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David J. Curran, Editor
Brigette J. McKenna, Production
Lisa M. Korpiewski, Design

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OPTICAL MICROSCOPY IN THE CHEMISTRY DEPARTMENT

by Marion Rhodes

The University of Massachusetts Chemistry Department has maintained an active role in teaching an optical microscopy course for many decades. The catalogue describes this course as two to five credits a semester for undergraduate or graduate students. The precise nature of the course content has evolved over the years, reflecting the role played by optical microscopy in the science of chemistry, as well as the technological developments in methods and instrumentation associated with the optical microscope. This transition has moved from the classical approach to the format by which this course is currently presented.



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Chemical microscopy instruction began in the early 1960's with Professor John Roberts who taught the traditional approach of the Chamot and Mason program from

Cornell where he obtained his Ph.D. This was characterized by polarization optics in the study of crystals and crystal aggregates for their morphological and optical properties. The course format also included hot stage investigations, characteristic spot tests and some specific quantitative measurements. The student notebook was filled with colored drawings illustrating the relationship between polarization colors and crystal orientation. Today the student notebook is still a significant item in the instruction but the image documentation is extended with the use of cameras that process the image either directly or indirectly into the computer's Photoshop software.



Marion Rhodes

The course has benefited from the recent advances in the technology of optical instrumentation resulting in a valid qualitative and quantitative analytical method of analysis for materials. Chemists have

Alumni Reunion 2002

Chemistry reunion activities were held in Goessmann on the afternoon of June 8. Room 252 was open all afternoon for socializing and refreshments. Tours to see new equipment in some of the analytical teaching and research labs were given. Our thanks to Mike Kestigian, for his hard work as our liaison with his chemistry classmates in the class of 1952, and to our staff members who worked so hard on the event. An enjoyable afternoon was had by all.



Richard Levine '48 with grandson Michael Levine '04 (Chemistry).



Dr. David Sommerfeld shows alums new equipment in the Instrumental Analysis lab.



Prof. Peter Lillya explaining how to use the OWL system to alums so they could try it out.

alumni news

The May 6, 2002 issue of C&E News contained a report on page 44 about a symposium held at the Orlando ACS meeting in April 2002 on a rapidly expanding area of research, "Polyelectrolyte Multilayers." One of the research groups featured in the article is *Professor Joseph Schlenoff's* at Florida State University. Joe received his Ph.D. in 1987 working with Profs. Curran and Chien.

Congratulations to *Dr. Andrew S. Ichimura* (Ph.D. 1992 with Prof. Lahti) on his being awarded a Cottrell College Science Grant for work on organic electron acceptors. Andy is on the faculty at San Francisco State University.

Alumnus *William E. Mahoney* (B.S. '55) has accepted the chairmanship of the College of Natural Sciences & Mathematics Advisory Council. This group acts as a liaison between the dean of the college and alumni in leadership positions in industry, business, government, etc. They lend advice on positioning the college for better fund-

raising, helping the college to improve further its visibility both inside and outside the Commonwealth, and helping the college to tailor its research directions and curriculum in a manner that will give our graduates an advantage in the employment marketplace. Bill, the former chief operations officer of the Witco Corporation, is an Adjunct Professor in the Chemistry Department. He has organized and taught several times, "The Business of Chemistry: Contemporary Practices," a ground-breaking series of seminars by leaders from the chemical industry and the business world. This course has brought students of chemistry and of business together to talk about how companies large and small craft decisions and strategies. He also supports an annual Chemistry Department seminar, the William Mahoney Seminar in Chemistry, that brings high profile speakers to UMass Amherst to talk about chemistry's importance to the community at large.

It did not take long for Chemistry Department graduate student *Michael Thompson* to establish himself as an excellent teacher! Mike, a high school teacher at Amherst Regional High School, enrolled in the graduate program in the Fall, 2001. His

degrees from UMass-Amherst are a B.A. in English with a minor in Chemistry and a M.Ed. with Teacher Certificate in Chemistry for grades 9 through 12. Hired as a teaching associate to help with general chemistry instruction and to oversee Chemistry Resource Center activities during CRC Director Beatrice Botch's professional development leave, Mike quickly teamed up with Dr. Thomas Whelan of the general chemistry program to give his own lectures. He did such a great job that he was nominated for a University Distinguished Teaching Award (DTA) by the students of his class and to our great pleasure, was selected as one of the 2002 DTA winners for this year. Mike is an excellent communicator and a dedicated teacher.

Congratulations to *Professor David Adams* (B.S. '67) of our department upon his election to the Board of Directors of the University of Massachusetts Alumni Association.

Frank Higbie (M.S. '69 with Prof. Rausch) writes from Bound Brook, NJ that he and his wife Lois had a busy year traveling: a

Spring trip to Florida, a visit to Memphis, TN (with a side visit for Frank to Shiloh National Military Park), and a trip to Northwest Montana (Glacier National Park) and the Idaho panhandle. Frank is active in community theater, playing supporting roles in Moss Hart's "You Can't Take It With You" and an 1890's melodrama called, "Caught In The Villain's Web."

A recent issue (Vol. 18, #3, December 2002, pp 3-6) of the web-based journal *SEAC Communications*, published by The Society for Electroanalytical Chemistry, features an article by *Roger G. Bates* (B.S. '34) titled: "Why Students (and Others) Don't Know pH." It can be found at <http://seac.tufts.edu>.

New Alumni Directories

The UMass Alumni Association published a *new Alumni Directory* this Spring. They may be ordered directly from Harris Publishing by calling 1.800.877.6554. The prices are: Softbound \$69.99
Hardbound \$79.99
CD ROM \$79.99

You are cordially invited to

Alumni Weekend 2003

The University will be hosting events on campus June 6-8 to celebrate alumni weekend. The 40th, 45th and 50th year classes and emeritus alumni are being particularly honored, and it will be a 50's decade reunion as well. The Chemistry Department invites Undergraduate and Graduate alums from all years to attend events planned for Saturday afternoon, June 7. Enjoy time with fellow alumni and explore the new teaching and research activities in the department. Our activities will be in the familiar surroundings of Goessmann Laboratory. Goessmann 252 will have refreshments from 2:00 to 5:00 p.m. and serve as a central meeting room. Visit (www.chem.edu/alumni.html) or (www.umassalumni.com/alumniweekend/) for additional information. Please RSVP to Dave Curran at (curran@chem.umass.edu) or 413.545.2585, or the main office at 413.545.2291.

Chemistry Events the Afternoon of Saturday, June 7

featured *alumnus*

Dr. Augustine Silveira, Jr. (1962 Ph.D., with Prof. McWhorter) retired last year from the Chemistry Department at the State University of New York at Oswego. He served as chair of the department for 33 years and was appointed to the rank of Distinguished Teaching Professor, a rank above full professor and the highest rank in SUNY, in 1976. In 1975, he was awarded the Honorary Doctorate degree from his undergraduate alma mater, University of Massachusetts Dartmouth. He previously taught at Rutgers University, University of California, Irvine, and California State University at Long Beach.

Recipient of over 60 grants and awards, Dr. Silveira's work has been extensively published in national and international journals and he has been invited to give talks at colleges and universities throughout the world. In 1988, he received the American Chemical Society, Syracuse Section, award for "outstanding contributions in chemistry and chemical education." In 1996, he was awarded the SUNY Research and Sponsored Programs Gold Medal Award of Excellence for being the recipient of over two million dollars in grants. In 2000, he was awarded the Chairman's Citation Award for "outstanding service to the American Chemical Society".

Since his retirement, he was appointed as the 2001 Jules Roth Visiting Scholar by SUNY College at Purchase. He succeeds Jerry Meinwald, distinguished chemistry professor at Cornell University, who was the 2000 Jules Roth Visiting Scholar. He gave the plenary address of this year's Distinguished Natural Science Lecture Series at a symposium sponsored by Pfizer, Friends of the Natural Sciences, and the Division of Natural Sciences at SUNY Purchase. He spoke in the area of organonitrogen chemistry, an area of research done by many Oswego chemistry students under his direction for the last 38 years. He also spoke on "Project-oriented Laboratories—Trends in the New Millennium." In addition, he gave lectures to SUNY Purchase students in the organic chemistry classes and science general education classes on "The Depletion of the Ozone Layer" and "The Effects of Global Warming." He also spoke to the SUNY Purchase CSTEP students about "Careers in the Natural Sciences." Since his retirement, he also gave a series of invited lectures at the University of Tasmania, Australia.

Recently, one of his former Oswego research students, Dr. Thomas Weil, and Mrs. Barbara Weil pledged \$50,000 to the Augustine Silveira, Jr. Fund for the benefit of SUNY Oswego chemistry students. Dr. Weil is currently vice president and business technology manager of BP Amoco.

Web Sites

There are web sites all over campus—just for the visiting. For those of you with access to the world wide web, from now on we will include web addresses where appropriate for our articles and news items. Often, the information available at a web address will amplify or extend what was presented in the Gazette.

Please, *keep in touch!*

We want to know what you have been doing. Send news of your activities, promotions, new positions, etc. to include in the next issue of the *Goessmann Gazette*. You can also send information via email to gazette@chem.umass.edu. We look forward to hearing from you!

Alumni and Faculty Participate in Local ACS Section

The Chemistry Department has a long history of service to the Connecticut Valley Section of the ACS and is well represented presently among elected officers. The immediate past chair is Prof. Everett Turner (just retired from the department). The prior immediate past chair is Susanne Swanker (Ph.D. 1997 with Prof. Curran), and the chair elect is Jon Sanborn (B.S., Ph.D. 2000 with Prof. Lahti). Prof. Emeritus Ron Archer is a long-time Councilor. Dr. David Sommerfeld (our new lecturer in Physical and Analytical chemistry), Prof. Bill Vining and Alumna Kathy Gorski (Ph.D. '92 with Prof. Uden) each serve as Members-at-Large.

faculty news

Rotello Joins NIH Panel

Professor Vincent Rotello has been asked to join the Medicinal Chemistry “A” review panel at the National Institutes of Health. Vince’s work in molecular recognition is highly regarded both nationally and internationally. News about his group’s work has been carried by the media on multiple occasions. For example, in December 2001, the UMass News Service noted that his work on chemical sensors – e.g., a “molecular nose” – could be used to probe for a variety of molecular agents, including bio-active agents such as anthrax. Prof. Rotello’s work is supported by the National Science Foundation and the National Institutes of Health, among other sources, and has brought nearly \$2.5 million in grants to the University over the past three years. More details about the Rotello group’s work on chemical sensors can be found at <http://www.umass.edu/newsoffice/archive/2001/121301sensors.html>.

Hixson Tapped as TEACHnology Fellow

A long standing tendency for faculty in the department to receive kudos for excellence and innovation in teaching continued when *Professor Stephen Hixson* was named one of the 2002 TEACHnology Fellows of the UMass Amherst Center for Teaching. The goal of the Center for Teaching (CFT) is to provide

resources and training for faculty to continue to develop skills that will make them better teachers and educators. The TEACHnology program was launched in 1997 to bring together senior faculty with a common interest in developing better teaching techniques, especially those based upon modern media and technology. The program involves participation in biweekly seminars among the TEACHnology group, a set of workshops and a retreat, and shared knowledge and experiences among the increasing network of TEACHnology fellows. Among the organic faculty, Prof. Hixson has long been a well-regarded teacher. His research interests are in photochemistry and biological chemistry. He has been a major player in the practical aspects of developing Web-based, interactive tutorials and feedback-based testing for organic chemistry as part of the Online Web-based Learning (OWL) project detailed in the last issue of the Goessmann Gazette (p.6).

Auerbach Group Saves Energy, Makes News with Recent Research Article

A recent paper by graduate student Cristian Blanco and *Professor Scott Auerbach* published in the *Journal of the American Chemical Society* made a splash in the local news media. The Auerbach group has established a reputation for computational modeling of nanoporous materials and zeolites – among other areas – and turned their expertise to the notion of separating mixtures that are passed through porous materials with heating. Blanco and Auerbach used molecular dynamics

calculations to show that it should be possible to microwave mixtures as they pass through the channels of materials such as zeolites. The microwaves would selectively heat only certain components of the mixtures, driving those components selectively out of the zeolites. This would allow separation without heating the whole assembly of zeolite and mixture, making the overall process significantly more energy efficient. The work was inspired by experiments being carried out by Prof. W. Curtis Conner of the Department of Chemical Engineering. Elizabeth Luciano of the UMass News Service quoted Auerbach as saying, "This opens up the possibility of using microwave energy to produce new, energy-efficient technologies by aiming the energy at a small subset of the entire chemical system." The work is supported by the National Science Foundation, a Sloan Fellowship, and a Camille & Henry Dreyfus Teacher-Scholar Award to Prof. Auerbach. Further details may be found in the original release by the UMass News Service at <http://www.umass.edu/newsoffice/archive/2002/043002microwave.html>.

Kaltashov Group Follows an Unfolding Protein "Tale"

Professor Igor Kaltashov and graduate student Andras Dobo received special notice in the research profile news section of the journal *Analytical Chemistry* (1 Nov. 2001 issue, page 588A) for work published in the 15 Oct. 2001 issue of the journal (pages 4763-4773). Kaltashov and Dobo described a new way to obtain and analyze mass spectrometric data for proteins in order to probe their dynamic conformational natures. Electrospray impact mass spectrometry (ESI MS) can generate a broad envelope of mass/charge peaks for proteins that Kaltashov and Dobo analyzed in terms of an envelope of overlapping peaks. By deconvoluting the envelope of mass/charge peaks, they could find the number of basic functions necessary to give the best fit to the data. For myoglobin, they found that the best fit was four peaks, consistent with the four

presumed conformations of myoglobin that are believed to be present in the protein. Kaltashov notes that, in principle, this method could be applied to detect every conformation of a given protein by assuming that its ESI MS may be formulated as a sum of overlapping mass spectra from different conformers. The news section article notes that Kaltashov's diverse training is a major reason for his making this breakthrough (he was initially trained as a physicist!). We certainly agree that his diverse, interdisciplinary approach to analytical and biological chemistry is a great asset. Prof. Kaltashov's work is supported by the National Institutes of Health.

Venkataraman Gets NSF CAREER and CRC Grants

Professor Dhandapani Venkataraman (known to all his colleagues as "DV") has received a grant of \$385,000 over five years from the National Science Foundation CAREER program for his work on helical molecules with potential opto-electronic activity. DV and his group have developed new synthetic routes to aza-helicenes, which are new variants of molecules long known to have strong optical rotation as pure enantiomers and also show strong fluorescence. Such molecules are possible candidates for use in polarizing displays (LCD's) as well as emitting displays (LED's). DV and his graduate student coworkers Jason Field and Rattan Gujadhur with undergraduate research assistant Thomas Hill ('02) have developed new, copper-based C-N bond-forming chemistry that makes the synthesis of azahelicenes far easier and in higher yield than previously.

DV also has received a highly competitive \$700,000 NSF-CRC (Collaborative Research in Chemistry) grant as co-principal investigator for a project entitled "Multi-dimensional Organic Metals, Crystal Design and Superconductivity." This is a collaborative project between the DV group and work at Cornell University in the laboratories of Prof. Stephen Lee and Prof. Frank DiSalvo. The DV group

is the synthesis team, the DiSalvo group will perform measurements on the materials, and the Lee group will work on the theoretical modeling of the materials. Only six of this type of grant are given annually in the whole country, so this is quite a vote of confidence in the DV group by the NSF.

Gierasch Honored by UMass and Mt. Holyoke College

Two of the five colleges have honored *Professor Lila Gierasch*, Head of the Department of Biochemistry & Molecular Biology (B&MB), who has a joint faculty appointment in that department and in chemistry, and who was formerly Head of Chemistry. Lila received an honorary D.Sc. degree from her alma mater, Mt. Holyoke College, where she was class of 1970, summa cum laude. The degree honors her achievements as a scientist. (See <http://www.mtholyoke.edu/offices/comm/press/releases/noor.html> for more information.) In addition, Lila has also been awarded a highly competitive and prestigious 2001-2002 Samuel F. Conti Faculty Fellowship by the University for this year. Quoting the official announcement by the University News Service, "Fellowship recipients receive a cash award of \$3,000 and a year's leave from teaching to pursue graduate education, research, creative

work, or activities related to scholarly attainment. Final selections are made by a committee of the Faculty Senate's Research Council. Selection is based on demonstrably outstanding accomplishment, and potential for continued excellence in research and scholarly or creative activity."

Hopefully, the Faculty Fellowship Award will give her a bit more time to pursue the research that she loves. This award allows Lila some release time from her headship duties, so she can get back more in touch with her research group (as she put it to the local news media). Lila's work in the area of protein folding is internationally acclaimed, and has led to her receipt of numerous awards (including a University Distinguished Lecturer/Chancellor's Medal presentation in 1999). She also participates on a number of editorial boards, federal government councils and panels (including advisory roles for both the NIH and NSF during 1998-2001). She was a member of the committee charged with finding a new Chancellor for the UMass Amherst campus.

Tyson Wins 2002 Lester W. Strock Award

Professor Julian Tyson is the recipient of the Lester W. Strock Award for 2002 from the

New Faculty

Physical inorganic and bio-inorganic chemistry in the department received a significant boost when our newest faculty member, Michael J. Knapp, joined us in September, 2002 as assistant professor. Mike got his Ph.D. degree at the University of California-San Diego as an NIH predoctoral trainee working with Prof. David Hendrickson on inorganic cluster systems of magnetic and electronic interest. In 1998, he joined Prof. Judith Klinman's group at the California-Berkeley campus as an NIH postdoctoral fellow where he developed a new paradigm to probe and understand kinetic isotope effects in enzymes that may involve quantum tunneling effects. Mike's work at UMass is focused on understanding the fundamental chemistry of biological processes, from reactive intermediates to complex recognition events. Details regarding his research interests are found at his web site: www.chem.umass.edu/knapp. Mike comes to Amherst with his wife, Lynette, and their daughter, Maggie. We are very pleased to have the Knapp family with us.

New Faculty

The Department welcomes Gary J. Snyder as a lecturer in organic chemistry. Gary received his Ph.D. in 1988 working with Dennis Dougherty at Caltech on the synthesis and spectroscopy of biradicals. He did postdoctoral work in photoacoustic calorimetry of organic transients with Kevin Peters at the University of Colorado at Boulder. Gary joins the department after holding faculty positions at the University of Chicago, UC-San Diego, the University of Georgia, and Bucknell University in PA. In addition to teaching organic lecture courses at UMass, Gary will be working with undergraduate research students doing experimental and computational studies of biradicaloid hydrocarbons — details can be found at www.chem.umass.edu/snyder/snyder.html.



Society for Applied Spectroscopy for his outstanding work in atomic spectroscopy. The award was presented at a meeting of the Federation of Analytical Chemistry and Spectroscopy Societies in Providence, RI in October. Prof. Tyson was further recognized by a mini-symposium in his honor as part of that meeting. The department is pleased to congratulate him on the accolade, which is added to his substantial list of editorial advisory boards, journal editorships, and other research recognition.

visit the chemistry site at
www.chem.umass.edu

Change in Leadership

Professor Paul M. Lahti has stepped down as department head and *Professor Bret Jackson* has taken on the headship. Paul guided the department through some difficult financial times and Bret comes on board at a time of ongoing faculty renewal. Bret received his B.S. from Carnegie-Mellon University and his Ph.D. from M.I.T. After completing postdoctoral work at the University of California/Santa Barbara in 1985, he joined the department here. His research interests in physical chemistry focus on theoretical studies of metal-catalyzed reactions, using both classical and quantum mechanics to study the interactions between molecules and metal surfaces.

New Faculty



Dr. Justin Fermann has been appointed Lecturer A and Director of the Roberta Day and John Ragle Computer Resource Center—a vital part of our undergraduate program. Justin received a B.S. degree from Hartwick College in New York in 1992, where he studied under Prof. William Vining. After completing his Ph.D. in theoretical chemistry at the University of Georgia in 1996, Justin returned north to Amherst as a post-doctoral associate. He worked with Prof. Vining, who had moved to UMass, on the use of computer software in chemical education, and with Prof. Auerbach on the parametrization and implementation of semiclassical rate theories. Justin regularly teaches in the general chemistry program and collaborates with various research groups on the use of theoretical chemistry.

chemistry seminar program

Among the highlights of our department's seminar program in 2002 were four honorary seminars which featured distinguished educators and researchers from universities and industry.

On November 17, we celebrated our third annual **William E. Mahoney Chemistry Seminar**. This seminar series is made possible by generous contributions from Mr. William E. Mahoney. The lecturer was the celebrated Bassam Shakhshiri of the University of Wisconsin, who presented a lecture "Science is Fun." Prof. Shakhshiri is probably best known to the public at large for his annual program "Once Upon a Christmas Cheery/In the Lab of Shakhshiri" seen on television throughout the country. The science-oriented "magic" show has played to packed houses at such varied places as the University of Wisconsin-Madison, the National Academy of Sciences, the Smithsonian's National Air and Space Museum in Washington, and Boston's Museum of Science. In 1995, Prof. Shakhshiri was cited in the Year Book of Encyclopaedia Britannica as the "Dean" of lecture demonstrators in America. From 1984 to 1990, Prof. Shakhshiri served as an Assistant Director of the National Science Foundation for Science and Engineering Education, where he was responsible for the design and administration of a wide variety of programs to improve all levels of education in mathematics, engineering, and the sciences.



William Mahoney and Prof. Bassam Shakhshiri



Jeff Seeley'92, Howard Stidham, and Linda McGown

The sixth annual **Procter & Gamble Chemistry Seminar** was presented on September 19, by Linda B. McGown of the Duke University Chemistry Department. Professor McGown talked about her pioneering work on novel uses of chromatography in proteomic analysis. Her work is an outstanding example of the power of synergism when complex problems in chemistry and life sciences are cleverly attacked using multi-disciplinary approaches.

The fourth and fifth annual, "**Richard Stein-Bayer Corporation Honorary Seminar, in Polymer Chemistry**" were given on April 25th, 2002 and November 14th, 2002 respectively. The seminars

provide an opportunity for us to honor the remarkable achievements of Prof. Richard Stein and hear outstanding lectures on cutting edge science.

Dr. Elsa Reichmanis, Director of Polymer and Organic Materials Research Bell Laboratories, Lucent Technologies, delivered the fourth annual lecture on, "Polymer Technologies for Advanced Electronics: Current and Future Challenges". Dr. Reichmanis is the recipient of numerous honors and awards including the ACS Award in Applied Polymer Science and election to the National Academy of

Engineering. At the time of the lecture, she was president-elect of the ACS and is now serving as president.



Peter Lilly, Elsa Reichmanis, and Larry Freidman



Dr. S. Richard Turner

The fifth annual lecture was delivered by Dr. S. Richard Turner, of the Polymer Technology Department, Eastman Chemical Company in November. His lecture was entitled, "Putting New Life into Legacy Polymers-Recent Advances in Enhancing Properties of Polyesters". Dr. Turner received his Ph.D. in organic polymer chemistry from the University of Florida and has been very active in the Polymer Materials Division of ACS, becoming chair-elect in 1991 and chair 1992.

Professor Igor Kaltashov, Departmental Seminar Chair

Retirements

A grand party was held on May 21, 2002 to celebrate the end of the school year and to pay tribute to eleven retiring faculty and staff: *Paul Cade, John Chandler, Roberta Day, C. Peter Lillya, Bernard Miller, Marvin Rausch, Everett Turner, John Wood, Kenneth Fairman, Arthur Martin, and Linda Warren*. Eight officially retired in June, Marv in August of 2001, Paul in May of 2002, and Linda in Sept. of 2002. Family and friends of the retirees, former and present staff, and former and present colleagues all gathered for the occasion. Paul Lahti served as host, and many of those present were called upon to speak about the careers of our retirees. A brief summary of the comments is given below.



Paul E. Cade is well known in the world of computational chemistry for his work in areas of quantum chemistry and theoretical physical chemistry, such as his role in developing basic set functions. He has given over 100 invited research talks and seminars at universities and meetings, mostly in North America and Europe. He has served as visiting scientist at a number of institutions including the Joffe Institute of Physics in St. Petersburg, Russia, The Institute of Physics in Vilnius, Lithuania, The Centre de Recherches Nucleaires an CNRS in Strasbourg, France, the Department of Chemistry, Cambridge University, UK, and the Theoretical Chemistry Department, Oxford University, UK. He was also the Gast Professor at the University of Bonn, Germany during 1984. In 1982, he was chosen a University of

Massachusetts Distinguished Faculty Lecturer, an honor that also bestows one of the University's highest honors, the Chancellor's Medal. Paul received bachelor's degrees in both chemistry and mathematics from the University of Texas at Austin. He went to graduate school first at California Institute of Technology and then at the University of Wisconsin, Madison where he received the Ph.D. working with Joseph Hersfelder. He was a postdoctoral fellow in the Department of Physics at the University of Chicago with Profs. Roothaam and Mulliken. He joined our faculty in 1969.

John A. Chandler received his bachelor's degree in chemistry from Ohio University and went from there to the University of Illinois in Urbana-Champaign. There he received his M.S. and Ph.D. degrees working with University of Massachusetts alumnus Russ Drago (B.S. '50). Some of the work was published in the first issue of the journal *Inorganic Chemistry*. John joined our faculty in 1959 and his primary activity has been as an educator in general chemistry. He has taught literally thousands of students, many of whom have benefited from the laboratory and general chemistry workbooks he co-authored with several colleagues. He served as Director of General Chemistry from 1968-1995, and in 1986, won the University Distinguished Teaching Award, the highest teaching award on the UMass campus.



Roberta O. Day joined the department in 1976 and has been one of the main intellectual sources of crystallographic consulting ever since. She has nearly 200 research and scholarly publications and was a major contributor to the work of many colleagues in the department, especially work done with Prof. Robert Holmes, having published over 40 papers together. She has been an extremely committed and innovative teacher who was honored with a

College of Natural Sciences & Mathematics Outstanding Teacher award in 1996. Her most recent honor has been the naming of the Chemistry Resource Center after Roberta and her husband, Prof. Emeritus John Ragle. Roberta received her bachelor's degree in chemistry from the University of Rochester and her Ph.D. in 1971 from the Massachusetts Institute of Technology. She then was a Damon Runyon Postdoctoral Fellow in the Department of Biology at MIT and followed that with a National Institutes of Health Postdoctoral Fellowship in the Department of Chemistry at the University of Nebraska, Lincoln.

C. Peter Lillya received his A.B. in Chemistry from Kalamazoo College in 1959. He was an NSF Predoctoral Fellow at Harvard University where he received his Ph.D. degree in organic chemistry working with 1990 Chemistry Nobel prize winner E. J. Corey. He became a staff associate at UMass Amherst in the Chemistry Department in 1963, in part due to his expertise with the then-new area of nuclear magnetic resonance spectroscopy. In 1964, he became assistant professor. Peter was a Woodrow Wilson Fellow in 1959 and an Alfred P. Sloan Fellow in 1969-71. His teaching has always been very well regarded by his students, as shown by his receipt of a TEACHnology Fellow of the UMass Amherst Center for teaching in 1999, and a College of Natural Sciences & Mathematics Outstanding Teacher Award in 2000. During his career, he has been visiting Professor of Chemistry at UCLA, Stanford University, and the Institute for Organische Chemie at Mainz. His recent teaching activity to coordinate the Online Web-based Learning (OWL) tutorials in organic chemistry --along with Prof. Stephen Hixson-- has been highly successful. His publication record includes over 100 papers ranging from work on stereochemical studies to organometallics to liquid crystalline polymers. On several occasions, Peter served as acting department head.



Bernard Miller has focused his research in the area of molecular rearrangements, aromaticity and blocked aromaticity, and other mechanistic aspects of physical organic chemistry. He has published over 100 articles in the original literature and holds 18 patents. For many years he has taught the large organic course for non-majors in addition to upper level courses in organic chemistry. All of these activities are reflected in two books he has authored. The first, published by W. A. Benjamin in 1980, is titled "Organic Chemistry, The Basis of Life". The second, titled "Advanced Organic Chemistry: Reactions and Mechanisms", was published in 1998 by Prentice Hall. He received his bachelor's degree

from City College of New York where he was a Tremain Scholar. His M.A. and Ph.D. degrees were earned at Columbia University. Bernie was a NSF and NIH postdoctoral research associate at the University of Wisconsin, Madison. Following that he joined American Cyanamid (now called Cytec) as a research chemist. He joined our faculty in 1967. In retirement, it is rumored that Bernie is working on a third book.

Marvin D. Rausch joined the department in 1963 and retired in August of 2001. Marv's contributions to the department were described on page 9 of the last issue of the *Gazette*. However, it is noteworthy that at the retirement party, Bill McEwen delivered a lengthy account of Marv's career starting, of course, with their days together at the University of Kansas, where Marv received his Ph.D.





Everett E. Turner received his bachelor's degree in chemistry from Long Island University and his M.A. degree in education from UMass Amherst. He joined the chemistry department in 1962 as a teacher in the general chemistry program. His course, *General Chemistry for Non-Science Majors*, has been the most oversubscribed course in the department for years, which reflects student appreciation of the effort Everett put into the design of the course and his teaching ability. Like John Chandler, he has had thousands of students take his courses, teaching science majors as well as non majors. He has been active in the New England Association of Chemistry Teachers (NEACT), having recently completed 6 years as chair

of the Western Division of NEACT. He also is active with the Connecticut Valley Section of the American Chemical Society. As part of his work with the local ACS section, Everett has been the campus organizer for the ACS Chemistry Olympiad examinations that take place on the campus for students from Massachusetts high schools within the section. He persuaded the university to offer a full tuition scholarship for four years to any Massachusetts student who wins the local section Olympiad. Information about some of his other activities with the Connecticut Valley Section can be found on page 5.

John S. Wood has published over 80 papers in the scientific literature, most of them in the areas of inorganic crystallography and spectroscopy, especially EPR spectroscopy. He has a long-standing collaboration with Dutch researchers and on a number of occasions he has been a visiting professor at the University of Nijmegen, as well as a visiting fellow supported by the Dutch Science Foundation at the University of Leiden. As an educator, he has made many contributions to the department. For the past several decades, the Chemistry Department has had a formal exchange arrangement with the School of Chemical Sciences at the University of East Anglia in Norwich, England. John has served as coordinator for this program that allows our students to enjoy a year of undergraduate studies overseas. John recently served in a much broader capacity as Undergraduate Program Director. He received his honors B.A. degree in Physics and Chemistry at the University of Keele, UK followed by a Ph.D. degree at the University of Manchester, UK in the area of X-ray spectroscopy studies of inorganic complexes. After postdoctoral work with F. Albert Cotton at MIT, he joined the University of Southampton, UK as a Lecturer in Chemistry. He left there in 1970 to join us at the university.



Kenneth Fairman retired from his position as the technical support staff person in the analytical chemistry laboratories. He served the department in this capacity for 17 years. Ken, a quiet and friendly person, was the main contact for those running some of the department's most sophisticated experiments in advanced laboratory courses.

Arthur Martin retired from his position in the stockroom after 22 years as a much appreciated member of the department. Art has always been a cheerful person with a kind greeting for everyone. You could count on him to find the things you needed in the stockroom and to do so with a smile.

As the main staff assistant responsible for overseeing activities for the general chemistry program, *Linda A. Warren* made things run smoothly in the general chemistry office. She has been there for students and faculty for forty years and it is hard to imagine Goessmann 149 without her. However, imagination can be put aside for awhile as Linda will be on site temporarily in a post-retirement appointment.

undergraduate *student news*

Five undergraduate chemistry majors presented their work at the 8th Annual Conference on Undergraduate Activities, held at the Federal Reserve Bank in Boston on May 3, 2002. *Jennifer Simeone* (with Prof. Emrick of PS&E), *Thomas Hill* (with Prof. Venkataraman), *Peter Hotchkiss* (with Prof. Rotello), *Pamela Shields* (with Prof. Lahti), and *Eric Turnberg* (with Prof. Rotello) each presented work. In addition, one biochemistry major, Patrick DeCourcy, presented work done with chemistry professor Mike Maroney. This conference provides an opportunity for undergraduate researchers at Massachusetts public colleges and universities to give oral and poster presentations in a formal setting, and to exchange ideas about their work. This year's conference was co-sponsored by the UMass Amherst Commonwealth College and the Massachusetts Public System of Higher Education. Further information can be found at the Web site for the conference (<http://www.comcol.umass.edu/conference>).

Jaclyn Murphy ('04), of Prof. D. Venkataraman's group, was awarded a 2002 Bristol-Myers Squibb Research Fellowship. Jaclyn is working on the synthesis of chiral, helical molecules that have strong fluorescence as part of the "DV" group effort aimed at developing opto-electronic molecules for use in light-emitting displays and related

technology. The department is very pleased that Bristol-Myers Squibb has made this program available to our undergraduates as part of the company's general support of strong educational backgrounds for chemistry students, and as part of their program for introducing undergraduates to opportunities for chemistry-related employment at the company. The \$5000 fellowship includes funding for a summer stipend and research supplies, and brings an invitation to speak at Bristol-Myers Squibb's Undergraduate Research Symposium at their Wallingford, CT research facility.

Katharine Harris ('03), of Prof. Lila Gierasch's group, was awarded a 2002 Summer Undergraduate Research Fellowship (SURF) supported by Pfizer Global Research and Development division. These competitive fellowships give students the opportunity to gain a strong research experience and background in the laboratories of mentors of their choice. Katharine is working on the chemical synthesis of a protein, cellular retinoic acid binding protein, which will be used for biophysical experiments. With her chemical synthesis, she will be able to incorporate amino acid replacements as probes into the protein's structure. The \$5000 fellowship includes funding for a summer stipend and research supplies, and includes an invitation to visit and tour the Pfizer central research campus at Groton, CT along with other fellowship awardees.

UMass Chem Club Attends ACS Conference

On November 2, 2002 several members of the UMass Chemistry Club journeyed to Boston University to attend the Northeast Regional Undergraduate Day, sponsored by the American Chemical Society. More than 100 students and 30 faculty from 20 schools in the New England, New York, and the Mid-Atlantic region were present. The day kicked off with keynote speaker Dr. Amir H. Hoveyda of Boston College, who presented several important aims for chemical synthesis over the next ten years. One of them was summed up this way, "We think we have all the answers, [but] until we can produce consistent 100% yields with no waste or byproducts, we could do more". He then presented some recent developments by his research group regarding reusable green catalysts for solid state synthesis.

Other presenters included Dr. Patricia Hamm, who spoke on skill sets relevant to industrial positions, and Dr. Warren Giering, who gave a truly candid assessment on the "whys" and "hows" of applying to graduate school. "Everything has a chemist behind it, every object . . .," said Giering. What was the most important take-home lesson? Giering advises doing well in courses and the GRE, showing enthusiasm for chemistry, and meeting potential advisors face-to-face. After lunch, Dr. Roman Fleck from Boehringer-Ingelheim discussed interview "do's" and "don'ts" for the pharmaceutical industry (know your presentation back to front, and dress up!).

Several prominent grad schools had representatives available on the concourse throughout the afternoon: Harvard, Princeton, UVM, UMass, RPI, BC, BU, and Albert Einstein Medical, to name some. UMass attendees were encouraged to interact with school reps, resume reviewers, and seminar presenters in between talks. Overall, the conference proved to be a valuable source for information and professional contacts for UMass students.

- Michael Tareselli, '03



undergraduate senior dinner and awards

On the evening of Thursday, May 16, 2002 the Fourth Annual Senior and Awards Dinner sponsored by the Chemistry Department was held at the China Dynasty Restaurant in Amherst. Over seventy-five students, parents, staff, and faculty attended the gala affair that involved a delicious Chinese dinner followed by the presentation of thirty-two awards, honors, and scholarships by Department Head Paul Lahti. David Adams, Acting Undergraduate Program Director and Honors Coordinator, and Marie Whalen, Undergraduate Program Coordinator, organized the event. Lisa Korpiewski provided the creative talents, making the certificates of recognition that were presented to students along with their individual awards. The following students received awards.

Thomas Hill—Connecticut Valley Section of the American Chemical Society (CVS/ACS) Student Award

Adam P. McGraw, Henry R. Suski, Eric J. Turnberg—Merck Index Award & Departmental Recognition Award

Pamela Shields—American Institute of Chemists Award & Departmental Recognition Award

Victoria L. Campbell—Richard W. Fessenden Award & Departmental Recognition Award

Brigid F. O'Brien—Richard W. Fessenden Award

Justin G. Hammar—Jay A. Pirog Scholarship



Professor Paul Lahti presents Yann Tambouret with the William Field Alumni Scholarship Award

Jacqueline D. Sawyer, Valerie E. Gendron, Melanie B. Arruda—Robert Maxwell Williams Memorial Scholarship

Andrew Leeson—Analytical Chemistry Award from the American Chemical Society & Departmental Recognition Award

Mary M. Barret, Michael G. Hunnewell, Leanna K. Toy—CRC Freshman Chemistry Award

Mary Golden, Francis E. Reyes, Teresa S. Moniz, Jennifer Simeone, Peter J. Hotchkiss, Meghan C. Fraser, Huyen L. Vu—Edward Shapiro Scholarship

Teresa A. Croce—Senior Class Award

Yann Tambouret—William Field Alumni Scholarship

These students are the latest in a long line of outstanding chemistry majors down through the years. We are very proud of their achievements. Congratulations to them and best wishes for continued success and careers.

degrees awarded

B.S. Degrees

Elisabeth Haley	Sunderland, MA	2/02
Thomas Hill	Charlton, MA	5/02
Samantha Hoyo	Bridgewater, MA	5/02
Rachael Leverence	Monroe, WI	9/01
Adam McGraw	Amesbury, MA	2/02
Brigid O'Brien	Arlington, MA	5/02
Pamela Shields	N. Chelmsford, MA	5/02
Jason Tresback	Orange, MA	5/02
Narissa Whyte	Springfield, MA	5/02

M.S. Degrees

Amanda Chaparro	9/01
Catherine Cogut	5/02
Stuart Craig	2/02
Rameh Hafezi	9/01
Michael Ingall	9/01
Eunhee Jeoung	9/01
Chethaka Kahakachchi	2/02
Kenneth Marby	9/01
Ralph Paulini	9/01
Anthony Shrout	9/01
Harriet Totoe	5/02

Ph.D. Degrees

Fernando Aguirre	2/02
David Boudreau	9/01
Shuowei Cai	9/01
Balwant Chohan	2/02
Gerald Davidson	2/02
Eleanora Del Federico	9/01
Burak Esat	9/01
John Esteb	9/01
Trent Galow	9/01
Ulvi Faysal Ilhan	9/01
Scott Joray	5/02
Paula Nolibus	9/01
Kenneth Rotondi	5/02
Mark Storton	9/01
Xianhua Yi	2/02

graduate student news

Chandra Saravanan (Ph.D. '00 Auerbach): Is working as a theorist in a semiconductor company in Silicon Valley. Saru remains in pursuit of an academic job!

Eugenio Jaramillo (Ph.D. '01 Auerbach): Has a post-doctoral position at Sandia National Laboratory in Albuquerque, NM studying both polymers and zeolites using computer simulation. Eugenio is the proud new father of Julian Jaramillo. Eugenio is also in job search mode.

Cristian Blanco (Ph.D. '03-planned Auerbach): Received the prestigious University Graduate Fellowship award in 2002-2003. Cristian also published a letter in the Journal of the American Chemical Society (JACS) on his work modeling microwave-driven zeolites. Cristian's follow-up article to this JACS letter was recently accepted by the Journal of Physical Chemistry, which plans to feature a figure from Cristian's paper on the journal cover.

Francois-Xavier Coudert (exchange student from Paris): Is spending 6 months in the Auerbach lab modeling proton transfer in zeolites.

Dmitri Gumerov of Prof. Igor Kaltashov's group has been awarded the 2002 Schering-Plough Fellowship in Analytical Chemistry. Candidates were put forward by the department's analytical division faculty, and the final selection was made with input from alumnus Dave Mazzo (Ph.D. '84) of Schering-Plough. The fellowship is a grant of \$25K. Gumerov works on developing mass spectrometry based methodologies leading to the understanding of transferrin interactions with metals of biological and medicinal relevance. These naturally existing proteins have received major attention in the area of drug targeting since they are biodegradable, nontoxic, and immunogenic, and can also achieve site specific drug delivery. However, molecular mechanisms of transferrin mediated delivery are not presently well understood.

openhouse

The recent inauguration of Chancellor John V. Lombardi provided the University an opportunity to showcase its cutting-edge teaching and research. The Chemistry Department took advantage of this occasion by co-hosting an Open House with the Department of Biochem-



Prof. Michael Knapp

istry and Molecular Biology on February 6, 2003. This Open House featured some of the best teaching- and research-related activities in each department. The highlights of the event included 24 poster presentations by several undergraduate students, graduate students, and faculty, and several interactive teaching stations. Professor Bill Vining displayed his very popular, interesting, and successful ChemLand software, and Professor Scott Auerbach's "Atomic Microscope" deepened attendees insight into molecular dynamics via a fascinating video game. In addition, Professor Molly Fitzgerald-Hayes' "Virtual Molecules of Life" interactive station allowed visitors to observe and manipulate proteins and DNA in 3D. Dr.

Fitzgerald-Hayes, who is a professor in the Department of Biochemistry and Molecular Biology, also demonstrated how human DNA can be isolated.

Those in attendance included undergraduate and graduate students, faculty, and other visitors who had come for the inauguration. Not only were these attendees exposed to the talent and energy in our department, but they also had the opportunity to experience some lab tours and demonstrations at the end of the event. Professors Rick Metz and Dhandapani Venkataraman kindly gave a tour of their respective labs and demonstrated some of the research they do. Professor Metz gave a brief laser show, and Professor Venkataraman demonstrated some colorful and exciting chemical reactions. All in all, the Open House was an enjoyable time that showcased Chemistry and Biochemistry.

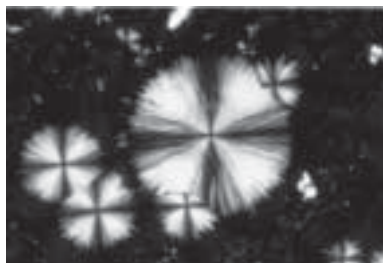
- Richard Vachet



Benjamin Feldman PG, Mary Golden '03, Juanita Bradspies '59, and Julian Tyson

Optical..., continued from page 1

recognized that the fundamental interaction of radiation and matter can provide new insight into the optical character and behavior of materials. Optical microscopy now characterizes materials by an increasing spectrum of techniques, ones that are no



Polymer Spherulitic Growth

longer limited by Abbe's laws of diffraction. The current organization of the course attempts to assimilate the traditional approach with an introduction to the potential applications of the optical microscope for the chemist of today. The instructional format of one-to-one allows for individual learning styles. The semester is

organized so that the first half covers basic instruction in transmitted and reflection optics for bright field, polarization, phase contrast, and fluorescence. During this period the student learns black and white as well as color photomicrography for a variety of materials, uses the web for a collection of interactive tutorials, and becomes comfortable with computerized image processing and analysis. During the second part of the semester, students select a study project that will use one or more optical microscopy techniques. If there is time and interest, students can obtain experience with interferometry. By following the links from the Chemistry Department's web page, one can access a more detailed description of this instructional format. For almost two decades, the Optical Microscopy Laboratory has functioned as a fee based revenue service providing a variety of services to industry including microscopy training. This arrangement has subsidized the departmental teaching program through the acquisition of funds, materials, and equipment.

Staff Arrivals, Departures, Promotions

Kenneth Fairman, Technical Support to the Analytical Laboratories, retired in June.

Ryan Feyrer joined us from UHS as our Inventory & Receiving Manager.

Kim Florek joined us from the Provost's Office as our Computer Systems Administrator.

Art Martin, Stockroom Manager, retired in June.

Frank Stolle, Computer Systems Administrator, resigned in September.

Linda Warren, General Chemistry Administrator, retired in September, yet continues to work a few days a week.

New Additions

Lisa Korpiewski and husband Rich are pleased to announce the arrival of Owen Scott Korpiewski, born at 3:36 p.m. on December 1, 2002, weighing 8 lbs. 11.5 ozs. and 22 inches long. Big brother Zachary (4) is especially proud.

D. Venkataraman and his wife Meera are excited to announce the birth of their daughter Shreya. She was born on January 2, 2003 at 10:59 a.m., weighing 8 lbs. 2oz., and 20 inches long.

Jennifer Gagliardi and Jason LaForest welcomed Nicholas Christian LaForest into the world on December 8, 2002 at 1:59 p.m. weighing 9 lbs. 6 3/4oz. and measuring 22 inches long.

Harriet Totoe Boakye and her husband are the proud parents of a baby girl born on November 26, 2002. Harriet Maame Afua Boakye was born at the Cooley Dickinson Hospital and weighed 7 lbs. 12 oz.

In Memoriam

Dr. Richard N. Smith, class of 1941, passed away on December 4, 2001. He earned his M.A. and Ph.D. degrees in chemistry at the University of Delaware. His career was spent in industry, first at General Chemical Co., then with the American Machine & Foundry Co., and later with the Southern Research Co., Alabama.

Harvey J. McKinney, '50, was a resident of East Hartford, CT. He was a chemist with United Technologies for forty years.

We are deeply saddened by the death of *Frances Richason*. She and George Richason enjoyed 62 years of married life. Fran passed away at Cooley Dickinson Hospital in Northampton on November 1, 2002. For over three decades, she did volunteer work at that hospital.

Remembering William Edwin McEwen

In September, 1962, Bill McEwen became Commonwealth Professor of Chemistry and Head of this Department. The Department's 20 faculty had a well-deserved reputation for excellent teaching of undergraduate students, and aspired to become a center of graduate education and research. When Bill relinquished the headship to Ron Archer in February, 1977, approximately 40 faculty and 120 graduate students had established a sound reputation for both. There were outstanding faculty here when Bill arrived, and during his headship many more joined us. But the well-known strength of the department in the research area by 1977 can be seen as Bill's creation.

Bill's arrival created a new graduate program, thanks in part to the exceptional group of graduate students who followed him across the country from the University of Kansas. That his students would move with him en masse is testimony to Bill's charisma. They brought traditions of commitment to science and excellence in research from Kansas with them and successfully transplanted them here. They also brought a tradition of constructive participation in academic and social life to the Department. They founded the Graduate Chemists Association, a vital part of our community to this day. So this tribute to Bill rightfully includes those who came with him from Kansas.



Louis Quin, Bob Holmes, Bill McEwen,
and George Richason

Bill remained head for 15 years. He published over 170 journal articles, four textbooks that went through multiple editions, and edited two additional books. He was a consultant to the National Science Foundation (NSF) 1966-87, a member of the NSF chemistry panel 1967-70 serving as chair in 1969-70. He was widely respected for his work on the mechanisms and stereochemistry of organic reactions, particularly those of phosphorus, and for his work on heterocycles. Bill and Jerry Knapczyk discovered the sulfonium salt acid generators used in computer chip manufacture at UMass. Bill's research enjoyed NSF support nearly continuously from 1956 to 1987. He served on

the editorial boards of five journals including the *Journal of Organic Chemistry*. His many honors included the Outstanding Civilian Service Medal in 1984 from the US Army and a chancellor's Distinguished Faculty Medal from the University in 1986.

Characteristics that Bill fostered as Head were careful nurturing of junior faculty, democratic governance in which all faculty were encouraged to help shape policy, and a commitment to fair treatment of individuals even when Departmental needs came in conflict with theirs. One of Bill's strongest characteristics was his personal loyalty to his faculty, staff and students. He was a popular teacher and he was committed to helping every entering graduate student complete a degree, a tradition that continues today. Bill was mild mannered in most circumstances, but his reputation for defending Chemistry Department interests fiercely was legendary. Bill was not instinctively a "union man", but he persistently defended faculty rights and needs through the Massachusetts Society of Professors.

After his retirement in 1990, Bill remained active as Editor-in-Chief of *Heteroatom Chemistry*, coming daily to his office. On May 21, 2002, we honored eleven retiring faculty and staff at a reception. The presence of many emeritus faculty, including our former head, Louis Quin, added to the good feelings that afternoon. This was the last time most of his colleagues saw Bill, and good fortune has preserved the occasion in many pictures like that above. A fall at home two days later led to his death in hospital. Only this ended his editorship of *Heteroatom Chemistry* and his distinguished career in science. But for those of us who knew him well, the man will always seem larger than the scientist.

- C. Peter Lillya

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Dear Friends,

It has been an exciting year for the Chemistry Department. For emphasis, I will highlight some information presented in this issue of the Gazette. We continue to gain greater national and international recognition for our research, while maintaining our long-standing tradition of excellence in teaching. Among the faculty honored this past year were Prof. Julian Tyson, who received the Lester W. Strock Award from the Society of Applied Spectroscopy, Dhandapani Venkataraman, who was granted a prestigious NSF CAREER Award, Prof. Lila Gierasch, who was awarded the S. F. Conti Faculty Fellowship, and Prof. Stephen Hixson, who was named a TEACHnology Fellow. In addition, alumnus William E. Mahoney (B.S. '55) accepted the chairmanship of the Natural Sciences and Mathematics Advisory Council. This prestigious panel also includes alumni Don Ciappanelli (B.S., '66), Ray D'Alonzo (Ph.D. '77), Ed Marram (B.S. '59), and David Mazzo (Ph.D. '84). We have been fortunate to have hired three outstanding new faculty: Asst. Prof. Mike Knapp, an inorganic chemist, Dr. Gary Snyder, lecturer in organic chemistry, and Dr. Justin Fermann, lecturer in general chemistry. Kim Florek has joined us as our new Computer Systems Administrator, and Ryan Feyrer is our new Inventory & Receiving Manager.

It has also been a very difficult year for the department. Profs. Cade, Chandler, Day, Lillya, Miller, Rausch, Turner, and Wood have all retired, as have Ken Fairman, Art Martin, and Linda Warren. These 11 faculty and staff contributed almost 400 years of service to the department, and will be sorely missed. We were also deeply saddened by the passing of both Emeritus Prof. William E. McEwen and Frances Richason, wife of Emeritus Prof. George Richason.

We are deeply grateful for the generous contributions to our department made by so many of you. Given the large number of recent retirements, our primary need at this time is new faculty. While we continue to be successful at attracting top candidates, new faculty startup packages average around \$400,000, and the individual departments are now expected to make significant contributions to this. Your gifts to our department help make this possible along with funds generated by faculty research grants. Realizing that this is a financially difficult time for many, we still hope that you can continue to provide support to our department, and help us to maintain our level of excellence.

Sincerely,



Bret Jackson, Department Head

Telephone: 413-545-2583

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Chancellor Lombardi's Inauguration

On Friday, February 7, 2003, with an impressive display of pomp and circumstance, the University of Massachusetts Amherst installed John V. Lombardi as its ninth Chancellor since 1970. The inaugural theme, "The Academic Imperative," was widely and clearly visible the preceding day when students, faculty, and staff held a day-long series of seminars, presentations, open-



Prof. George Richason

houses, and displays. On Friday, the inauguration procession included over 150 faculty in full academic regalia, over 140 delegates from colleges and universities from around the country, local politicians, and invited guests. Professor George R. Richason ('37 & '39) of the chemistry department, bearer of the University Mace, led the procession to the ceremonial platform. Walter Chesnut, Professor Emeritus of Music and Dance, initiated the ceremonies with the playing of the University Fanfare. Music by the University Wind Ensemble, singing by the University Choirs, and several welcoming speeches by representatives of various University segments punctuated the program.

Grace K. Fey, chair of the UMass Amherst Board of Trustees, and William M. Bulger, President of the University of Massachusetts system, formally invested Chancellor Lombardi, who has held this position since July 1, 2002. In his speech Lombardi stressed the academic mission of the University and its need to raise resources for future success. At the pre-inauguration dinner held the prior evening, Lombardi announced that Richard ('55) and Barbara ('55) Mahoney, and Robert ('70) and Kathleen ('70) Mahoney pledged two million dollars toward the construction of the Integrated Science Building on the Amherst campus.



Chancellor Lombardi

- Dave Adams

University of Massachusetts
Department of Chemistry
701 Lederle Graduate Research Tower
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