs were offered on weekday evenings in dormitory commons areas. The six presenters were:

- Medical Science and Pharmacology Professor **Timothy Mulcahy** (also Associate Dean of the Graduate School), "Bioterrorism and University Research", on September 9, 2003.
- Agriculture and Life Sciences and Environmental Studies **Professor Nancy Mathews**, "Chronic Wasting Disease and Deer", November 17, 2003 (shortly before deer hunting season).
- Sociology Professor **John DeLamater**, "The Science of Love" (on Feb. 9 and 10, timed for Valentine's Day).
- Political Science Professor **Don Kettl**, "Speaking Science to Politicians: Making Sense While Making Policy" (on Feb. 16, just before the Spring primary election).
- Physiology Lecturer **Dr. Kevin Strang**, "Ethanol's Effects: Brains, Brats, Barf and Beyond" (on March 9, just before spring break)
- Professor of Pediatrics **Greg Landry**, "Sports and Steroids" (on April 6, just before the NCAA basketball tournament).
- Assistant Professor of Pathology **Michael Stier**, (medical examiner for many counties), "Medical Forensics from an Examiner's Perspective", April 22. Professor Stier is a former student of Professor Shakhashiri in Chemistry 103 and 104.

All the presenters were pleased and impressed by the intelligent and informed questions and comments from the students at each of the presentations. WISL and Residence Halls are both eager to continue the series this fall.

#### Science is fun presentations

Graduate and undergrad students participate in presenting "Science is Fun" demonstrations. Professor Shakhashiri and **Dr. Rod Schreiner** (M.S. 1973, Ph.D. 1981) have trained the students in past years. This year **Dr. Linda Zelewski** (Ph.D. Water Chemistry, 1999) taught Chemistry 299/699, an independent study course open to all university students (though all the participants had chemistry or chemistry-related majors). Most of the students have little public speaking experience and practice their presentations before participating in public presentations. Learning how to do the demonstrations is essential, but students must also learn to project enthusiasm and engage the audience, which often includes young children. Linda says it's very rewarding to do demonstrations for young children because they get very excited. "They are very uninhibited", she says, "and you get a huge response that you don't get with college students or older adults." Linda says, "It's rewarding because they see that science really is fun."

The chem 299/699 students wrote reflections on their experiences at the end of each semester. **Vicki Tuen** (B.S., biochemistry 2006) wrote that many people don't share her view that science is fun. "Take for example the pencil markings on the door of a girl's bathroom stall which states, 'I hate chemistry.' These words make me feel

bad, and I wonder how it is that someone doesn't share the same feelings that I do about chemistry and science. Hopefully by putting on these shows we teach kids that science is fun, and in the future there won't be any more 'I hate chemistry' written on bathroom stalls." Elizabeth Chapman (B.S., biochemistry 2004) learned, "It is one thing to understand the chemistry behind an experiment, but it is quite another to articulate this explanation to another person. Above all, Science is Fun has taught me that science is fun, that science isn't just a high art reserved for laboratories but a way of better understanding the world around us." Caitlin Iverson (B.S. 2006) learned from watching how Professor Shakhashiri engages audiences of all ages and gets them excited about science. "I am so inspired from this presentation; I wish all teachers had his passion. I regained my faith in teachers because of him. This was the most unexpected aspect of this course."

## Communicating Science and Art to the Public

During the last school year, WISL sponsored or co-sponsored four free public lectures and a play reading on the U.W.-Madison campus.

On September 26, 2003, WISL cosponsored a lecture by Chemistry Professor Emeritus **Theodore L. Brown** of the University of Illinois-Urbana Champaign on





"The Metaphysical Origins of Scientific and Artistic Creativity" as part of the University of Wisconsin-Madison Chemistry Department Colloquium series. Professor Brown says the use of metaphor shapes the process of thinking and discovery in the sciencesfor example, referring to a cell as a chemical factory or to the "folding" of proteins. Prior to his lecture in Madison, Professor Brown appeared on "The Larry Meiller Show" on Wisconsin Public Radio and on WORT-FM to talk about his book *Making Truth: Metaphor in Science* (University of Illinois Press, 2003).

On November 17, 2003, WISL co-sponsored the appearance on the Madison campus of science writer Dava Sobel, author of best-selling books Longitude and Galileo's Daughter. Her appearance was co-sponsored by the Center for the Humanities at the University of Wisconsin-Madison. Her talk, "Galileo's Daughter: Counselor and Confidante in the Search for Truth," and book were based on letters written to Galileo by his daughter, Sister Marie Celeste, a cloistered nun, and reveal the human side of scientific endeavor. While in Madison. Sobel also delivered an enrichment lecture to Professor Shakhashiri's first year chemistry class, appeared on Wisconsin Public Radio, and visited with faculty and students in the departments of English, astronomy, communication arts, and history of science.

On February 19, 2004, WISL sponsored a lecture by **Frank Drake**, Professor

Emeritus of Astronomy and Astrophysics at the University of California-Santa Cruz and former director of the Arecebo Observatory. Drake's topic was "Searching for Extraterrestrial Intelligence." Drake is one of the founders of the SETI Institute (Search for Extraterrestrial Intelligence) and



is considered the "founding father" of the search for intelligent life elsewhere in the universe. During his time in Madison, he also appeared on Wisconsin Public Radio prior to his lecture and gave an enrichment lecture to Professor Shakhashiri's first year chemistry class and a colloquium in the astronomy department.

On April 14th, WISL co-sponsored a lecture by Professor **Charles H. Dowding** of Northwestern University, "Carving Crazy Horse: Art and Engineering of Blasting Massive Rock Monuments." In addition to WISL, the talk was sponsored by the Department of Geological Engineering, Department of Art, Department of Art History and the Department of Civil and Environmental Engineering.

On May 3, 2004, WISL joined several other organizations in sponsoring a play reading of "Comet Hunter" by **Chiori Miyagawa**. The play is based on the life of astronomer Caroline Herschel, who is credited with discovering eight comets while working with her brother William Herschel, who is most famous for discovering the planet Uranus. The event was co-sponsored by UW Space Place, UW-Madison Astronomy Department, UW-Madison Division of Continuing Studies, Wisconsin Acad-

emy of Sciences, Arts and Letters and the Wisconsin Alumni Association. The play, a work in progress, was read by professional actors. The reading was followed by a panel discussion including the playwright, Professor Shakhashiri, Historian of Astronomy Jim Lattis, and Historian of Science Peter Sobol.

#### "Science Is Fun" Web Site

The WISL web site has been expanded with new sections on recommended reading and recommended web sites, more "Chemical of the Week" articles and more "Experiments you can do at home". Visit www.scifun.org to check it out.

#### **Science Saturdays**

WISL continued to offer Science Saturdays, a series of Saturday morning sessions of science fun and learning designed for middle school children and their parents. Science Saturdays include a variety of subjects to suit many interests. Sessions feature many hands-on activities and include projects to take home and observe or experiment with.

Science Saturdays subjects have included *Polymers* (both natural and artificial), *Electrical Energy, The Sky at Many Wavelengths, Nanotechnology, How Does It Sound, Bottle Biology* and *Energy and Simple Machines.* The sessions involved faculty and staff from the Chemistry Department as well as the departments of physics, plant pathology, astronomy, engineering physics, and the School of Music.

#### America in Chemical Society President's Event at Philadelphia Meeting

Professor Shakhashiri organized a special presidential event at the American Chemical Society national meeting August 22nd designed to combine science, the arts, and the humanities. Notable scientists and authors explained how they use theater, poetry, photography and other tools to communicate science to the public. The President's Cultural Event: Science, the Arts, and the Humanities included a reading of excerpts from the acclaimed play "Oxygen", written by chemists **Carl Djerassi** (Ph.D. U.W.-

Madison, 1945) and Roald Hoffmann. Other participants were award-winning science writer Dava Sobel, author of best sellers Longitude and Galileo's Daughter, and photographer Felice Frankel, Director of the Envisioning Science Project at MIT and author of Envisioning Science: The Design and Craft of the Science Image. Frankel is also co-author, along with Harvard Chemistry Professor George M. Whitesides, of On the *Surface of Things: Images of the Extraordinary* in Science. Also at the symposium, four students from the mid-Atlantic area were given Chemagination awards for writing articles for ChemMatters magazine about imagined scientific breakthroughs or innovations 25 years in the future. The session was opened by the President of ACS, U.W.-Madison Chemistry Professor Charles P. Casey.

#### Science in the City

As part of Science in the City offerings, WISL provided intensive chemical workshops for inner city students from Milwaukee. Racine. Kenosha and other school systems, offered in conjunction with the PEOPLE Program. PEOPLE (Pre-college Enrichment Opportunity Program for Learning Excellence) is a college pipeline for minority and disadvantaged students offered by the U.W.-Madison. Dr. Rod Schreiner wrote the curriculum for the courses prior to last year's classes. The coordinator for the classes this year was **Mike Modica**, (B.S., biochemistry, 2002) who served as an instructor last summer. Our other Mike, Mike Boll (B.S. 2004), was an instructor for the PEOPLE program. Mike (Boll) says, "It amazed me how bright the kids were-they were eager to learn and picked things up quickly. I wish I could have had a similar opportunity at that age." Mike says the kids were also very entertaining so the time went quickly. Mike will be a teaching assistant for chem 103 this fall. Also assisting at the PEOPLE workshops were Dr. Linda Zelewski and undergraduate volunteers who had taken the "Science is Fun" chemical demonstration course.



## This n' That



**Igor Alabugin** (PD '96-'00, Zimmerman), has been an Assistant Professor at Florida State University. He has received a number of awards. Most recently he gave a Plenary Lecture at the Reaction Mechanisms Conference held in June at Northwestern University.

**Diego Armesto** (PD '75-'77, Zimmerman), a Professor at the University of Madrid, is on the local Organizing Committee of the July 2004 IUPAC Symposium on Photochemistry. He and his wife Mercedes, (PD '75-'77, Zimmerman) think fondly of their time in Madison. Diego is one of the most active of European organic photochemists.

**Paul Bonvallet** (PhD '01, McMahon) completed postdoctoral research with Fraser Stoddart (UCLA) and accepted a position as Assistant Professor of Chemistry at the College of Wooster (Wooster, OH).

**Wensheng Chen** (PhD '01, Zimmerman) has taken a position with UOP in Illinois following a postdoc at Notre Dame. He reports that it was his Wisconsin experience which helped him obtain an excellent position.

**John Dodd** (PhD '70, Zimmerman) notes that he is doing patent and other work for DuPont Electronic and Communication Technologies since moving to this area 12 years ago from R&D. Prior to starting IP work, he was in R&D with DuPont Electronics for 7 years and R&D with Conoco for 9 years after leaving Emory U.

**Sergei Egorov** (PhD '96, Skinner) was promoted to Associate Professor with tenure at U. Virginia.

**Bill Gruenbaum** (PhD '75, Zimmerman) writes that he is now at Heidelberg Digital L.L.C. He writes also for Sue Boettger (BS '74). He spoke of his many pleasant memories of his years in Madison. He also sent information about some of his classmate: **Nick Buehler** (PD '73-'74) is part of a team at Ciba. Sometime back he had contact with **Byron Cotter** (PhD '74) who he remembers as being a Research Director at Unilever. He also reported that **Tim Cutler** (PhD '77) is a Manager at Kodak, and **Mike Haire** (PhD '74) is still at Chevron in the San Francisco Bay area.

**Russ King** (PhD '85, Zimmerman) writes with some thoughts about solid-state photochemical host molecules, which might work in Wisconsin research.

**Yuri Lapin** (PD '94-'96, Zimmerman) writes that Albany Molecular Research Inc. has bought the Great Lakes Chemical Co. He notes that he is still in the same building but with just a different company name.

**Chris Lawrence** (PhD '03, Skinner) will be an Assistant Professor at Grand Valley State (Michigan) starting in July 2004.

**Dan Little** (PhD '74, Zimmerman) a Professor at the University of California, Santa Barbara, writes that he is doing well. He also sent information about E-mail addresses for former Zimmerman students.

**Ed McBride** (PhD '66, Zimmerman) notes that he is still at DuPont's Jackson Labs.

**John McCall** (PhD '71, Zimmerman) is with Pfizer. He was with Pharmacia-Upjohn where he has been Executive Director of Discovery Research for many years.

**Jacques Nasielski** (PD '64-'65, Zimmerman) is an Emeritus Professor at Brussels in Belgium. He writes that he is still at the university although not as active in research.

**Evgueni Nesterov** (PD '98-'02, Zimmerman) has accepted an Assistant Professorship at LSU. He and his wife, Irina, are driving to Louisiana at the end of July.

**Luther (Nick) Roberts** (PhD '76, Zimmerman) reports that he is in a Kodak division called Image Sensor Solutions, doing program management.

Jess Sager (BS '91, Zimmerman) wrote to let us know that he has changed jobs and locations: I have left Merck and have taken a position as an Application Specialist with IntelliChem. IntelliChem is a leading provider of electronic notebook software. In my new position, I go out and talk to chemists in the industry about our product, providing demonstrations and training and funneling requirements from the chemists back to the programmers. I think it's going to be a good fit for me. Oregon has provided a nice change from the crowded hustle that I left.

**Jeff Saven** (PhD '93, Skinner) was promoted to Associate Professor with tenure at U. Penn.

**Marty Semmelhack** (BS '63, Zimmerman) is a full professor at Princeton. He wrote to send some E-mail addresses for classmates.

**Grigoriy Sereda** (PD '96-'98, '99-'02, Zimmerman) is now an Assistant Professor at the University of South Dakota. He reports being heavily engaged in both teaching and synthetic research.

**Valeriya Smolenskaya** (PD '97-'02, Zimmerman) is with the Solid-State Chemical Information Company in West Lafayettee, Indiana. She visits Madison regularly, since it is one of her favorite cities.

**Eric Stoner** (BS '86, Zimmerman) received an award at Abbott Laboratories, and gave the keynote address for the award ceremony. He was honored for "development of a process for the commercial production of a common intermediate for HIV-1 protease inhibitors Ritonavir and Lopinavir, and an optimized commercial process for the production of Lopinavir." The award was presented by the ACS as part of its Industrial Innovation Program.

**Louise Stracener** (PhD '98, McMahon) was promoted to Associate Professor at Edgewood College (Madison, WI).

**Patricia Wang** (PhD '92, Zimmerman) notes that she left Hewlett-Packard to take a position at Xerox on the West Coast in Oregon. She didn't have to move far geographically but thought a change in companies might be interesting.

**Drew Weber** (PhD '88, Zimmerman) was promoted to a new position as Business Director with DuPont Fuel Cells. The family will move to the Wilmington, DE area in summertime. His new boss reports directly to the DuPont CEO. Drew had been General Manager of DuPont Photonics Technologies, LLC.

**Dave Wilson** (PhD '94, Zimmerman) also was at the Great Lakes Chemical Company. He moved to Cincinnati and is a section head at Girindus America Inc.



## **Chemistry Department Support**

#### from Alumni, Staff and Friends

The Chemistry Department is blessed with many generous alumni and friends, and nowhere is that more evident than in the array of funds of various types that we can draw on for support of our activities. These funds include those that support general operations, scholarships and fellowships for students, lectures, seminars, research, awards and publications. We have listed here all of the funds the UW Foundation administers, plus the trust funds that have been set up to benefit Department activities. For contributions to Foundation accounts, checks should be made out to the UW Foundation, not to the Chemistry Department. Gifts to the UW Foundation are tax deductible, and many companies provide matching contributions, allowing you to multiply the value of your gift. When you send your donations to the Foundation, you can specify that your gift go to Chemistry, and further specify any of the funds. Donations to trust funds must be made out to the Chemistry Department, with the particular trust noted on the memo line.

Address gifts/correspondence to the UW Foundation, 1848 University Ave., Madison, WI 53708 or to the Chair, Department of Chemistry, University of Wisconsin, 1101 University Ave., Madison, WI 53706

#### UW-Foundation Accounts for the DEPARTMENT OF CHEMISTRY

		=
7	Ň	
M	⋄	3
₽	30	D)

#### OF SPECIAL INTEREST in 2003-2004

Although we appreciate all of our donors, the following funds are of very broad application to Department activities, or had some special event

occur in 2003-2004.	
Department of Chemistry Fund	1222137
Supports research and teaching activities in the Department	
Chemistry Building Fund	12221293

Supports the construction of the New Chemistry Building Addition, and remodeling of the Mathews and Daniels Buildings - Remodeling was completed in 2003, but bills remain to be paid

Andrew Dorsey Memorial Scholarship Fund (Undergrad)

12223281

Undergraduate scholarship in memory of Andrew Dorsey.

A musical fundraiser was held on campus in March 2004.

Community-Building Fund for Chemistry Provides funds for receptions, retirement parties, funeral memorials, and other similar activities; established in 2001.

Farrington Daniels Ethical Leadership Fellowship Fund (Grad) 12223995 Established in 2004 by William G. and Virginia Hendrickson.

Harlan L. and Margaret L. Goering Organic Chemistry

12223951
Fellowship Fund (Undergrad)

Established in 2004 by Margaret Goering's will, in honor of her late husband, Professor Harlan Goering. The fellowship will support a graduate student in Organic Chemistry.

Henry Firminhac and Eleanor Firminhac Chemistry 12223644 Scholarship Fund (Undergrad)

Supports Undergraduate students in Chemistry, in memory of Ralph Firminhac's parents, Henry Firminhac and Eleanor Firminhac. First awarded 2003.

James W.Taylor Excellence in Teaching Award
Established in 2002 and first awarded in 2003, this provides an
endowed fund to support awards to outstanding teachers in the
Chemistry Department.

and her deep and unconditional love for all people.

Jean Irene Love Fund

Established in December 2003 by the family of Jean Irene Love and
John Edmund Wright, to remember Jean's kindness, her self-sacrifice,

G G

12223316

12223590

#### STUDENT SUPPORT

U STOSENT SOLT SIN	
Ackerman Scholarship Fund (Undergrad) Supports undergraduate students in Chemistry, especially those from East High School in Madison.	12223212
Alfred L.Wilds Scholarship in Chemistry (Undergrad) Undergraduate scholarship in memory of Professor Al Wilds.	12220072
David F. and Donald G. Ackerman, Jr. Wisconsin Distinguished Graduate Fellowships	12223243
Supports graduate students in Chemistry.	12223244
Don Brouse Memorial Scholarship (Undergrad) Undergraduate scholarship in memory of Don Brouse.	32220536
Edwin M. and Kathryn M. Larsen Fund (Undergrad) Supports undergraduate students in Chemistry.	12222308
Elizabeth S. Hirschfelder Endowment for Graduate Women in Chemistry	12223191
Supports women graduate students in Chemistry research.	
Eugene and Patricia Kreger Herscher Fund (Undergrad) Supports undergraduate students in Chemistry, especially women.	12223562
Gary R. Parr Memorial Fund (Grad or Undergrad) Scholarship in Bioanalytical or Biological Chemistry, in memory of Gary Parr.	12222192
Harry and Helen Cohen Graduate Research Fund (Grad) Supports graduate students in Organic Chemistry.	12222250
John and Elizabeth Moore Awards in General Chemistry Provides funds for awards to the best students in the Fall Chemistry 108 and Chemistry 109 courses.	12223663
Kimberly-Clark Undergraduate Scholarship Supports undergraduate research with an annual award.	12222807
Leah Cohodas Berk Award for Excellence in Chemistry Research (Grad) Honors an outstanding female graduate student.	12543124
Norbert Barwasser Chemistry Fund	32225010
Roger J. Carlson Fund (Grad)	12220918
Graduate Fellowship in Analytical Chemistry, in memory of Roger Carlson.	.2220710

		BADGER	CHEMIS
Student Support in Chemistry (Undergrad) Supports undergraduate students from Wisconsin high schools	12222068	J. D. Ferry Lectureship in Macromolecular Science Provides funds to support a Lecturer in Macromolecular Sciences.	12222793
with GPA above 3.0.  Walter W. and Young-Ja C. Toy Scholarship Fund (Undergrad)	12221917	John E. Willard Lectureship Funds a special seminar in Physical Chemistry.	1222829
Supports undergraduate students, with preference for students of Asian descent.		Joseph O. Hirschfelder Professorship Fund Provides funds to support an endowed chair.	12220310
Wayland Noland Undergraduate Research Fellowship Established by Professor Wayland E. Noland to support summer or academic year research by undergraduates. high schools with GPA above 3.0	12222191	McElvain Seminar Fund Supports the ongoing seminar series organized and run by graduate students in the Department of Chemistry.	12220241
Walter W. and Young-Ja C. Toy Scholarship Fund (Undergrad) Supports undergraduate students, with preference for students of Asian descent	12221917	Ralph Hirschmann Lectureship Funds a Visiting Professor in Organic, Bioorganic or Physical Organic Chemistry.	1222295
Wayland Noland Undergraduate Research Fellowship Established by Professor Wayland E. Noland to support summer or	12222191	V.W.Meloche-Bascom Professorship Provides funds to support an endowed chair.	1222889
academic year research by undergraduates.		V.W.Meloche Lectureship Funds a special seminar series in Chemistry.	1222825
DIVISIONAL SUPPORT			
Analytical Chemistry Fund Supports research and educational activities in the Analytical Sciences Division, including conferences and grad recruiting.	1222679	GENERAL DEPARTMENTAL SUPPORT  These untargeted funds provide key support for our new ini	tiatives
Analytical Research Fund Supports research and programs in the Analytical Sciences Division — Originally established in 1990 with a gift from the	12220448	Badger Chemist Fund Provides funds to support the Badger Chemist and other Department publications.	1222534
Olin Corporation Charitable Trust. Center for Chemical Genomics	12223086	Farrington Daniels Memorial Fund Funds special projects relating to the benefits of science to society.	1222324
Established in 2001 by a gift from the W. M. Keck Foundation.		Harry L and A Paschaleen Coonradt Fund	12221413
Inorganic Chemistry Seminar Fund Supports the Inorganic Division seminar and research programs.	12221344	John and Caroline Dorsch Fund	12220322
J. O. Hirschfelder Prize Fund  Awards an annual Prize to an internationally prominent scientist to recognize outstanding work in Theoretical Chemistry.	12220984	Les Holt Memorial Endowment A general fund established with a gift from the estate of Professor Les Holt.	12223535
J. O. Hirschfelder Visitors Fund	12220912	Lloyd L. Withrow Fund	12221190
Supports visits to the Theoretical Chemistry Institute by outstanding scholars.		Paul A. and Jane B. Wilson Fund Thomas B. Squire Fund	32220550 12221796
John L. Schrag Analytical Research and Teaching Fund Provides funds for activities that will enhance the excellence and humanity of the Analytical Sciences Division.	12223637	INDIVIDUAL RESEARCH GROUP SUPPO	ORT
Organic Synthesis Fund Supports research activities in Organic Chemistry including symposia	1222548	(Group; Established by)	
and visiting lecturers.		Bio-Analytical Chemistry Fund (Lloyd Smith: Uniohn)	12220368

Supports research activities in Organic Chemistry including symposia	1222540	(Group; Established by)	
and visiting lecturers.		Bio-Analytical Chemistry Fund (Lloyd Smith; Upjohn)	12220368
CHEMISTRY EDUCATION		Carbohydrate Chemistry Research Fund (Laura Kiessling; Zeneca Pharmaceuticals)	12221999
Institute for Chemical Education Fund Supports activities in Chemical Education	1222929	Chemistry Catalysis Fund (Shannon Stahl)	12223733
Michael S. Kellogg Chemistry Fund Provides funds to support an annual prize, a lectureship, or other support of science education.	12223655	Eastman Kodak Professorship (Hyuk Yu; Eastman Kodak)	12221901
Project SERAPHIM Fund Supports activities in Chemical Education	12220404	Kocher Award (Thomas Brunold; Kocher-Preis Komission, University of Bern)	12223165
Shakhashiri Science Education Fund Supports activities in Science Education under the direction	12221133	Lawrence Dahl Research Fund (Larry Dahl)	12222076
of Prof. Bassam Shakhashiri		Nuclear Magnetic Resonance Research Fund (Tom Farrar; Johnson Controls)	12221877
LECTURESHIPS/PROFESSORSHIPS		Organic Chemistry Research (Hans Reich; Bell, DuPont)	12220190
Evan P. Helfaer Fund Provides funds to support endowed chairs in the Chemistry Department.	32225081A	Organic Research Studies Fund (Howard Zimmerman; Alumni and Friends)	12220747
H.L. and M.L. Goering Visiting Professorship Fund Provides funds to support a Visiting Professor in Organic Chemistry.	12222391		25

In addition to the above Foundation accounts, the following trust funds have been established to support Department programs.

#### STUDENT SUPPORT

Belle Crowe Fellowship

Daniel L. Sherk Award in Chemistry Edward Panek Memorial Scholarship

Hoechst Celanese Foundation Chemistry Department Fund

Krauskopf Chemistry Award Mabel Duthey Reiner Scholarship

Margaret McLean Bender Scholarship in Chemistry

Martha Gunhild Week Scholarship Richard Fischer Scholarship

Sam Charles Slifkin Award in Chemistry Willard W. Hodge Scholarship in Chemistry

#### DIVISIONAL and INDIVIDUAL SUPPORT

Arthur C. Cope Scholar Grant (Casey)
Chemistry Department Special Library Fund

Chemistry Research Fund (Reich)

Dreyfus Teacher-Scholar Award (Nathanson)

Hilldale Foundation Funds

Innovation Recognition Research Fund (Casey)
John Edmond Kierzkowski Memorial Trust (Library)

MacArthur Fund (Smith)

Steenbock Professorship in Chemical Sciences (Record)

Theoretical Chemistry Institute Fund

#### LECTURESHIPS/PROFESSORSHIPS

James M. Sprague Lectureship Karl Folkers Lecture Series in Chemistry

#### GENERAL DEPARTMENTAL SUPPORT

Chemistry Building Fund

Hoffman-La Roche Foundation Chemistry Department Fund

Howard H. Snyder Chemistry Department Fund Stephen E. Freeman Chemistry Department Fund

Thomas R. Kissel Chemistry Fund

In addition to honoring and acknowledging those people who donate to the Department to help support our Teaching, Research, and Outreach missions, we would like to also honor the people **for whom funds are named**. Many of you have donated to pay tribute to a mentor, colleague, friend, or relative in the Chemistry Department, and we will construct a new area on the first floor to acknowledge all of these people who are named in funds.

David F. and Donald G. Ackerman

Norbert Barwasser

Margaret McLean Bender

Leah Cohadas Berk

Don Brouse

Roger J. Carlson

Harry and Helen Cohen

Harry L. and A. Paschaleen Coonradt

**Belle Crowe** 

**Farrington Daniels** 

John and Caroline Dorsch

Andrew D. Dorsey

John D. Ferry

Henry and Eleanor Firminhac

Richard Fischer

Karl A. Folkers

Stephen E. Freeman

Harlean L. and Margaret L. Goering

Evan P. Helfaer

Eugene and Patricia Kreger Herscher

Elizabeth S. Hirschfelder

Joseph O. Hirschfelder

Ralph Hirschmann

Willard W. Hodge

Les Holt

Michael S. Kellogg

John E. Kierzkowski

Thomas R. Kissel

Francis C. Krauskopf

Edwin M. and Kathryn M. Larsen

Jean Irene Love

Samuel M. McElvain

Villiers W. Meloche

John and Elizabeth Moore

Wayland E. Noland

**Edward Panek** 

Gary R. Parr

**Mabel Duthey Reiner** 

John L. Schrag

Bassam Z. Shakhashiri

Daniel L. Sherk

Sam Charles Slifkin

Howard H. Snyder

James M. Sprague

Thomas B. Squire

James W. Taylor

Walter W. and Young-Ja C. Toy

Martha Gunhild Week

Alfred L. Wilds

John E. Willard

Paul A. and Jane B. Wilson

Lloyd L. Withrow

# Donors to Department Funds

This list acknowledges donors to all Departmental funds from July 2003 through June 2004, as recorded by the University of Wisconsin Foundation.



Professor Christopher J. Abelt Professor Seymour and Chief Justice Shirley Abrahamson Ms. Janet F. Airis Mr. Kevin E. Albers and Ms. Deborah R. Breiter Dr. Robert A. Alberty Mr. Loren D. Albin Dr. John G. Albright Mr. John W. Alexander Mr. and Mrs. John W. Allis Ms. Barbara D. Amato Dr. Alexander Amell **American Chemical Society** Dr. Donald P. Ames Mr. and Mrs. Stephen E. Amos Mr. James L. Anchell Mr. Eric D. Anderson Ms. Karen Lvnn Anderson Mr. and Mrs. Michael R. Anderson Dr. Mark R. Anderson Mr. Raymond P. Anderson Dr. Ronald L. Anderson Professor M. H. Aprison Mr. Rudolph P. Arndt Mr. Robert A. Arnott Dr. Gary B. Aspelin Mr. and Mrs. F. Jon Austin

#### В

Badger Ridge Middle School Professor Robert L. Baldwin Ms. Pamela L. G. Balthazor Mr. and Mrs. Michael E. Barlow Mr David F Barnes Mr. Kenneth W. Barnett Prof Karen E. Bartelt Mr Andrew R Real Mr. Edwin N. Becker Ms. Sarah Behm Dr. John S. Belew Mr. Herbert L. Benson, Jr. Mr. Thomas R. Benson Professor Robert G. Bergman Mr. Jon Berntsen Dr. and Mrs. Robert W. Bickes, Jr.

# We thank each of you for making the improvement of our program possible.

Ms. Mary L. Birch Mr. John M. Black Mr. Edward C. Blau Dr. Edward S. Bloom Dr. Stanley W. Blum Mr. and Mrs. Robert J. Boettcher Ms. Susan D. Boettger Dr. David H. Bohlen Mr. Paul Adrien Bonvallet Dr. Hans J. Borchardt Mr. Steven J. Borchert Mr. Joseph P. Borst Mr. and Mrs. Michael D. Bowe Dr. and Mrs. Barton K. Bower Ms. Julie E. Brady Dr. and Mrs. Robert O. Bremner Mr. Martin F. Bretl Mr. and Mrs. Alexander Bridges Dr. Gene M. Bright Dr. Bernard B. Brody Mr. Richard J. Brown Dr. David H. Buchanan Mr. Ricki W. Burger Mr. George M. Burkert Mr. Terry J. Burkhardt Mr. and Mrs. G. Tracy Burnett Mr. and Mrs. Michael Burslem Dr. Thomas J. Butenhoff Dr. Lance R. Byers

Professor Charles P. Casev Dr. Thomas A. Caughey Ms. Susanne A. Chadek Professor Leland J. Chinn Mr. Gary R. Chipman Ms. Gretchen Geimer Chojnacki Ms. Kathryn Geimer-Chojnacki Dr. Larry Michael Cirjak Clark-MXR Inc. Mr. George J. Clements Mr. Jennings E. Cline Mr. Joseph L. Clouser Mr. Martin J. Coffey Mr. Sidney Levinson and Ms. Amy L. Cohen Mr. and Mrs. Thomas A. Colby Ms. Judith M. Coleman Mr. Andrew Paul Combs Mr. and Mrs. Terrence E. Cooprider Professer and Mrs. Charles D. Cornwell Mr. Dennis J. Costa Mr. Byron R. Cotter, Jr. Drs. William A. and Judith S. Craig Mr. and Mrs. Peter Cristall Professor David S. Crumrine Mr. Glen Thomas Cunkle Mr. and Mrs. Rodney I. Curtis Mr. and Mrs. George P. Cutler

Mr. Chester Davis **DeForest Area School District** Dr. Roger L. DeKock Mr. Richard B. De Mallie, Jr. Mr. E. Barton Denechaud Mr. and Mrs. Allen A. Denio Dr. Rolf Dessauer Dr. Stephan Martin Deutsch and Professor Judith N. Burstyn Mr. Daniel L. Dexter Dr. Gunther Hans Dieckmann Mr. and Mrs. Ralph D. Dillon Mr David R Dion Mr. Glen E. Dirreen Dr. Edward B. Dismukes Dr. G. Charles Dismukes Mr. Dennis S. Donald Mr. Donald D. Donermeyer Mr. and Mrs. Daniel S. Doolittle Mr. Peter K. Dorhout Andrew Dorsey Memorial Scholarshi Fund Mr. and Mrs. David M. Dorsey Mr. Max W. Douglas **Dow Chemical Company Foundation** Mr. Richard B. Dowd and Ms. Joni B. Chapman Ms. Annette M. Dreier Dr. Michael J. Drews Mr. Howard Drossman Dr. Melvin L. Druelinger F I Du Pont De Nemours Co Mr. and Mrs. Robert G. Dworschack

Ms. Helen J. Davies



Mr. and Mrs. Joseph C. Calabrese Dr. and Mrs. William S. Caldwell Dr. William H. Campbell Mr. Darrel Elroy Cardy Ms. Marjorie A. Carlson Mr. Michael K. Carpenter Mr. and Mrs. Patrick G. Carrick



Mr. Paul F. D'Angelo Dr. James D. Dianni Dr. Mary F. Dampier Ms. Katharine P. Daub

Mr. and Mrs. Lee E. Cutler

Ms. Marion D. Cutler

Mr. Robert R. Cutler

Mr. Clifford R. Cvr

E

Eastman Chemical Company
Eastman Kodak Company
Dr. and Mrs. John O. Edwards
Mr. David W. Eggerding
Professor and Mrs. William D. Ehmann
Mr. and Mrs. Charles Warren Eisemann
Mr. Eric K. Eisenhart
Ms. Julianne Elward-Berry
Mr. and Mrs. Richard E. Ernst
Ms. Rosemarie M. Esber
Mr. Alan R. Esker
Dr. Jean L. Esser
Mr. Roy F. Euclide



Mr. Frederick Joseph Fago Mr. Alan D. Fanta Drs. Dennis and Lynda Farrar Professor and Mrs. Thomas C. Farrar Mr. and Mrs. Richard Fayram Mr. and Mrs. David J. Fayram Mr. Morton Fefer Ms. Helen M. Fett Mr. Donald W. Fieder Mr. Warren A. Field Dr. Sallie A. Fisher Dr. Michael C. Fitzgerald Dr. Kenneth P. Fivizzani Professor Steven A. Fleming Dr. Erik R. Floor Professor Norman Fogel Dr. and Mrs. Patrick J. Fortune Mr. Thomas Foseid Dr. and Mrs. Mark E. Fraley Mr. Jerome A. Freitag Mr. William G. French Professor Frederick A. Frey, Jr.

Professor and Mrs. Robert John Hamers Mr. Rolland F. Kellogg, Jr. Ms. Diane J. Hancock Professor Robert J. Hanrahan Mr. Richard N. Hansen Mr. William L. Hansen Mr. Paul D. Hanson Dr. William Howard Harned Drs. John E. and Mary Sue Harriman **Professor Suzanne Harris** Mr. Marvis E. Hartman Mr. and Mrs. Larry A. Haskin Ms. Kerstin L. Haug Mr. John F. Helms Mr. and Mrs. William G. Hendrickson Mr. Thomas R. Herrin Prof Arthur M. Hewitt III Mr. and Mrs. Robert A. Higgins Mr. Steven J. Hildebrandt Ms. Susan D. Hill Professor Thomas R. Hodge Mr. Steven K. Holmgren Mr. James F. Hornig Mr. Lester J. Howard

Mr. Carl Richard Kemnitz Mr. Jerome Dennis Kessler Mr. Michael B. Kestell Mr Lowell Edward Kihle Ms. Melissa B. Kimball Kimberly-Clark Corporation Drs. Rein U. and Carla Verschoor Kirss Mr. Donald A. Kita Professor Michael Klagsbrun Mr. Robert S. Klang Mr. Alexander A. Klein Mr. and Mrs. Andrew J. Klein Mr. James Kleppinger Mr. William E. Koemer Mr.Todd J.Kohn Mr. Thomas M. Kolb Mr. Kevin Ronald Kolterman Mr. Mark S. Konings Mr. and Mrs. Mark A. Kraft Professor Charles S. Kraihanzel Ms. Barbara A. Kratochwill Dr. David A. Krause Mr. Kurt G. Kronholm Dr. Paul J. Kropp Professor and Mrs. James H. Krueger



Mr. Thomas Victor Magee Ms. Donna L. Majewski Mr. Vincent F. Malek Ms. Michelle Manning Mr Michael K Mao Professor Robert B. Howell and Ms. Barbara Joanne Marshment Mr. Edward J. Martens Ms. Kimberly A. Martin Dr. Robert L. Matcha Ms. Virginia M. Mc Ghee Prof and Mrs. Robert J. McMahon Mr. and Mrs. Dennis R. McMillen Mr. Lester R. McNall Prof Sandro Mecozzi and Prof Silvia Cavagnero Ms. Donna Meicher Mr. George J. Meisters Professor Craig A. Merlic Mr. Ralph MIddlecamp and Dr. Cathy Middlecamp Professor Gerald R. Miller Ms. Maria L. Miller Dr. Marvin P. Miller Dr. Scott B. Miller Mrs. Virginia S. Miller Dr. William H. Miller Dr. Stanley B. Mirviss Prof and Mrs. John W. Moore Mr. Donald H. Morman Mr. and Mrs. Michael M. Morrissey Mr. Ronald L. Morse Dr. Stephen D. Morton Professor Cheryl L. Muller Dr. and Mrs. Richard D. Mullineaux Dr. Catherine J. Murphy Dr. Dennis J. Murphy Professor Mark A. Muyskens and



Dr. Robert C. Gadwood Mr. Robert Johns Gander Dr. Wayne S. Gardner Mr. Dennis C. Gehri GenTel Inc. Dr. Howard J. Glenn Mr. and Mrs. Milton D. Glick Mr. J. Rex Goates Mr. Jeffrey M. Gold Mr. Paul M. Gold Mr. Arthur E. Goldberg Dr. Gerald A. Gornowicz Mr. and Mrs. Paul G. Grant Professor Roderick M. Grant, Jr. Mr. Edward C. Greer Mr. and Mrs. Douglas W. Grosnick Mr. Eston Merle Gross

Mr. Mark I. Grossman

Mr. Randolph J. Guschl

Mr. Carl David Gutsche

Mr. Ilia Guzei and Ms. Galina Bikzhanova

Mr. and Mrs. Charles G. Fry

Н Mr. John Lee Haack Mr. and Mrs. John P. Haberman Mr. Donald Frederick Hagen Mr. and Mrs. Stanley L. Hager Mr. David A. Hahn Dr. Rolf M. Hahne Mr. Anthony R. Haight Mr. Dominic Paul Halbach



Mr. Mark C. Hudson

Mr. Charles F. Huebner

**IBM Corporation-Endicott** Mr. Frank S. Iltis Ms. Margaret J. Imm International Telecomm Services Inc. Mr. Terry V. Iorns



Mr. William N. Jacobsen Mr. David C. Jacobson Ms. Marita C. Janiga Mr. Robert A. Janke Prof and Mrs. Paul A. Janmey Professor Jerrold C. Jayne Mr. Roger A. Jenkins Mr. Gordon L. Johnson Mrs. Jean P. Johnson Ms. Mary L. Johnson Mr. and Mrs. Myrle F. Johnson Mr. Sigmond G. Johnson Ms. Valeria Jokisch Professor Guilford Jones II Mr. and Mrs. Michael W. Jorgenson Dr. Louis N. Jungheim



Dr. Vincent P. Kuceski

Ms. Paula L. Kuester

Dr. Paul T. Kwitowski

Mr. Jonathan R. Lai

Ms. Sadie Larkin

Ms. Yick-Kau Carol Lam

Mr. and Mrs. Robert F. Landel

Mr. Ronald William Larochelle

Mr. Robert J. Lascola, Jr. Mr. Lee H. Latimer Dr. Richard G. Lawton Ms. Grace Anne Le Rose Prof Daesung Lee and Ms. Hyesook Jeon Mr. Gilbert D. Lee Mr. Phillip G. Leith Mr. Victor Lewchenko Ms. Mary F. Ley LG Chemical Ltd. Mr. and Mrs. Larry Little II Dr. and Mrs. Thomas V. Lloyd III Dr. Frederick Y. Lo and Ms. Polly Chan Professor and Mrs. Jerrold P. Lokensgard Mr. Arthur O. Long Mr. Frank A. Lornitzo Dr. Samuel Loshaek Ms. Kara Ann Luedtke Dr. Robert E. Lyle, Jr. Dr. Lee R. Sharpe and Dr. Leslie J. Lyons



Mr. Mark Andrew Nagy National Starch & Chemical Fdn Mr. and Mrs. Christopher E. Naujok Mr. Richard J. Neddenriep Mr. William E. Nell Dr. Joel T. Nelson Dr. and Mrs. Norman A. Nelson. Dr. F. Henry M. Nestler Dr. and Mrs. Stephen M. Neumann Professor James C. Nichol Dr. Richard A. Niemann Professor Wayland E. Noland Mr. John A.T. Norman

Prof Karen J. C. Muyskens



Mr. Rich Kahl and Ms. Laurie Jean Yahr Ms. Pauline Daub Kasper Dr. John E. Kaufman





Dr. Janet O'Connor Mr. and Mrs. S. James O'Connor Mr. Christopher John O'Donnell Mr. Maurice L. Oehler Ms. Marsha D. B. Oenick Dr. Mary Jane Oestmann Ms. Lois Hirai Ohlson Mr. William J. Oien Ms. Elizabeth D. Olleman Mr. Maynard H. Olson Oregon PTO



Dr. John L. Parascandola

Mr. Juriu Paraszczak Pardeeville Area PTO Professor Marilyn A. Parker Ms. Kathleen Olivia Parsons Mr. and Mrs. Michael Patterson Dr. Robert C. Paulick Mr. Mark Douglas Paulsen Mr. Jared Montgomery English and Ms. Emily R. Payne Dr. James R. Pavne Dr. Paul E. Peckham Mr. Steven Carl Peterson Ms. Joann M. Pfeiffer Pfizer Inc. Mr. Judson Christopher Philips Mr. David R. Picard Mr. Carroll A. Pickering Mr. Carlton Placeway Prof Samuel H. Gellman and Ms. Julie A. Plotkin Ms. Mary J. Poklar Mr. Jeffrey Robert Poliak Ms. N. Meredith Porembski Dr. and Mrs. Andrew E. Potter, Jr. Mr. Ryan E. Powers Ms Scarlett I Presley Professor Berton C. Pressman Dr. and Mrs. Albert F. Preuss

Professor and Mrs. Gary G. Price

Procter and Gamble Fund

Prof Curtis R. Pulliam



Mr. John E. Quinlan

Mr. Joel F. Price



Dr. Douglas D. Radtke Mr. Douglas R. Radtke Mr. and Mrs. John B. Ramsay

Dr. Anthony E. Ramsey Ms. Jane Marie Rank Mr. and Mrs. Vernon E. Reed Prof and Mrs. Hans J. Reich Ms. Margaret M. Rendall Mr and Mrs David I Resnick Mr. Donald W. Rhodes Mr. and Mrs. Eugene C. Rickard Ms. Kimberly Anne Rickert Mr. Charles T. Ricksecker Dr. Steven C. Rifkin Mr. James E. Rinz Mr. Christopher J. Rito Dr. Albert B. Rives Mr. and Mrs. Wilbert J. Robertson, Jr. Rohm and Haas Company Mr. Stanley E. Rohowetz Mr. Stuart A. Rojstaczer Professor Laurence D. Rosenhein Dr. Thomas M. Rosseel Dr. Marie M. Roth Mr. and Mrs. Bill F. Rothschild Mr. Stephen L. Royal Mr. Roswell J. Ruka Mr. Alan M. Rulis Mr. Robert C. and Dr. Kathleen H. Ryan



Ms. Alison Marie Sadowy Prof Gilbert M. Nathanson and Ms. Mary E. Saecker Mr. Robert Gerd Salomon Mr. and Mrs. Matthew J. Sanders Mr. and Mrs. Myran C. Sauer, Jr. Ms Winifred M Saunders Mr. and Mrs. Lawrence E. Schaefer Mr. Richard S. Schiefelbein Mr. Roger Earle Schirmer Mr. Robert W. Schmelzer Mr. Steven P. Schmidt Dr. Frederic W. Schremp Mr. and Mrs. Fred E. Schubert Ms. Dorothy Laurie Schultz Mr.C.Eric and Professor Marietta H. Schwartz Ms. Fazila Seker Mr. Scott M. Shafer Dr. Irving Shain Prof and Mrs. Bassam Z. Shakhashiri Mr. Rubin Shapiro Dr. Steven A. Shaya Dr. and Mrs. Brian D. Shepherd Prof Edwin L. Sibert III Dr. and Mrs. Donald J. Siehr Mr. Merlin E. Silverthorn Mr. Rodney J. Sime Mr. Roger D. Simkin Mr. James D. Sinclair Professor and Mrs. James L. Skinner Ms. Evelyn S. Smith Professor and Mrs. Lloyd M. Smith Mr. Eugene C. Snooks Professor and Mrs. Alan L. Soli

Spectra-Physics Inc. Mr. Patrick D. Spice Professor and Mrs. Robert W. Stach Professor Charles H. Stammer Mr. Lawrence C. Stedman and Ms. Cecilia A. Klotz Mr. Lawrence Stein Ms. Charlene J. Steinberg Professor Joseph P. Stenson Mr. and Mrs. Trevor Stephenson Mr. and Mrs. Robert E. Stevens Mr. William G. Stevens Mr. Joseph F. Stieber Mr. Jeff D. Stobbe Dr. Theodore M. Stokich, Jr. Mr Fric I Stoner Dr. Charles Earl Strouse Mr. and Mrs. Jeffrey S. Stults Ms. Susan L. Sundquist Mr. Peter G. Szanto



Mr. Nathaniel Nickerson Taft Mr. and Mrs. Richard L. Tallman Mr. John Gardner and Ms. Leslie A. Talluto Dr. Martha H. Tanner Dr. and Mrs. Charles W. Taylor Dr. Glenn A. Terry Mr. Stephen L. Thacher Ms. Monica Mary Thiry Ms. Patricia A. Thomasgard Ms. Jennifer Leigh Thompson Mr. Warren E. Thompson Professor Thomas M Ticich Dr. Jerome Timmons Dr. Thomas N. Tischer Ms. Diana R. Tomchick Ms. Beatrice Touton-Fritz Ms. Nancy Treadwell Professor and Mrs. Paul M. Treichel, Jr. Dr. John T. Tsunehiro Mr. and Mrs. Michael H. Turman



Mr. Klaus Peter Wagner Mr. and Mrs. Jeffrey S. Walker Mr. Don M. Washecheck Watertown Unifed School District Mr. Winston J. Wavne Ms. Karen J. Weiland Prof and Mrs. Frank Weinhold Mr. Mortimer Weiser Professor Gary R. Weisman Dr. Robert E. Wellauer Dr. Keith J. Weller Prof Robert C. West, Jr. Mr. Philip L. Wevna Lynnae Cutler Whitehead SLP Therapy Mr. Gregory T. Whiteker Ms. Esther M. Whiting Mr. Gerald M. Whitman Mr. Donald P. Wiesler Mr. John Rudolph Wietfeldt Mr. Adolph Y. Wilburn Mr. Oberhansli Willi Mr. and Mrs. Anthony Williams Mr. Douglas G. Williams Mr. and Mrs. Robert C. Williams Dr. Lesley L. Williams Mr. Malcolm L. Williams Mr. David L. and Dr. Ann E. J. Wilson Mr. Peter K. and Dr. Dyann Lynn Wirth Dr. Wayne L. Wittenberg Mr. and Mrs. Robert G. Wixson Mr. Paul L. Wollenzien Dr. Herbert T. Wood Dr. Harold A. Wooster, Jr. Mr. Robert H. Wopschall Dr. and Mrs. Eugene L. Woroch Prof and Mrs. John C. Wright Ms. Kelly Jeanne Wright Professor and Mrs. Gary P. Wulfsberg Mr. Brian P. Wurst



Ms. Mary Claire Uhing Mr. Arthur L. Utz and Ms. Deborah J. Campbell



Valley Of The Sun Alumni Club Ms. Martha M. Vestling Mr. William C. Vladuchick Mr. and Mrs. Thomas D. VonFeldt Mr. Donald J. Voskuil



Mr. Kentaro Yamada Mr. Warren C. and Professor Laura C. Yeakel Mr. Kenneth F. Yelm Mr. and Mrs. Howard Bruce Yokelson Ms. Eun Young Yoo Ms. Adriana Yoshii Dr. and Mrs. Austin H. Young Professor and Mrs. Hyuk Yu



Mr. Wentao Zhang Mr. and Mrs. George J. Ziarnik



## In Memoriam

#### **Herbert A. Beall**

(BS '61) Died on August 31st at his Rockport home surrounded by family and friends. He was born on August 26, 1939, in Chatham, Ontario, Canada, the son of Dr. Geoffrey Beall and Muriel A. (Gallagher) Beall. He immigrated to Appleton, Wisconsin when he was six years old with his parents, brother, and sister. His undergraduate degree in chemistry was from the University of Wisconsin - Madison and he received his Ph.D. in chemistry in 1967 from Harvard University with William Nunn Lipscomb Jr., who won the Nobel Prize in Chemistry in 1977. He worked in the industry at Olin Matheson Chemical Company for 18 months as a Senior Research Chemist prior to joining the faculty in the Chemistry Department at WPI in 1968. Dr. Beall especially enjoyed teaching general chemistry as well as inorganic courses. He published over seventy articles in the areas of boron chemistry, chemical education, the use of language in chemistry, and gold and coal chemistry. He was also the author and co-author of several textbooks including Chemistry for Engineers and Scientists, and A Guide to Writing about Chemistry. He published a book with his wife, Images of America-Mineral Point, recounting the history in text and early photos of the Wisconsin town outside of Madison where they had a summer home for a decade. He was an avid long-distance runner and greatly enjoyed singing and writing songs, traveling, playing rugby, cycling, hiking, and canoeing. A life-long non-smoker, Dr. Beall was diagnosed with advanced lung cancer after having breathing difficulties while running a race in October 1999. Despite the effect of his cancer and its treatments, Dr. Beall spent the last four years of his life engaged in the activities he loved and with the family and friends he loved. He will be remembered by his surviving family members; his wife, Dr. Barbara Apclian Beall, Chair of the Department of Art and Music at Assumption College; his daughters, Dr. Anne E. Beall of Chicago, IL and her husband, Douglas

Doolittle, Katherine J. Beall Ellinghausen of Woodstock, IL and her husband Thomas Ellinghausen, and Nicole M. Apelian of Portland, Oregon and her husband Michael Rasmussen; his grandchildren, Colton Apelian Rasmussen, Dylan Alexander Ellinghausen, Graham Beall Ellinghausen, Kelsev Doolittle, Michael Doolittle and Beau Rasmussen; his brother, William Beall of St. Paul, Minnesota and his sister, Molly E. Beall of Denver, Colorado. There will be a lecture series established at WPI in honor of Herb Beall. In lieu of flowers, please send donations to "WPI-Herb Beall Fund," c/o Development of University Relations Office, Worcester Polytechnic Institute, 100 Institute Rd., Worcester, MA 01601.

#### Barbara J. Blaedel

Died on Saturday, January 24, 2004, at the age of 88. Barbara was the wife of **Walter J. Blaedel**, a long time faculty member of our Analytical Division.

#### Dr. Howard A. Eder

(BS '38) Died January 15, 2004. He was born September 23, 1917, in Milwaukee, and graduated from the University of Wisconsin in 1938. He received his M.D. from Harvard Medical School in 1942, and his M.P.H. from Harvard School of Public Health in 1945. He was Professor of Medicine Emeritus at the Albert Einstein College of Medicine, New York. Dr. Eder dedicated his life to the study of arteriosclerosis and was one of the first investigators to discover the role of high density lipoproteins (HDL) in coronary heart disease. He was elected to the Institute of Medicine of the National Academy of Science, and awarded a Distinguished Achievement Award from the American Heart Association. He had a lifelong fascination with history and current events, and was an avid reader of nonfiction, the New York Times, and The Nation. He cared deeply for the welfare of people and firmly believed in liberal democratic principles. He was a loving husband to his wife, Barbara Straus Eder, who preceded him in death, and a devoted father to his children, Rebecca Eder, Ph.D. (Peter Shile, M.D.), Susan Eder, M.D. (Jonathan Flescher, M.D.), and Michael Eder (Gundhild Eder). He was a wonderful grandfather and source of great amusement for his five grandchildren, Elizabeth Edershile, Sam and Max Flescher, and Daniel and Robert Eder. He will be missed greatly by his family and friends for his brilliant intellect, his incisive wit, his moral steadfastness, and the great pleasure he took in the life of the mind. Donations may be made to the Nation Institute, 33 Irving Pl., NYC 10003; or to American Heart Association, PO Box 5216, Glen Allen, VA 23058.

#### Clifford A. Erickson

(MS '50, King) Died November 28, 2002, in Trenton, NJ, at the age of 77. He was born in Fargo, ND, graduated from North Dakota State University in 1946, then received a master's degree in Chemistry from the UW-Madison in 1950. He participated in atomic tests in Nevada while he was in the Army Chemical Corps from 1950 to 1952. He worked for FMC Corp. from 1952 to 1982 and received patents on compounds to improve bleaching performance of peroxygen compounds. He then joined Jacobus Pharmaceutical for 20 years as manager of the information retrieval department. He was a member of the American Chemical Society for 50 years, the Audubon Society for 35 years, the American Association for the Advancement of Science for 46 years, the Nature Conservancy, the North American Mycological Association, the Philadelphia Area Trenton Naturalists Association, the Hewlett-Packard Hand Held Computer Club, and the American Birding Association.

#### Randy Hayashi

(PhD '93, Dahl) Died Saturday Oct 4, 2003, in Hawaii, following a car collision near his home. Randy came to our department in 1986 and left for a teaching position at the University of Hawaii-Hilo in 1998. After receiving his PhD, Randy worked in the NMR lab and our Computer

Support Division, was a lecturer for undergraduate courses and helped the General Chemistry Division in more ways than can be listed. He will be missed by all who knew him.

#### **Mark Christopher Hsiao**

Written in loving memory by Elaine P. Hsiao (PhD '92, Crim) Dr. Mark C. Hsiao of Tracy, California was killed in a horrible and tragic plane crash July 8, 2003 near Chicago, Illinois. He is survived by his parents Christopher and Beatrice Hsiao; younger sister Elaine; younger brother Michael; "favorite nephew" Nicholas; girlfriend of 21/2 years Adelyn Hu; and many other family members and friends. Born in Chicago on May 12, 1965, Mark always had a remarkable thirst for knowledge. He continuously excelled in school and rarely got into trouble. His childhood interests included building and launching model rockets, playing piano and violin, golfing, swimming, and running. He was a gentle child that grew into an honest, patient, gentle, and very smart man. With a strong sense of family instilled in him by his mother, Mark took responsibility for his younger sister and brother, even in adulthood. With love and only the best intentions, he mentored, guided, and protected them their entire lives. After graduating high school with honors, Mark attended Southwestern University in Georgetown, Texas. After only three years, he graduated Magna Cum Laude with a Bachelor's of Science in Chemistry. Mark then continued on to graduate school at the University of Wisconsin-Madison, proudly earning his Ph.D. in chemistry. The determination in whatever he pursued was noted and admired by many. Everywhere Mark went, he was able to make friends and develop solid and life-long relationships with others. Even more remarkably, he was able to strengthen and continue building these relationships despite moving away. His relationship with his family only became stronger despite their physical distance. From Chicago to Texas, and then to Wisconsin, Mark moved to California for a post-doctoral position at Lawrence Livermore National Laboratory. Mark worked very hard professionally. His dedication continued when he later went to work for Applied Komatsu/Applied Materials. He devoted many long hours and weekends to work, all the while

making it look so easy. Mark got along with all kinds of people and he really had a positive impact on everyone who knew him. Overseas colleagues were comfortable enough to call and wake him in the middle of the night at home, seeking work-related help. Mark, who would be happy to help, was modest and never expected any thanks or even acknowledgement for his kind acts. He was always supportive and encouraging to his family, many friends, and co-workers. Since coming to California, Mark lived in Livermore, Fremont, Mountain View and San Jose. In 2001, he bought a house and moved to Tracy with family members. Despite his daily commute to San Jose, Mark still found time to discover Tracy and he liked living there. He appreciated the area for both flying and running.

In addition to being extremely intelligent, Mark was an accomplished athlete. Since he was 13 years old, Mark ran a minimum of 5 miles every day. Illness, adverse weather, or vacations could not stop him. He never missed a day. He was always challenging himself to run faster and for longer periods of time. Just one month prior to his accident, Mark ran the Suzuki Rock 'N Roll Marathon in San Diego at his best time yet-3 hours 29 minutes. Not only was he a runner, he was an avid swimmer, biker, snow skier, jet skier, golfer, and hiker who enjoyed lifting weights and keeping himself fit. He was always expanding his athletic abilities and activities; he was never afraid to try something new and he encouraged those around him to do the same. Mark also loved to fly. As a child, he would fly his model rockets and pretend he was an astronaut. As he got older, he dreamed of flying. In 1996, he got his pilot's license and was so excited. He was driven to learn as much as he could about flying and airplanes. He enrolled in flight school to further his training and he joined various flying clubs and groups. He dreamed of eventually building his own airplane and flying it all around the country. Last year, Mark bought his first airplane, a Cessna 150L and treasured it. Everyone who knew Mark, knew that they were invited to go fly with him anytime. Mark would proudly show his plane to anyone who would ask. His friends trusted him to take their young children up for flights that would sometimes last over an hour. His enthusiasm was infectious. Mark used to take his nephew Nicholas flying after school

almost once a week. Nicholas loved to go and he so enjoyed this special time alone with his uncle up in the sky. The week before his accident, Mark embarked on a trip of a lifetime. For two days, he flew his single-engine airplane approximately 2000 miles to Chicago, finally arriving on the night of July 2. He was so proud to have accomplished such a flight solo. He spent the next few days visiting with family who had already arrived from Tracy. In the late morning of July 8, Mark dropped off his parents and other family members at the mall and went to go check on his airplane. There had been a severe hail storm earlier that morning and he wanted to assess any damage to his plane. He never came back to pick them up. Apparently Mark decided to take the plane up for a quick flight, as he often did. At 1:24 pm, Mark's plane crashed after takeoff about a quarter mile from the Schaumburg airport runway. Mark and his beloved airplane were engulfed in flames by the subsequent fire. Mark was the only fatality. In fact, no one else was involved or hurt in the crash. Mark's last act on earth characterized how he lived in consideration of others; according to aviation experts and witnesses, Mark was maneuvering the aircraft to avoid all the homes, highways, and commuter train that surrounded the grassy area where he ultimately crashed.

Services for Mark were held July 13-15, 2003, in Buffalo Grove, where Mark grew up. A memorial service in California was held September 5, 2003, at 12:30 pm at the First Baptist Church of Los Altos.

Losing Mark has been extremely painful for his family and all who knew him. The suffering is unbearable. As the shock wears off, reality will set in and events surrounding his death will be revisited again and again. It will be a long time before loved ones can focus on the way Mark lived instead of the way he died. To all who knew him and those who had yet to meet him, the death of this smart, energetic, and kind person is an insurmountable loss. If you would like to learn more about Mark and visit a beautiful memorial to him, please visit: http://mark.hsiao-group.com/

A memorial scholarship fund in Mark's honor is being planned through the UW Chemistry Department. Please contact Jim Janetka at janetka@earthlink.net for further information and how to donate to the fund.

#### **Donald A. Roth**

(BS '40, MS '41, PhD '44, Schuette) Died in Wauwatosa August 22, 2003, at the age of 85. Dr. Roth was born in Slinger, WI. His wife, the former Marie Mercury (PhD '51, Johnson), and his four children survive him. After receiving his PhD in 1944, he served two years in the U.S. Navy as a lieutenant on an LCT in the South Pacific, then returned to UW-Madison as a member of the Chemistry Department teaching staff before entering medical school. He graduated from Marquette University School of Medicine in 1952 and interned at Milwaukee Lutheran Hospital. A pioneer in the development of kidney dialysis, he was a professor of clinical medicine at the Medical College of Wisconsin and chief of the renal disease section at the Wood VA Medical Center. Memorial donations to the Medical College of Wisconsin, Froedtert Hospital, St. John Vianney parish of Brookfield, WI, or the charity of your choice will be sincerely appreciated.

#### **Jackie Stover**

Died from breast cancer Sunday, February 22nd, at the Hospice Care Center in Fitchburg. She was 58. Jackie worked as a program assistant in the Chair's office for about a year during 2000-2001. She was a very pleasant woman who always had a smile for people who came to our office. She left us when a promotional opportunity came her way.

We have also been informed of the following deaths of alumni and friends:

**Paul I. Abell** (PhD '51, Goering) died January 12, 2004, at the age of 80.

**Clyde L. Aldridge** (PhD '52, McElvain) died June 29, 1999, at the age of 74.

**Roderick Arthur Barnes** (BS '39) died July 15, 1999, at the age of 79.

**Donald G. Biechler** (BS '56) died May 14, 2003, at the age of 75.

**George C. Colovos** (BS '41) died December 30, 2003, at the age of 87.

**John Royden Durland** (PhD '39, Adkins) died November 16, 2003, at the age of 89.

**Edward Louis Fiedler** (BS '36) died October 24, 2003, at the age of 89.

**Alexander Carpenter Finlay** (BS '29) died October 2, 2002, at the age of 96.

**Clarice Ann Gedeist** (MS '62, Whitlock) died December 13, 2003, at the age of 94.

**Melvin Gelman** (BS '49) died February 22, 2000, at the age of 74.

**Karen Ruth Gold** (BS '65) died July 8, 2000, at the age of 56.

**Geoffrey Alan Hall** (BS '74) died August 9, 2002, at the age of 51.

**John Baptist Hames** (BS '30) died March 9, 2002, at the age of 95.

**Mary Edith Hunt** (MS '33, Schuette) died 6, 2000, at the age of 91.

**Lothar Alfred Joos** (BS '37, MS '38, Link) died June 6, 1999, at the age of 88.

**Ernest Irvine Kinnee** (MS '47, Schuette) died March 26, 2003, at the age of 85.

**Fred William Kopitzke** (MS '40) died December 19, 2001, at the age of 87.

**Walter E. Kramer** (BS '43) died November 27, 2003, at the age of 82.

**Boris Kruchoff** (BS '34, MS '35, Oncley) died April 27, 2003, at the age of 92.

**Clarence Lynn Mahoney** (PhD '49, Adkins) died September 13, 1999, at the age of 79.

**James Cameron Masson** (BS '43) died at the age of 83.

**Richard Lewis Mauk** (BSE '68) died April 22, 2002, at the age of 57.

**Milan G. Maximovich** (BS '60) died May 11, 2003, at the age of 64.

**Donald Robert May** (BS '37) died February 2, 2002, at the age of 87.

**Stanley Dane McGregor** (PhD '66, Lemal) died November 20, 2002, at the age of 64.

**Carol K. Pearce** (MS '51, King) died September 16, 2001, at the age of 71.

**Carl Victor Piper** (MS '36, Sorum) died January 11, 1999, at the age of 90.

**Leslie Lee Sims** (PhD '55, Goering) died January 5, 2004, at the age of 77.

**Raymond Lee Snell** (BS '40) died June 13, 2001, at the age of 90.

**Roderick S. Spindt** (MS '44) died September 8, 2003, at the age of 84.

**Dorothy Elizabeth Stangel** (BS '28) died July 1, 2002, at the age of 95.

**Stuart C. Tiedeman** (BS '34) died May 30, 2003, at the age of 90.

**J. Wade Van Valkenburg** (MS '51, Ferry) died July 21, 1999, at the age of 74.

**David Mathew Vea** (BS '50) died December 16, 1999, at the age of 70.

**Pei Wang** (PhD '52, Larsen) died October 10, 2003, at the age of 85.

**Bruce E.Wilcomb** (MS '73) died February 14, 2003, at the age of 56.

**Edna Louise Zartman** (PhD '33, Klein) died February 15, 2000, at the age of 91.

