# University of Michigan hemistry NEWSLETTER

# Letter from the Chair

It is a great pleasure for me to send my greetings and to take this opportunity to highlight the activities of the Department this past year-my first year as Chair of the Department. Faculty and graduate student recruiting continued to be major priorities, and I am pleased to report that the Department once again had tremendous success on both fronts.

My colleagues and I are very proud that we hired three of the most outstanding candidates in the nation this year. In February, Dr. Kristina (Kicki) Hakansson accepted our offer to join the Department as Assistant Professor of Analytical Chemistry. Kicki received her Ph. D. from Uppsala University in the laboratory of Professor Per Hakansson and has been a postdoctoral associate with Prof. Alan Marshall of the Ion Cyclotron Resonance Program at the National High Magnet Field Laboratory at Florida St. University. Her research program at Michigan will focus on the development of electron capture dissociation techniques in Fourier transform ion cyclotron resonance spectroscopy. She will apply these powerful new mass spectroscopy methods to important biological problems including protein structure determination. As part of her startup package, the College, Department and Life Sciences Institute have provided funds to purchase a FT-ICR Mass Spectrometer, which will be the first such instrument on the Michigan campus. Kicki will begin her career at Michigan on September 1.

In March, we received the exciting news that Dr. Melanie Sanford would join our faculty on July 1. Melanie completed her Ph. D. at the California Institute of Technology under the mentorship of Professor Robert Grubbs, and she subsequently performed postdoctoral research in the laboratory of Professor Jay Groves at Princeton. Melanie's research will focus on problems in organometallic chemistry, catalysis and asymmetric synthesis at the interface between organic and inorganic chemistry. Shortly after arriving in Ann Arbor this summer, Melanie was named the recipient of the highly prestigious Camille and Henry Dreyfus New Faculty Award-only ten such awards are made nationally each year. Melanie is now the third of our new hires in three years to receive this award (Marc Johnson and John Wolfe received Camille and Henry Dreyfus New Faculty New Faculty Awards in 2001 and 2002, respectively).

Our third hire this year is Dr. Ioan Andricioaei, who received M.S. and Ph.D. degrees in Chemistry and Biophysics from Boston University under the direction of Professor John Straub. Ioan completed his postdoctoral training at Harvard University with Professor Martin Karplus this past summer. Ioan's research interests are at the intersection of physical chemistry, theoretical chemistry, and biophysics, and he will be a superb addition to our growing theoretical chemistry effort in the Department. Ioan was hired jointly with the Bioinformatics Program in the Medical School, and his research space will be housed in the Life Sciences Institute buildings once those facilities are completed later in the year.

Other developments on the faculty front include Professor Anna Mapp's decision to consolidate her appointment to a 100% FTE position in Chemistry effective

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# 2003

Regents of the University of Michigan:

David A. Brandon, Laurence B. Deitch, Olivia P. Maynard, Rebecca McGowan, Andrea Fischer Newman, Andrew C. Richner, S. Martin Taylor, Katherine E. White, Mary Sue Coleman, ex officio. Mary Sue Coleman, president.

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September 1. We are delighted that Anna chose to increase her effort in Chemistry! In January of this past year, Professor Will Pearson took a leave of absence to pursue business opportunities with Berry and Associates. We wish Will tremendous success in these new ventures. Professor Billy Joe Evans announced his retirement effective July 1. On behalf of the entire Department, let me take this opportunity to thank BJ for his efforts on so many fronts during the period that he was a member of our faculty, and to wish him health, happiness and success in this next phase of his career. Additional faculty news is provided elsewhere in the Newsletter.

The Department continues to have tremendous success in recruiting outstanding graduate students. The first year class that entered the Department this month numbers 43 students-we intentionally sought a smaller class this year, after a record 65 students entered the program last year. We now have 280 graduate students in the program-a remarkable increase from the ca. 180 graduate students in the Department 5-6 years ago. The quality of our graduate students is reflected in the large number of fellowships that our students have received (listed elsewhere in this Newsletter), as well as by the large number of companies who visit the department each fall on recruiting visits.

I am very pleased that the Department continues to receive recognition for its leadership in curriculum and educational reform, as well as in establishing a climate and Departmental culture that encourages and supports diversity. Noteworthy accomplishments on these fronts this past year include the awarding of an ADVANCE grant to the Department-the only such award at Michigan-to support our efforts to increase and expand opportunities for career development and retention of women scientists. No doubt our efforts in the ADVANCE program contributed to the fact that the entering first year class of graduate students this year is 67% women! Also noteworthy is that the Department was selected to participate in the Carnegie Initiative on the Doctoratewe are one of only seven chemistry departments in the nation to receive this distinction. The goals and objectives of the Carnegie Initiative are summarized by Brian Coppola elsewhere in this Newsletter. Finally, the Department continues its efforts to broaden and strengthen our "Chemical Sciences at the Interface of Education" (CSIE) program, which is designed to train students at the undergraduate, graduate, and postdoctoral levels who aspire to careers as future faculty members. Members of the CSIE program have made enormous contributions in the development of an innovative first year "studio chemistry" course, which was piloted this past fall. Brian Coppola comments on these programs in a subsequent section of this newsletter.

The Department has made enormous strides towards accomplishing its goal of becoming one of the top Chemistry Departments in the nation. The most recent US News and World Report ranking of Chemistry Departments listed Michigan as 21st in the nation, and our analytical and organic groups as 11th and 12th, respectively. We anticipate that our standing in the community will continue to rise, in view of the tremendous success that we have had in recruiting outstanding faculty members and students to the program.

I am most grateful for your continued support of the Department. I look forward to reporting on additional activities and accomplishments in future newsletters!

Sincerely, William R. Roush, Chair

### The Department of Chemistry

Newsletter

is published once a year by the Department of Chemistry at the University of Michigan, Ann Arbor, MI 48109-1055



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# Spotlight Profiles Graduate Students and Undergraduates

## Graduate Students

### Megan McGuigan

Megan McGuigan is a graduate student in the laboratory of Professor Richard Sacks. Her work focuses on the development of selectivity enhancement methods for highspeed GC separations. The optimization of GC separations using selectivity enhancement techniques involves many variables, which often are varied on a trial and error basis. A spreadsheet model has been developed as part of her project that uses a series of standard equations to calculate the solute band position as a function of time at 1 cm intervals over the course of the separation. Using this model, accurate predictions of retention times have been made with errors <2%. This model is used to optimize methods using pressure tuning, pressure pulse modulation, stop flow operation, highspeed temperature programming, thermal tuning and comprehensive two-dimensional gas chromatography. She has coauthored several papers in analytical chemistry journals and presented her research at national and international conferences on analytical chemistry and chromatography.

Megan received one of the Rackham School of Graduate Studies Outstanding Graduate Student Instructor Awards for the 2002-03 academic year. She was a CSIE

GAANN Training Grant Fellow for the 2000-01 academic year, and received an American Chemical Society Women's Chemists Committee Travel Grant in 2001. In her free time, Megan enjoys reading, running, and skiing.

### **Megan Frost**

Megan Frost is a graduate student in the laboratory of Professor Mark Meyerhoff. Megan's thesis focuses on improving the in vivo biocompatibility and analytical performance of intravascular chemical sensors by using nitric oxide (NO) releasing polymers to coat and/or construct such devices. Megan has developed a new approach for synthesizing novel nitrosothiols derivatized fumed silica, and has further studied the factors that influence the kinetics of NO release from the resulting particles. Megan has also examined the in vivo biocompatibility of several other polymeric NO release materials (developed by other researchers based on diazeniumdiolate chemistry) by working closely with surgeons in the University of Michigan's Medical School to carry out the required animal studies. In addition, Megan's work has led to a major discovery that relates to the reduction of nitrosothiols to release NO by ascorbic acid.

Megan received the American Chemical Society Outstanding Graduate Student Award for Research and Teaching and the ACS Analytical Chemistry Summer Graduate Fellowship for 2002-03. She was a CSIE GAANN Training Grant Fellow, which is a Department of Education funded program to help better train the next generation of chemistry faculty. Megan has spoken at several conferences about her work. Megan's future plans are to pursue an academic career that will allow her to teach both undergraduate and graduate students.

## Undergraduate Students

### Sarah Uhler

Sarah's academic honors include the AIC Chemistry Award (Chemistry), the Jerome and Isabelle Karle Mathematics and Natural Science Award, and the Barry M. Goldwater National Scholarship. She was an Angell Scholar for four years at the University of Michigan.

Sarah taught structured study group in her junior and senior years. She gained additional teaching experience at the high school level by co-designing and implementing a two-week chemistry course for high school students enrolled in the Michigan Math and Science Scholars Program over the past two summers. Finally, she worked as a Biology instructor for the Pipeline Program through the School of Dentistry.

Sarah completed her Chemistry thesis in the lab of Dr. Nils Walter (Chemistry) studying the degradation of short RNA using flourescence techniques to identify RNA sequence and structure elements that determine RNA lifetime. For her Biochemistry thesis, Sarah studied the role of Bcl proteins in the apoptotic signaling cascade of neuroblastoma cells in the laboratory of Dr. Eva Feldman (Neurology). She spent one summer at Washington University investigating the specificity of the malarial protease Plasmepsin II in the laboratory of Dr. Daniel Goldberg (Molecular Microbiology). In addition, under the direction of Dr. Frank Anderson (Obstetrics and Gynecology), Sarah designed and conducted a public health study investigating the possible correlation between maternal mortality and child survival in rural Haiti.

Sarah graduated in May with an Honors B.S. Chemistry in Chemistry and Biochemistry with a minor in French and Francophone Studies. She is currently enrolled in the M.D./Ph.D. program at the University of California, San Francisco.

### Andrew H. Weiss

For the past four years at Michigan Andrew Weiss has majored in Biochemistry and Honors Chemistry. During this time Andrew received numerous awards. Those awards include the Senior Leadership, Sidney Fine Teaching Award, Phi Beta Kappa Honors Society, National Starch Chemistry Scholarship, James B. Angell Scholarship, Pharmacia and Upjohn Foundation Summer Fellowship, Moses Gomberg Sum-



Megan McGuigan



Megan Frost

mer Fellowship, and he has been the only student ever to be awarded the CRC Freshman Chemistry Achievement Award.

Andrew has been engaged in research projects with Dr. Edwin Vedejs for the past three years and is currently working on developing methods for oxazole functionalization and coupling. Under Dr. Vedejs, Andrew worked on two projects, both in synthetic Organic Chemistry. One project has been the mild deportection of N-Tritylaziridines. The results of which were published in the *Journal of Organic Chemistry*. The other project was a novel approach to polyoxazole synthesis. The results of this project formed the topic of Andrew's undergraduate thesis.

Other publications written by Andrew are: Vedejs, E.; Klapars, A.; Warner, D. L.; Weiss, A.H. J. Organic Chemistry; 2001. and Vedejs, E.; Weiss, A.H. "Mild Deportection and Methylation of N-Tritylaziridines" REU and NIH Poster Session; REU: Ann Arbor, MI; 2000. Andrew will pursue a Ph.D. in Organic chemistry at Stanford University next year.

# New Faculty

### Hashim M. Al Hashimi

Assistant Professor of Chemistry and Assistant Research Scientist in Biophysics Ph.D., MIT

Structure and dynamics of nucleic acids and ribonucleoproteins using NMR spectroscopy

Our laboratory applies solution state NMR spectroscopy to investigate the molecular basis of RNA function in processes ranging from gene expression (e.g. transcriptional activation and translation) to virion functioning (e.g. genome packaging and reverse transcription). We make extensive use of new NMR techniques involving measurements of residual dipolar couplings in determining global aspects of RNA structure, dynamics and interaction.

Although much of our understanding about RNA function comes from analyses of ground-state conformations, structurally distinct excited states accessible through molecular dynamics are frequently the ones carrying out catalysis and undergoing recognition. A central goal of our laboratory is to develop and apply NMR techniques for determining high-resolution RNA structures as a function of time and other reaction coordinates. Research involves biochemical preparation/purification of isotopically labeled RNA samples, design of NMR experiments, and development of theoretical frameworks for analyzing data. Specific areas of interests include the Mg2+ induced folding trajectory of the 56-nucleotide P5abc subdomain of the Tetrahymena group I ribozyme important for catalysis, and symmetrical dimerization of homologous genomic RNA strands important for HIV-1 viral replication. In another area, and as part of a multi-institutional RNA structure determination. These advances will enable large-scale systematic studies.

### **Robert T. Kennedy**

Hobart H. Willard Professor of Chemistry and Professor of Pharmacology; PhD, UNC Analytical Chemistry, Chemical Biology, Bioanalytical Chemistry, Chemical Separations, Mass Spectrometry

Our primary goal is to develop nanoscale analytical techniques and explore their use in the measurement of neurotransmitters and hormones both in vivo and at single cells. This goal requires the development of techniques capable of measuring zeptomole (10-21 mole) quantities in chemically complex nanoliter samples.



Hashim M. Al Hashimi

For in vivo measurements, we are coupling capillary zone electrophoresis (CZE) and capillary liquid chromatography (LC) with in vivo sampling methods. The sampling probes continuously remove samples that are periodically and automatically injected into the separation column. In one project, we have developed a 1 s CZE separation of several neurotransmitters which allows high resolution monitoring of neurotransmitter activity. Another project, just underway, involves combining capillary LC with mass spectrometry to discover novel neurotransmitters.

In the area of single cell analysis, we have focused on development of microsensors and confocal fluorescence microscopy for measurement of insulin secreted from cells with millisecond resolution. We are also pursuing analytical methods that allow simultaneous detection of intracellular messengers such as Zn2+, Ca2+, oxygen, and glucose at the same cells.

As we begin to understand the dynamics of extracellular signaling molecules, it also becomes important to understand the intracellular chemical changes that result from the interaction of such molecules with receptors. To facilitate these studies, we are developing techniques based on capillary electrophoresis, fluorescence detection, and mass spectrometry to detect and monitor intracellular signal transduction. Applications include detection of G-proteins, proteins with SH2 domains, and phosphorylated proteins. Such measurements can be considered directed proteomics measurements.

All of these techniques involve development of novel analytical chemistry as well as instrumentation. In addition to the fundamental analytical work, application of these methods to studies of brain and endocrine function as well as diseases such as diabetes, addiction and Alzheimer's are underway in various collaborations.



Robert T. Kennedy

#### John P. Wolfe

Assistant Professor of Chemistry; PhD, MIT Organic Chemistry, Organometallic Chemistry, New Synthetic Methods, Catalysis and Asymmetric Catalysis

The invention of new methods, strategies, and reactions is of great importance to the progress of organic synthesis. Chemical technology and knowledge have advanced to a point where, given a sufficient amount of time, money, and manpower, it is possible to synthesize almost any organic molecule known to man. However, the synthesis of important, biologically active molecules in an efficient, practical, economical, and environmentally benign fashion still remains a great challenge to organic chemists. One way to address this challenge is to devise new means of assembling molecules by taking advantage of the unique reactivity of transition metals. To this end, our research is focused on the creation of new metal-catalyzed reactions that are applicable to the synthesis of important molecules. Research in my group will involve aspects of catalyst discovery, asymmetric catalysis and synthesis, the development of new synthetic methodology, the study of new reaction mechanisms, and the total synthesis of natural products. Two representative areas of interest are described below.

*The metal-catalyzed insertion of olefins into small heterocycles.* A large number of tetrahydrofuran and pyrrolidine derivatives have been shown to possess useful and interesting biological activity. Our approach to these compounds involves the development of a transition metal-catalyzed insertion reaction of olefins into small, strained heterocycles. This strategy would produce complex molecules in a single step from simple starting materials in a stereocontrolled manner. The utility of this methodology may be demonstrated in the total synthesis of several natural products including plakortone E, hyacinthacine B2, and cylindricines C and D.

*The metal-catalyzed hydroacylation of imines*. Nitrogen heterocycles are a class of compounds that contain interesting, useful, and diverse biological activities. Many of these compounds can be derived from amines that contain a stereocenter adjacent to the nitrogen. However, despite much effort, the development of a generally applicable method for the highly efficient, catalytic, asymmetric synthesis of these compounds remains elusive. Our approach to this problem involves the development of a catalytic, asymmetric intramolecular insertion of imines into aldehyde C-H bonds to form chiral lactams. The lactam products may then be converted into interesting targets, such as indolizidine, pyrrolizidine, and tropane alkaloid natural products.



John P. Wolfe

# The Carnegie Initiative on the Doctorate (CID)

In 2002, the Carnegie Foundation for the Advancement of Teaching solicited nationally in four disciplinary areas (chemistry, English, mathematics, and education) for departments that thought they might contribute to the first long-term study of doctoral education in the United States. Our department was subsequently selected as one of seven chemistry departments to join the Carnegie Initiative on the Doctorate (CID), along with Duke, Wisconsin, Colorado, Howard, Ohio State, and Texas.

The following statement is from the program description for chemistry (for additional information, see http:// www.carnegiefoundation.org): "It is surely opportune to ask in what ways traditional research training works well, and in what ways it can be done better. The studies and reports that have gone before ours, and our own initial discussions with leading chemists, have revealed some concerns with chemistry doctoral education as it is currently practiced."

In early June 2003, the first convening of the CID chemistry departments took place near the Foundation's offices in Palo Alto, CA. The UM team consisted of Professor William Roush (chair), and graduate students Robyn Gdula (Johnson) and Gorka Peris (Vedejs). Professor Brian Coppola, is a member of the CID Chemistry advisory board. Many of the department's efforts were lauded as both being ahead of the curve and particularly well aligned with the prospective target areas of the CID. In particular, participants were intrigued by our work on future faculty education, implementing of research rotations, facilitating interdisciplinary collaboration, and our efforts to address climate issues that contribute to the choice that individuals make - particularly those from underrepresented populations - to go into chemistry and pursue academic careers.

Our graduates are valued and overlooked sources of information, ideas and energy when it comes to understanding doctoral education. We look forward to working with any and all you who may be interested in these topics. Indeed, by early 2004 you should be hearing from us again as we conduct a survey of our alums. We intend to do as much of this by electronic communication as possible, so please be sure we have your latest e-mail contact information (please feel free to send an email message with your current contact information to chem.alum@umich.edu).

### Chemical Sciences at the Interface of Education (CSIE)

Chemical Sciences at the Interface of Education (CSIE) is a program to broaden the Ph.D. education for students interested in academic careers. In his August 9, 2002 editorial in *The Chronicle of Higher Education*, Professor Brian P. Coppola concluded: "Professors of the future should arrive on campus as capable of carrying out the full obligation of being faculty members as they are of performing disciplinary research today."

Since 1994, Coppola and his collaborators have been creating a program that provides a more comprehensive scholarly development for individuals interested in faculty careers - beginning with undergraduate curriculum activities that, like all courses, help identify students with particular talents, and proceeding through post-doctoral activities.

In 1998 and 2001, our second and third successful grants from the U.S. Department of Education Graduate Assistantships in Areas of National Need (GAANN) helped us to establish CSIE (Chemical Sciences at the Interface of Education). CSIE is a training grant program in which Ph.D. students interested in academic careers can add activities in future faculty education to their programs. Blending teaching and carrying out research on teaching and learning, 30 graduate students (singly and in teams) have collaborated with 10 faculty members to design, implement and/or assess educational projects. These graduate students take courses in educational design and assessment, write proposals for projects, present their results, and organize symposia at national meetings (including the Gordon Conferences on Innovations in College Chemistry Instruction). These students organize and run completely a seminar and brown-bag program of internal and external speakers on higher education for the department.

In 2003, the first two graduate students who also participated in the CSIE activities received their Ph.D. degrees. They are Ryan Sweeder (2003, Banaszak-Holl), and Brett Duersch (2003, Beck). In both cases, they presented theses that included chapters of publishable scholarship on design, implementation and assessment of teaching and learning projects alongside their chemical laboratory work.

### Broadening the Post-Doctoral for Future Faculty

As the department began to build the components of its program for future faculty education, adding in a component for postdoctoral students was inevitable. While the traditional, research-intensive postdoctoral position is appropriate and desirable for many types of academic positions, we set out to explore the breadth of that model.

In 1996-97, with generous funding from the Research Corporation, Dr. Nancy Goroff (Ph.D. UCLA) extended her postdoctoral in the state of Michigan from 2 years (at Michigan State) to 3 years by adding a year with us in Ann Arbor. While still spending some of her time in East Lansing, Nancy worked with Professors Ege and Coppola learning about teaching practices and education research methods while participating as an instructor in the Structure and Reactivity courses. Nancy received excellent job offers from good departments, including the one from Stony Brook, where she launched her independent academic career. "I have been able to do a better job with less effort because of what I learned on my postdoc," she wrote after her first year at Stony Brook.

In 2002-03, we put together some internal funding to pursue the post-doc question, again. Dr. Amy Gottfried (Ph.D. UNC) began a jointly mentored post-doctoral position with Professors Banaszak-Holl and Coppola. Armed with instructional development experiences during her graduate education, Amy began a planned three-year stay in Ann Arbor doing laboratory chemistry as a member of Banaszak-Holl's research group, and also taking over the leadership role for a team of CSIE students designing the "Studio Chemistry" course. As with any excellent post-doc, Amy jumped feet first into these projects and has made superb contributions both to the instructional program of the department and to chemistry in the Banaszak-Holl group.

# Faculty News

**L.S. Bartell** was honored as the Most Influential Member of the local chapter of Alpha Chi Sigma at its national centennial celebration. F.E. Bartell was a founding member of the UM chapter.

**Zhan Chen** received a Beckman Young Investigator Award and the 2003 Dow Corning Assistant Professorship.

The 19th Annual Sarah Goddard Power Award was presented to **Seyhan N. Ege**, professor emerita, Chemistry. The chemistry curriculum she developed with **Brian Coppola** has become a model in undergraduate education throughout the United States.

Please join us in congratulating **B.J. Evans** for receiving the 2003 Regents' Award for Distinguished Public Service. The award will be presented at an awards ceremony in the fall.

**Carol Fierke** and **Raoul Kopelman** are the two senior investigators on a Keck Foundation award for intracellular studies, based on Kopelman's invention of nano-PEBBLEs (Photonic Explorers for Biomedical use with Biologically Localized Embedding). This started a crosscampus wide investigation of "live cellular inner space" with a nano-toolkit (*Nature*, May 2, 2003), involving the Engineering, Public Health and Medical schools.

Anthony H. (Rick) Francis, was named UM Associate Vice President for Research by the Board of Regents. Francis's appointment begins Sept. 1. Francis will succeed James E. Penner-Hahn. Penner-Hahn has served as an Associate Vice President for Research since May 1, 2000. He recently accepted a position as chair of the Biophysics Research Division (BRD), a unit of the Office of the Vice President for Research.

**Robert Kuczkowski**, emeritus professor, has been appointed as program officer, Special Projects and Education, Chemistry Division at the National Science Foundation in Arlington, VA.

**Raoul Kopelman** will be honored at a special symposium, the "Kopelman Symposium on Nano-Science and Nano-Technology," November 14-15, 2003 organized by **Anthony Francis**, Associate Vice-President for Research at the University of Michigan

**Anna Mapp** received the 2002 Basil O'Connol Scholar award from the March of Dimes.

Adam Matzger received the Beckman Young Investigator Award.

Mark Meyerhoff was the 2003 recipient of the ACS Analytical Chemistry Award in Electrochemistry.

**Will Pearson** was the 2003 recipient of an Arthur C. Cope Scholar Award.

**William Roush** received the Paul G. Gassman Distinguished Service Award recognizing outstanding service to the organic chemistry community. **Roush** is also the 2004 recipient of the ACS Ernest Guenther Award for Natural Products Chemistry.

**Melanie Sanford** received the Dreyfus New Faculty Award.

**Ed Vedejs** has received the 2004 HC Brown Award for Creative Research in Synthetic Methods, as announced in Chemical and Engineering News.

**Nils Walter** is the recipient of the 2002 Dow Corning Assistant Professorship. He was the coorganizer of the MI RNA Society Meeting 2002 and the PECRUM Symposium 2003. He was the Session Chair of the "Single Molecule Studies" at the Gordon Research Conference for Nucleic Acids in June, 2003.

**John Wolfe** received the Dreyfus New Faculty Award, the Research Corporation Innovation Award, the 3M Untenured Faculty Award, and a Lilly New Faculty Grant.

**Omar Yaghi** is the recipient of the first Department of Chemistry Chairman's "Award for Excellence in Research". This award will be given annually to a departmental faculty member showing excellence over the past year in research, service, or teaching. Omar received the award for his work on the synthesis of metalorganic frameworks as new materials for storage of hydrogen and methane. His work resulted in the publication of papers in both *Science* and *Nature* this past year.

# Graduate Program News

## Annual Awards

During the annual awards ceremony, a number of outstanding students were recognized for their research, teaching, and academic achievements. Opening Remarks and Presentation of Awards - Dr. Pecoraro, Chair, Graduate Committee and Professor of Chemistry

#### **Florence Fenwick Outstanding Graduate Student Instructor Award** Presented to Graduate students who taught undergraduate courses in Chemistry during the 2002-03 academic year. Winners are chosen by their contribution to



Allison Dick, Florence Fenwisk Outstanding Graduate Student Instructor Award



Jessica Hessler, Florence Fenwick Outstanding Graduate Student Instructor Award



Katherine Wildman, Cornwall Outstanding Graduate Student Research Award



Kevin Schneider, Cornwall Outstanding Graduate Student Research Award



Melissa Batchelor, Robert & Carolyn Buzzard Graduate Chemistry Student Leadership Award



Allison Dick (Sanford) Jessica Hessler (Banaszak Holl)

### Wirt & Mary Cornwell Outstanding Graduate Student Research Award

Presented to Graduate students based on research advisor recommendation, publications, posters, meetings presented at, uniqueness of research and nature of research. These awards are provided from the Wirt and Mary Cornwell Prize.

Katherine Wildman (Ramamoorthy) Kevin Schneider (Banaszak Holl)

### American Chemical Society Outstanding Graduate Student Award for Research and Teaching

This award is given by the Huron Valley Section of the American Chemical Society. It is intended to recognize achievement in teaching and research by a Graduate Student. Megan Frost (Meyerhoff)

### Milton Tamres Outstanding Teaching Award

This award is given by one of our emeritus faculty, Professor Milton Tamres, to recognize outstanding cumulative teaching service.

Curtis Zaleski (Pecoraro)

### Robert & Carolyn Buzzard Graduate Chemistry Student Leadership Award

The Leadership Award is given to a graduate student who has shown the skills of a leader of many. The person takes an active role in the Department - assisting with graduate recruitment; working with faculty and staff to provide a better environment for graduate students; also serves as morale and welfare support person. This award is provided by Bob and Carolyn Buzzard.

Melissa Batchelor (Meyerhoff)

### Seyhan Ege ADVANCE Travel Award

The ADVANCE Travel Award is given to female students who are interested in an academic career and will be attending a conference.

Jessica Pankuch (Coward)



Milton Tamres Outstanding Teaching Award (l to r) Vincent Pecoraro, Curtis Zaleski, Mrs.Francise Tamres, William Roush



Jessica Pankuch, Seyhan Ege ADVANCE Travel Award

## Graduate Student Fellowship Recipients

### Graduate Fellowships 2002-2003

Abbott Laboratories Graduate Fellowship in Synthetic Organic Chemistry Douglas Mans (Pearson)

ACS Analytical Chemistry Summer Graduate Fellowship

Megan Frost (Meyerhoff)

Bristol-Myers Graduate Fellowship Patrick Stoy (Pearson)

2003 Eastman Chemical Company Analytical Focus School Fellowship Jonathan Shackman (Kennedy)

Eastman Kodak Fellowship Aaron Aponick (Pearson)

Eli Lilly Graduate Fellowship Liming Zhang (Koreeda)

Howard Hughes Predoctoral Fellow

Prestigious and highly competitive national fellowship sponsored by the Hughes Foundation. Katherine Wildman (Ramamoorthy)

National Science Foundation (NSF) Fellowship Stephanie Gantt (Fierke) Maria Rhodes (Walter) Scott Shaw (Vedejs)

Pfizer Graduate Fellowship in Organic Chemistry Dustin Mergott (Roush)

Pharmacia Graduate Fellowship

Matthew Zajac (Vedejs)

### **Rackham Merit Fellowships**

Fellowship support funded by the Rackham Graduate School for students from historically underrepresented groups.

Jason Brown (Curtis) Tara Lynn Conser (Coward) Joseph Gallegos (Francis) Tamiika Hurst (Fierke) Obianuju Inya-Agha (Morris) William C. Johnson (Chen) Rebecca Tinsley (Walter)

### **Rackham One-Term Dissertation Fellowship**

Marja Huhta (Marsh) Tsu-Chien Weng (Penner-Hahn)

### **Regents' Fellows**

Fellowship supported for students provided by the Regents of the University.



Jonathan Shackman, Eastman Chemical Company Analytical Focus School Fellowship



Liming Zhang, Eli Lilly Graduate Fellowship



Patrick Stoy, Bristol-Meyers Graduate Fellowship



Katherine Wildman, Howard Hughes Predoctoral Fellow



National Science Foundation (NSF) Fellowship (l to r) Maria Rhodes, Stephanie Gantt, Vincent Pecoraro, Scott Shaw



Dustin Mergott, Pfizer Graduate Fellowship in Organic Chemistry

Jeffrey Bartolin (Banaszak Holl) Zuzanna Cygan (Banaszak Holl) Timothy DeVries (Vedejs) Trisha Duffey (Vedejs) Emily Jameson (Kennedy) Joshua Ney (Wolfe) Morris Slutsky (Marsh) Ryan Sweeder (Banaszak Holl)

### **UNCF/Merck Graduate Science Research Dissertation** Fellowship

Dinari Harris (Walter)

Cellular Biotechnology Training Program (CBTP) - Fellow Megan Frost (Meyerhoff) Nissa Westerberg (Fierke)

### **Chemistry-Biology Interface Training Program (CBI) -Fellow**

Training Grant provided by National Institutes of General Medical Sciences for research at the interface of chemistry and biology. Includes units of Chemistry, Biological Chemistry at the Medical School and Medicinal Chemistry in the College of Pharmacy.

> Gina DeVault (Roush) Melissa (Hindenlang) Bobeck (Glick) Zikiya Norton (Mapp) Jenny Rush (Glick) Thomas Sundberg (Glick) Debra Touw (Pecoraro) Jennifer Willard (Kennedy)

# Graduate Assistants in the Area of National Need (GAANN) - Fellow

Enhance teaching and research capacities to increase level of chemists to meet the needs of emerging industries vital to our technological competitiveness and to supply our colleges with faculty to meet the 21st Century teaching and research missions.

> Jeffrey Bartolin (Banaszak Holl) Emily Burke (Coward) Robyn Gdula (Johnson)

Rebekah Kelly (Penner-Hahn) Alan Kiste (Coppola) Benjamin Reynolds (Coppola) Gail Roberts (Kopelman) Randon Walker (Banaszak Holl)

## **Integrative Education and Research Training Program** (IGERT) - Fellow

Training Grant sponsored by the National Science Foundation for research in materials chemistry. Annabelle Benin (Yaghi) Dan Fosnacht (Banaszak Holl) Brian Haines (Gland) James Johnson (Matzger) Gregory Less (Rasmussen) Cheryl Loch (Chen) Bonnie Ludwig (Banaszak Holl) Andrew Millward (Yaghi) Jamie Nichols (Zellers) Katherine Plass (Matzger) Christopher Price (Matzger) Dustyn Sawall (Yaghi) Matthew Stewart Michael Stewart (Johnson)

### Medical Scientist Training Program (MSTP) - Fellow Steven Rowe (Mapp)

Molecular Biophysics Training Grant (MBTG) - Fellow

John Hoerter (Walter) Joslyn Kravitz (Pecoraro) Thomas Kuntzleman (Yocum) Amy Wu (Pecoraro)

Pharmacological Sciences & Biorelated Chemistry Training Program (PSTP) Garrette Belanger (Mapp)

Program in Biomedical Sciences (PIBS) - Fellow Benjamin Farrar (Glick-PIBS) Lance Rider (Fierke-PIBS)



Rackham Merit Fellowships, (l to r) Tara Lynn Conser, Obianuju Inya-Agha, Vincent Pecoraro



Regents Fellows (back l to r) Timothy DeVries, Vincent Pecoraro, Joshua Ney (front l to r) Trisha Duffey, Zuzanne Cygan, Jeffrey Bartolin, Emily Jameson

# Graduate Degrees

# Doctorates for August, December 2001 & May 2002

Patricia C. Ackroyd(Gary Glick)The Thermodynamic Sources of Affinity and Sequence-<br/>Specificity: Analyses of Blinding by Autoantibodies.

**Neil B. Blatt** (Gary Glick) Characterization of Novel Pro-Apoptotic Benzodiazepine.

Matthew Braun(Omar Yaghi)Strategies Toward the Synthesis and Design of FrameworksUsing Organic and Metal-Organic Building Blocks.

Matthew Brukwicki (M. David Curtis) Structure-Property Relationships in Bithiophene and Bithiazole Polymers.

**Hung-Wei Chih** (E. Neil G. Marsh) The Free Energy Profile of the Reaction Catalyzed by Glutamate Mutase.

Joanne Cleary (Gary Glick) Role of Binding Site Residues in the Sequence-Specific Recognition of ssDNA by An Autoantibody.

**Olivia de Carmejane** (Michael Morris) Investigation of DNA Electrophoretic Migration Dynamics by Capillary Electrophoresis and Three-Dimensional Fluorescence Video-Microscopy.

Sunil Dourado(Raoul Kopelman)Advances in Fluorescent Ion and Gas Sensors.

Jaehong Han(Dimitri Coucouvanis)Synthesis of the Clusters with the MoFe3S3 Core and CoreRearrangements of Conditions.

Jennifer Suzanne Holt (Anthony Francis) Spectroscopy of MPS3DAMS+ Composite Materials.

Maureen Therese Kachman(David Lubman)The Development of Separations and Mass SpectrometryTechnologies for the Analysis of Biomolecules.

Maricel Kann (Richard Goldstein) Protein Sequence Alignment: Theory, Algorithms and Optimal Score Function.

Jeongkwon Kim (David Lubman) Application of On-line Capillary Electrophoresis/Tandem Mass Spectrometry to the Study of Myelin Basic Proteins.

David William Konas (James Coward) New Syntheses of Optically Active Fluoroamino Acids and Methods for their Application to the Study of y-Glutamyl Hydrolase and Folypoly-y-Glutamate Synthetase.

Amy B. Koren(David Curtis)Side-Chain Control of Morphology in Bithiazole Oligomers.

Hailian Li (Omar Yaghi) Porous Materials Prepared by Design from Metal-Organic and Inorganic Building Blocks.

### Prashanti Madhavapeddi

(E. Neil G. Marsh)

Identifying the Active Site of Adenosylcobalamin-Dependent Glutamate Mutase.

Jason S. Newcom (William R. Roush) Studies Directed Toward the Total Synthesis of Tedanolide and Studies of Conformationally Controlled E2 Elimination Reactions in Acyclic Systems.

Kenneth Thomas Nicholson(Mark M. Banaszak Holl)The Nature of Si-H Bonds in Model Device Interfaces

Ipsita Roymoulik(E. Neil G. Marsh)Mechanistic Studies of the Glutamate Mutase Reaction.

Matthew W. Schiesher (Arthur J. Ashe, III) Sythesis and Chemistry of Aromatic Heterocycles Involving Sulfur and Boron.

Thomas Smith, II(Vincent Pecoraro)Exploring Reactive and Spectroscopic Models of the Vana-<br/>dium Haloperoxidases.

**Corey D. Steffek** (Omar M. Yaghi) Functionalized and Mixed Metal-Organic Frameworks.

**Catherine Perso Tarnowski** (Michael D. Morris) Raman Spectroscopic Studies of Early Mineralization in Biological Tissues.

Daniel B. Wall (David Lubman) Development of Novel Multi-dimensional Separation Methods for Analysis of the Reversed Phase HPLC, MALDI TOF/ MS.

# Doctorates for August, December 2002 & May 2003

Jeffrey J. Bednarski II (Gary Glick) Modulation of Activation-Induced Cell Death in Lymphocytes by a Pro-Apoptotic Benzodiazepine.

Murphy Brasuel(Raoul Kopelman)Liquid Polymer Nano-Optodes for Intracellular Applications:Fibers and Pebbles.

Jason R. Brown(M. David Curtis)Synthesis and Characterization of Novel Lithium Ion BatteryCathode Materials Produced Via Assisted Soft Chemistry.

Jie Cao (M. David Curtis) Organic p-Stacked Materials for Electronic Applications: Synthesis, Characterizations, Devices and Modeling.

Angela Carden(Michael Morris)Effects of Applied Load on Bone Ultrastructure Explored by<br/>Raman Microspectroscopy and Imaging.

Stephanie E. Gabelnick(James Penner-Hahn)Metalloprotein Investigations Using Capillary Electrophoresis with X-Ray Fluorescence Detection.

**Kevin J. Hallock** (A. Ramamoorthy) Investigation of Membrane-Disruption by Peptides Using Solid-State NMR Techniques.

**Rick L. Hamler** (David Lubman) Proteomic Studies of Human Breast Cancer Cell Lines Using Multidimensional Separation Techniques and Timeof-Flight Mass Spectrometry.

Matthew C. T. Hartman (James Coward) The Synthesis of 5-Fluoro Glycosides and Pyrophosphates and Their Use in Mechanistic Studies in Carbohydrate Enzymology.

Wen-Yuan Hsieh(Vincent Pecoraro)Synthesis and Reactivity of the High-Valent Monomeric and<br/>Dimeric Manganese Complexes.

**Srikanth Kidambi** (A. Ramamoorthy) Investigation of Cadmium and Zinc Complexes Using Solid-State NMR and *ab initio* Calculations.

**Roxanne K. Kunz** (William Roush) Studies Toward the Total Synthesis of Quartromicin D<sub>3</sub>.

Anderson L. Marsh(John Gland)Mechanisms of Deep Catalytic Oxidation of AromaticHydrocarbons on a Platinum Single Crystal Surface.

**Karla A. Miller** (Mark Banaszak Holl) C-H and C-C Bond Activations of Organic Molecules by Stable Germylenes.

Sridhar Narayan(William Roush)Methodology for the Synthesis of 2-Deoxy-α-Glycosidesand Studies Directed Towards the Total Synthesis ofAngelmicin B (Hibarimicin B).

Joel C. Nemes (M. David Curtis) The Synthesis and Characterization of Conjugated Phenylene Vinylene Viologen Dimers

Hanh N. Nguyen (Joseph Marino) Developing Methodology for the Total Synthesis of Oxazole-Triene Antibiotics.

### Masters Degrees for August, December 2001 & May 2002

Alan Barcon Sarah M. Buck Manoj Cheriyan Daniel DeVries Stephanie L. Gantt Jessica Hessler

Mehmet Karabiyik Paweena Kreunin Stacey Nevins Zikiya Norton Nathan W. Ockwig

### Masters Degrees for August, December 2002 & May 2003

Thomas Horvath Joslyn Kravitz Andrew Millward Aaron Minter Orkun Soyer Raymond Meyer Gorka Peris Steve Poon Laura M. Rozan(Robert Fuller)A Biochemical Analysis of Substrate Specificity for the<br/>Saccharomyces cerevisiae Endoprotease, Kex2, and the<br/>Kex2-related Prtl Protease from Pneumocystis carinii.

William J. Smith(William Roush)Selected Studies in Asymmetric Synthesis: I. Factors Which<br/>Control the Stereochemistry of Methyl Ketone Aldol Reac-<br/>tions II. An Experimental Test for the Involvement of Boat-<br/>Like Transition States in Methyl Ketone Aldol Reactions III.<br/>Studies Directed Towards the Total Synthesis of Apoptolidin.

Todor I. Todorov(Michael Morris)Capillary Electrophoresis and Migration Dynamics of RNA.

Tincuta M. Veriotti(Richard Sacks)Selectivity Enhancement for High-Speed GC and GC Time-<br/>of-Flight MS Using a Tandem Column Ensemble and Stop-<br/>Flow Operation.

David T. Vodak (Omar Yaghi) Directed Assembly of Structures Using Coordination and Covalent Bonding.

Haixing Wang(David Lubman)Interlysate Comparison Studies of Human Ovarian Cancers -<br/>Development and Application of a Two-Dimensional Liquid<br/>Separation/Mass Mapping Technique.

**Don L. Warner** (Edwin Vedejs) Oxazolium Salt/Azomethine Ylide Approach to Aziridinomitosenes.

**Derek W. Yoder** (James Penner-Hahn) Physical Characterization of Manganese Catalase and its Halide-Bound Forms.

Huiping Zhang (Mark Meyerhoff) Development of Nitric Oxide-Releasing Polymers with Improved Blood Compatability.

> Jennifer Patchett Anthony A.Turpoff Jane Hsu White Chul Yoo Curtis M. Zaleski Christopher D. Zyskowski

Andrew Schach Nissa Wesserberg Paul Williams Yoshinori Yamaguchi

# Undergraduate Program News

## Research Experiences for Undergraduates (REU) Program Summer 2002 & 2003

The National Science Foundation creates opportunities for undergraduates to join research projects each summer. One of the principle vehicles of NSF support for such projects is through the Research Experience for Undergraduates (REU) program.

The REU program involves students in ongoing research projects and proposals being conducted at the University of Michigan, and thus allows them to experience first-hand how basic research is conducted at an internationally prestigious university. For the past 14 years, the University of Michigan has invited students from around the country to spend a summer on campus working closely with faculty and graduate student mentors, conducting research in their area of interest. The REU program is an excellent way to reach into the student talent pool and encourage the participation in chemical research of women, underrepresented minorities, persons with disabilities, and students from institutions where research opportunities may be limited.

The Department of Chemistry provides abundant opportunities for individuals to work in tandem as researchers, educators, and students, engaged in joint efforts that encourage educational discovery through a range of learning perspectives. The REU program reflects the Department's conviction that collaborative intellectual relationships are an essential component of successful learning experiences. Dr. Brian P. Coppola coordinates the Department's REU program, which runs for 10 weeks during the summer.

In response to the increasing requests from non-U.S. citizens for summer research experience such as the REU program provides, the UM Rackham Graduate School this year provided matching funds to bring 2 such undergraduate researchers onto campus in an expansion of the traditional program.

### Summer 2002 REU Participants

Michael Sracic Stephen Chen Carla Salomoni Stefan Kilyanek Matthew Kelley Ramona Schaeffer Todd Gruber Sarah Zeile Donald Allison Maria Pak Yevgeniv Kondrateno Delon Wilson Gabriela Lopez de Lara Paola Gutierrez Penagos Andy Baldwin Wash & Jefferson Muhlenberg College Florida Atlantic U. Grand Valley State John Carroll U. U of Wyoming U of Utah U of M U of M U of M Missouri Western Howard U. Monterrey Cambridge

### Summer 2003 REU Participants

Damian Carrieri Sara Koenig Anne Marie Laake David (Sam) Oxley Daniel Paluchowski Rebecca Roush Jesse Savickas Kate Sensenig Ryan Trovitch Sarah Zeile Washington & Jefferson Yale Earlham Virginia Tech U of Maryland Wellesley U of N. Carolina Muhlenberg King's College U of Michigan Roseanne Sension Gary Glick James Coward James Penner-Hahn John Wolf Gary Glick Anna Mapp Richard Sacks Mark Banaszak-Holl Brian Coppola

## Sokol Visit

Each year the department sponsors a reception to welcome distinguished benefactress, Mrs. Margaret Sokol to campus. The yearly visit provides an opportunity for Mrs. Sokol to meet with current and past recipients of the Margaret and Herman Sokol Fellowship.

Established in 1991, the fellowship is awarded on a yearly basis to eight incom-

ing freshmen. In addition to the Sokol Scholars program, Mrs. Sokol is responsible for the Margaret and Herman Sokol Faculty Award in the Sciences program. Faculty award recipients are selected by Rackham Graduate School and give a lecture on campus in the spring. 2002 SOKOL award recipients: Lauren Joan Wilkinson Nicole J Smith Chaim Aryeh Schramm Anna Marie Meerman-Bader James Merico Mainero Carolyn Montse Johnson Jennifer M. D'Souza James Terrance Carson

## Undergraduate Awards and Sponsors 2002-2003

### 2002

2001-02 Margaret and Herman Sokol Scholarships

CRC Outstanding Freshman Achievement Award First Year Chemistry Achievement Awards

AXE Outstanding First Year Summer Research Funding Abbott Labs Alumni

Amoco Fdn Gomberg Harris Lilly Pfizer Inc. Pharmacia & Upjohn Fdn Smeaton Outstanding Second Year Student Goldwater Scholars Honors College Vanko Award Carlene Friedley Scholarship Lubrizol Scholarship

ACS Analytical Chemistry Award Merck Index

ACS Outstanding Senior Leadership Award S.N. Ege WISE Award AIC Biochemistry Award AIC Chemistry Award Alexandra Achen, Ian Campbell, Amanda Fox, David Hucul, Anna Hodges, Jason Krol, Michelle Ramia Lev Prasov

Alexandra Achen, Laura Gadzala, Ann Haas, Shauna Puhl, Sahand Rahnama-Moghadam, Sara Scott, Eric Watt, Alexander Wong Rudolph Kohn

Justin Christy (Vedejs), Meredith Miller (Roush) Austin Cole (Johnson), Diana Dinh (Johnson), Adam Goldberg (Yaghi), Gary Klein (Meyerhoff), Todd Mekjian (Fierke) Adam Grzesiak (Matzger) Michael McCormick (Pecoraro), David Wenzler (Matzger) Alex Poniatowski (Mapp), Costas Lyssiotis (Glick) Nicole Tuttle (Vedejs) Semyon Zarkhin (Koreeda) Todd Senecal (Koreeda), Alefiyah Mesiwala (Mapp) Ron Smaldone (Townsend) Bethany Percha (Coppola) Alefiyah Mesiwala (Mapp), Semyon Zarkhin (Koreeda) Samantha Tarras (Votjek) Nousheen Humayun (Uhler), Sarah Uhler (Walter) Alefiyah Mesiwala (Mapp) Zachary Nagel (Yocum), Andrew Weiss (Vedejs), Semyon Zarkhin (Koreeda) Brandon Odom (Marino) Erik Epp (Griffin), James Trenkle (Roush), Joseph Wachter (Yaghi), Pamela Wong (Fierke), Zeynep Yilmaz (Nichols) Phillip Sekella (Walter) Hillary Peltier (Townsend) David Rosen (Coward) Ian Stewart (Coppola)



*Margaret and Herman Sokol Scholars* (left to right) *David Hucul, Jason Krol, Anna Hodges, Michelle Ramia, Ian Campbell.* (Not present) *Alexandra Achen, Amanda Fox.* 



AXE Outstanding First Year Award (left to right), Prof. Brian Coppola, Rudolph Kohn, Ronald Smaldone.



Summer Research Fellowships (first row left to right) Austin Cole, Diana Dinh, Alefiya Mesiwala, Nicole Tuttle, Semyon Zarkhin (second row left to right) Adam Grzesiak, Gary Klein, Michael McCormick, Todd Mekjian (third row left to right) Alex Poniatowski, Todd Senecal, David Wenzler, Ronald Smaldone.



Upperclass Awards (front left to right) Bethany Percha, Joseph Wachter, David Rosen, Samantha Tarras, Brandom Odom (back left to right).Zeynep Yilmaz, Erik Epp, Bruce Roth, Pfizer V.P. Chemistry, Prof. Joseph Marino, Ian Stewart, Pamela Wong



*First Year Awards* (front left to right) *Rudolph Kohn, Sahand Rahnama-Moghadam, Lev Prasov, Eric Watt* (back left to right) *Sara Scott, Shauna Puhl, Laura Gadzala.* 



Margaret and Herman Sokol Scholars (left to right) James Carson, Lauren Wilkinson, James Mainero. (Not present) Jennifer D'Souza, Carolyn Johnson, Anna Meerman-Bader, Chaim Schramm, Nicole Smith



Scholarships (front left to right) Sarah Uhler, Meredith Miller, Nousheen Humayan, Alefiya Mesiwala. (back left to right) Justin Christy, Zachary Nagel, Semyon Zarkhin.



ACS Leadership Award (left to right) Prof. Brian Coppola, Phillip Sekella



*S.N. Ege WISE Award* (left to right) *Prof. Seyhan Ege and Hillary Peltier.* 

## 2003

2003	
2002-03 Margaret & Herman Sokol Scholarships	James Carson, Jennifer D'Souza, Carolyn Johnson, James Mainero, Anna Meerman-Bader, Chaim Schramm, Nicole Smith, Lauren Wilkinson
CRC Outstanding Freshman Achievement Award	Walter Haberaecker
First Year Chemistry Achievement Awards	James Carson, Ryan Grant, Allison Hardin, Jenny Knoester, Pelton Phinizy, Chaim Schramm
AXE Outstanding First Year	Rebecca Farmer; Chen/Kramer
Summer Research Funding Abbott Labs Alumni Gomberg Harris Lilly Pfizer Inc. Pittsburgh Plate & Glass Smeaton	Kate Longcore (Townsend), Lev Prasov (Mapp), Todd Senecal (Koreeda), Milad Sharifpour (Coppola) Donald Allison (Yaghi), Brian Church (Koreeda) Shailesh Agarwal (Matthews), Alan Poon (Ramamoorthy) Elizabeth Cordara (Uhler), Rami Kassis (Morris), Arieh Kestler (Koreeda), Sanyo Tsai (Coward) Eric Chanowski (Coppola) Paul Tanis (Koreeda) Esther Joo (Coward), Zachary Tolstyka (Matzger), Eric Watt (Al- Hashimi) Costas Lyssiotis (Glick)
Outstanding Second Year Student	Alan Poon
Goldwater Scholars	Bethany Percha-2003; Alefiyah Mesiwala (Mapp)-2002; Sarah Uhler (Walter)-2001; Semyon Zarkhin (Koreeda)-2002
Honors College Vanko Award	Zachary Nagel (Yocum)
Carlene Friedley Scholarship	Kate Longcore (Townsend), Bethany Percha
Lubrizol Scholarship	Costas Lyssiotis (Glick)
National Starch Scholarship	Eric Chanowski(Coppola), Lev Prasov (Mapp), Paul Tanis (Koreeda)
ACS Analytical Chemistry Award	Kate Longcore (Townsend)
Merck Index	Justin Christy (Vedejs), Adam Grzesiak (Matzger), Michael McCormick (Pecoraro), Meredith Miller (Roush), Alex Poniatowski (Mapp), Jason Rush (Coward)
ACS Outstanding Senior Leadership Award	Andrew Weiss (Vedejs)
S.N. Ege WISE Award	Faith Boman (Penner-Hahn)
AIC Biochemistry Award	Alefiyah Mesiwala (Mapp)
AIC Biochemistry Award	Semyon Zarkhin (Koreeda)
AIC Chemistry Award	Sarah Uhler (Walter)

First Year Awards (front left to right) Jenny Knoester, Pelton Phinizy, Walter Haberaecker. (back left to right) James Carson, Allison Hardin, Prof. Brian Coppola, Ryan Grant.



AXE Outstanding First Year Award (left to right) Michael Kramer, Rebecca Farmer, Prof. Zhan Chen



Summer Research Fellowships (first row left to right) Esther Joo, Sanyo Tsai, Milad Sharifpour, Brian Church, Kate Longcore, Elizabeth Cordara (second row left to right) Zachary Tolstyka, Paul Tanis, Alan Poon, Costas Lyssiotis, Lev Prasov, Eric Watt, Donald Allison, Eric Chanowski, Shailesh Agarwal, Rami Kassis, Arieh Kestler.



ACS Leadership Award (left to right) Andrew Weiss, Prof. Paul Jones (Huron Valley ACS)



Scholarships (front left to right) Paul Tanis, Costas Lyssiotis, Eric Chanowski, Kate Longcore, Lev Prasov



S.N. Ege WISE Award (left to right) Prof. Seyhan Ege, Faith Boman, Dr. Cinda Sue Davis.



**Upperclass Awards** (front left to right) Michael McCormick, Sarah Uhler, Meredith Miller, Alefiyah Mesiwala, Kate Longcore (back left to right).Adam Grzesiak, Jason Rush, Alan Poon, Prof. William Roush, Prof. Terry McDonald, Alex Poniatowski, Zachary Nagel, Justin Christy, Semyon Zarkhin.

## Bachelors Degrees August, December, 2001 & May, 2002

### Chemistry

*August 2001:* Charles John Strohacker, Jr. Jason Gordon Weatherhead

### December 2001:

Eric Joseph Anderson Michael Zachary Asuncion Adam Christopher Beck Albert John Gelles Michael James Huck Ha Son Nguyen Erica Lynn Nuechterlein Kelly Lynne Shaffer Phillip Edward Sholtes Kelly J. Stankiewicz

### May 2002:

Brad Cameron Bailey Meghan Eileen Burns Shan-Mei Chiu Jorge Ivan Contreras Jessica Regina Elmore Joshua David Hansen Monica Julie Kalman Hillary Maria Peltier Luke Thomas Redman Wendy Elizabeth Schumacher Daniel Stein Ian Christopher Stewart Brett Alan Teran James Douglas Trenkle Clifford Charles Wakeman

### Biochemistry

August 2001: Ryan Patrick Bredeweg Leslie Wei Chinn Darrell B. Joyce Brian Richard Magnuson Karen Ann Soules

#### December 2001: Matthew Wallace Buczynski Jarvis Wyatt Carter, Jr. Nicholas Freeman Oeming Kelly Lynne Shaffer

#### May 2002: Elvera Baron Rhiannon Katherine Biddick Meghan Eileen Burns Lan Chang Elizabeth Mary Cook Steven John D'Sa

Elizabeth Du

Lecia Erin Harmer Jonathan Morgan Kirley Scott T. Laughlin Philip Francis Lobert Hillary Ann Loomis Beth Rose Manoogian Daniel Miller Kathryn Evelyn Morris Sapna Nagar Joshua Allan Newsted Stacy Chioma Obiuku Matthew William Pennington Amanda Marie Preston Luke Thomas Redman Joao Pedro A. Reinhard David Aaron Rosen Phillip Trabert Sekella Robert Daniel Shereda Stephanie Alise Steinhoff Mark Francis Suchter Katsuhiko Sueda Samantha Leigh Tarras Gregory Daniel Tchou Pamela Tinmoi Wong Zeynep Naciye Yilmaz Alissa Renee Zuellig

### August, December, 2002, May 2003

### Chemistry

Zegary Allen II Anna Lindsey Banka Sarah Elizabeth Cavins Timothy David Kable Jessica A Oliver Brooke Lyn Spencer Crystal Monique Swain Matthew Bright Engel Laura Jean Nelson Paul Matthew Pagano Adam Joseph Berro Kiev R Blasier Faith Christianna Boman Charles Robert Bowman Justin Paul Christy Austin M Cole Jessica Leihwa Dong Nancy Lynn Duncan Stephen Burgoyne Goetz

Adam Stuart Goldberg Amran Ali Gowani Adam Leo Grzesiak Brent Christopher Jacobs James Klein Leonard Michael Scott McCormick Meredith Wetherbee Miller Abinash Mishra Zachary David Nagel Alexander James Poniatowski Vincent A Rogalski Jason Samuel Rush Gurpartap Singh Sahota Ronald Alexander Smaldone Guru Prasad Srinivas Michael Christophe Stagliano Sarah Ann Uhler Andrew H Weiss David Lawrence Wenzler Vinay Yakkundi

### Biochemistry

Gina Carol Bane Foaz Mohammad Kayali Bradley P Martin Justin R Hamilton Preetha Janaky Iyengar Andreea Na Neaga Chukwuemeka Obiora Thomas John Reedy Andrea Olivarez Sethi Jerry Yuan Nicholas David Armstrong Michael L Bass Katherine Anne Braunstein Georgina Maria Cirrincione Nancy Lynn Duncan Katie Eileen Easton Whitney Elizabeth Elliott Katie Anne Eschenburg Leslie Ann Field

Erin Laura Fuller Meghan Turner Garstang Etai Goldenberg Lee Richard Hanson Julie Anne Hengehold Joseph Yung-Kuang Ho Ryan Thomas Huber Michelle Nicole Huddleston Nousheen Laila Humayun Barbara Anna Jakobczak Albert C Kim Gary Matthew Klein Katherine Rae Kraft Elizabeth Mary Lamos Alefiyah Kutub Mesiwala Kevin Brett Messacar Amanda J Mierzwa Sarah Elizabeth Monie Adam David Nicholas Anoop Crumsan Nundkumar Daniel J Pelchovitz Alan Joseph Riemer Sarah Ann Uhler Ryan Christopher Withrow Semyon G Zarkhin

### Graduation 2003!



# Gifts

Contributions from private and corporate donors received from July 1, 2002 – June 1, 2003

(\* Indicates corporate matching funds.)

Alumni and Robert Parry Alfred Kiessel

Alumni Discret and H. H. Willard Graham Stewart Troy Young

#### **Alumni Discretionary Fund**

Karen Adams Norman P. Arends Marlin Buckmaster Elmer Carlson Gary R Chipman Alice Corey Renee Cribbons Dan Curtis Vincent P. Drnevich

David Ebdon Manfred Egerer Pui Fan Larry Fink Scott Funt Phyllis Garland Howard Garrett Erich Gess Thomas Giordano Steven Goates J.M. Goldberg David Greenblatt Ronald Greinke John Griffin David Hart Howard Hetzner Mary Ellen Heyde Kurt Hillig Terrence Hilty Walter Holloway Reynold Holmen Philip T. Holt Alan Hutchcroft Thomas M. Jackson James Jackson Norman Jensen

Jerome Karle Phyllis E. Karseboom Norman Knight Joseph Lagowski Jen-Jen Liu Mao Gordon Lockyer Richard Loeppky Antone Lott Gordon Lowrie James McLean Veronica Miller John M. Moote John Muenter **Richard Neubig** Amos S. Newton **Richard Northrop** James Pivnichny Carlton Placeway Wayne Pletcher James Reh John Rosemergy Neil Rosen Walter E. F. Rupprecht Warren Russ Morley Russell Mary Catherine Ryan

Visit our website at http://www.umich.edu/~michchem for the latest news.

Alice Sackheim Cohen James Samanen Klaus Schmiegel Erich Schulz Vincent Scibelli **Ronald Seamans** Joseph Shepard Zhong-You Shi Bernard Sivak Robert M. Sowers Jack Sweet James Thirtle George Towe Jonathan Treisman Kelly Bruce Triplett Hing Tse Howard Un Howard Un William Wright Paul Zittel

### **Bachmann Memorial Lecture** John A. Petrasky

**Baer, Samuel H. Scholarship** Timothy Merkel

**Chair's Discretionary Fund** Robert Damrauer Steven Henry Masato Koreeda

**Chemistry - Special Scholarships** Irving Adler

**Chemistry Dept Fund** Dan Chapel Thomas Gougeon Jeffrey Hsi

Dr. Townsend Chemistry Group Clark Swayze

**H. H. Willard Memorial** Taft Toribara

**Lenini, Kent P Memorial Fund** Richard Bard Steven Gaudioso Janet Haartz Christine Sabatowski

Milton Tamres Teaching Award Barbara T. Booker Donald Carter

PAS Smith Schol Fund/UG Schol Fund David Emerson Jerome Horwitz Roy Pointer

**Robert & Carolyn Buzzard Graduate Chemistry Student Leadership** Robert and Carolyn Buzzard

**Robert Parry Scholarship Fund** Suzanne Fleming Robert Paine

**Robert W. Parry Award** Donald Schultz John T.Yoke, III

# Alumni News

E-Mail: chem.alum@umich.edu

If errors or misstatements are noted in any of the following items, the Editors of the Newsletter would appreciate such being called to their attention. Mistakes can, and do, inadvertently, creep in. Corrections can easily be inserted in the next edition.

**Sultan T. Abu-Orabi** (PhD 1982, Ashe) is Dean of Student Affairs at Yarmouk University (Jordan). He organized the Third Jordanian International Conference in Chemistry held in April 2000 at his institution.

**Irving M. Adler** - has recently taken a position as Adjunct Professor at Indiana Purdue Fort Wayne University in the Department of Business. He is also active as an international consultant in the wire and cable industry

**Lester M. Deguzman** (BSC 1996; MPH 1998 Michigan; MD 2002, Wayne St.) is a resident in Family Practice at Providence Hospital, Southfield, MI.

**Theodore S. Dibble** (PhD 1992, Bartell) was promoted to associate professor of chemistry at SUNY College of Environmental Science and Forestry Syracuse, NY, in spring 2002.

**Ron C. Gaba** (BS 1998) graduated from UM Medical School in June 2002. He is a resident in Radiology at the University of Illinois at Chicago.

**Roy Harlan** (MS 1936) has retired from a career in research and material development at Wright Patterson Air Force Base in Dayton, OH.

**Ramy Hassan** (BS 1998) is a regional chemical research associate for United Health Care of Basking Ridge, NJ.

**Morton Z. Hoffman** (PhD 1960, Bernstein), professor of chemistry at Boston University, is the 2002 recipient of the New England Association of Chemistry Teachers' John A. Timm award for his excellence in chemical education.

**Leah Hollier** (BS 2000) is an account manager at Xerographic Solutions in Plymouth, MI.

**Taha Jamil** (BS 1996) has graduated from medical school and started residency in Physical Medicine and Rehabilitation at Ohio State University.

**Raymond Jasinski** (BS Chem. 1954; PhD 1958, Iowa State) has retired to Cape Cod from Schlumberger Ltd, where he spent 15 years as a senior scientist in oilfield chemistry. He published nominally 100 papers and patents, primarily in electrochemistry.

**Timothy Jiggens** (BSC 1992) is a Lieutenant in the United States Public Health Service Commissioned Corps. As an Environmental Health Officer, he is assigned to the Chemical Demilitarization Branch of the Centers for Disease Control and Prevention to provide support to the Army's chemical weapons destruction programs.

**Jerome A. Klavons** (MS, 1978) is an Agriculture and Food Chemist with the US Department of Agriculture in Kerrville, TX, (not Knoxville, TN, as reported erroneously in the 2001-02 alumni newsletter).

**Chris Laroo** (BS 1996) is an environmental scientist with the US Environmental Agency. He graduated from Eastern Michigan University in December 2002 with a masters degree in chemistry.

Jennifer Meddings (BS 1998) graduated from UM Medical School in June 2002. She moved to Columbus, OH to begin a residency in Internal Medicine and Pediatrics at Ohio State University and Children's Hospital of Columbus. She received the William Dodd Robinson Award for Excellence in Internal Medicine, the Highest Academic Achievement Award (class rank 1 in her graduating class), the Janet M. Glasgow Award, and junior election to Alpha Omega Alpha Honor Society.

**Jeremy Miller** (PhD 2000, Sharp) was appointed Assistant Professor of Chemistry at SUNY, Oneonta in Fall 2002. He was previously a postdoctoral fellow at the Van Andel Institute, Grand Rapids, MI.

**Erica Lyn Romblom** (BSH 2000) is working in process development at CancerVax in Los Angeles, a cancer vaccine company.

John A. Sandin III (BS 1989; MD 1993 UM) is practicing neurosurgery and subspecializing in disorders of the spine at Marquette General Hospital in Marquette, MI.

**Zhifu Shu** (PhD 1992) is an intellectual property information research associate with Exxon Mobile Corp.

**Lazarus D. Thomas** (BS, 1948, MS 1949) Research supervisor for LOF Glass (Pilbington) in Toledo, OH. Retired to Bowling Green, OH.

**Lisa Viculis** (BS 1999) is a PhD student at UCLA studying solid state chemistry.

**Shan-Chun (Paul) Wang** (PhD 2000, Morris) is an Assistant Professor in the Department of Chemistry, National Chung Cheng University, Chia-Yi, Taiwan.

**Don L. Warner** (PhD 2002, Vedejis) is Assistant Professor of Chemistry at Boise State University, Boise, ID where he lectures in organic chemistry.

# In Memoriam

We were sorry to learn of the deaths of the following alumni, alumnae and friends of the Department.

**Beulah R. Elving**, wife of deceased Emeritus Professor **Philip J. Elving**, passed away on Jan. 6, 2003 in DeKalb, IL. Her volunteer work in the Ann Arbor community was extensive. For many years, she regularly attended the Philip J. Elving biennial lecture and she was beloved by chemistry faculty and spouses for her warm friendship and wisdom.

**Art Fournier** (1947) passed away March, 2001. Biochem researcher; retired in 1986. survived by his wife, two daughters and four grandchildren. Daughter,

Susan Campbell Fournier, graduated from Michigan in 1974.

**Edward James** (BS 1937) died on June 15, 2001. He spent his career at Sherwin Williams, Los Alamos National Laboratory and Livermore National Laboratory. He remained a consultant with LNL until his death. He was an expert in the development of high explosives and energetic materials.

**Oliver Johnson** (PhD, 1943) died on July 10, 2001. He is survived by his wife, Phyllis Hewitt Johnson. Ann Willard Korfhage passed away on Dec. 16, 2001. She was the daughter of Professor H. H. Willard and Margaret S. Willard. Mrs. Korfhage was former president of the Faculty Wives Clubs of both Southern Methodist University and the University of Pittsburgh.

Ahti A. Mackela (BA 1936, MS 1952) passed away on March 16, 2002. He taught chemistry for twenty-seven years at Mott Community College (Flint, MI) where he was also chair for nearly 14 years. He served in the 40th Chemical Laboratory Co. during WWII in England and France.

**Earl D. Morris** (BS Chem. 1940, MS 1941) died on Aug. 20, 2001 in Midland, MI. Most of his career was spent at Dow Chemical Co. where he was one of the founders of "Handi-Wrap".

**Frank H. Moser** (PhD 1931, Bachmann) died on Dec. 21, 2002 in Holland, MI. After graduation, he joined the Research Department at the National Aniline and Chemical Co. in Buffalo, NY and in 1938 he moved to Standard Ultramarine and Color Co. (Huntington, VA). He became Research Director at SUCO (1958) and Technical Director at Holland Color (1968). After retiring in 1972, he was a chemical consultant for many years for the Donnelly Corp. Dr. Moser held patents and coauthored a book on Phthalocyanine Coatings.



# Faculty

- Hashim Al Hashimi, Assistant Professor. Chemical Biology.
- Ion Andricioaei, Assistant Professor. Chemical Biology
- Arthur J. Ashe III, Professor. Organometallic Chemistry.
- Mark M. Banaszak Holl, Associate Professor. Synthetic and Mechanistic Solution, Surface, and Solid State Chemistry.
- John R. Barker, Professor, Chemistry and Atmospheric, Oceanic and Space Sciences. *Chemical Kinetics, Atmospheric Chemistry*.
- Larry W. Beck, Assistant Professor. Analytical NMR spectroscopy of Materials; Zeolite Catalysis.
- Heather A. Carlson, J. D. Searle Assistant Professor of Medicinal Chemistry and Chemistry, *Computational Chemistry*, *Drug Design, Theoretical Biophysics*
- Mary Anne Carroll, Associate Professor, Chemistry and Atmospheric, Oceanic and Space Sciences. *Atmospheric Chemistry*.
- Zhan Chen, Assistant Professor. Biomaterial and Polymer Surface, Biocompatibility.
- Brian P. Coppola, Arthur F. Thurnau Associate Professor, Organic Chemistry. Coordinator of Undergraduate Organic Chemistry Curriculum. Science Learning and Instructional Methods.
- **Dimitri Coucouvanis**, Lawrence S. Bartell Professor. *Synthesis, Structures and Reactivities of Metal Clusters and Supramolecules.*
- James K. Coward, Professor, Medicinal Chemistry and Chemistry. *Bioorganic Chemistry and Medicinal Chemistry*.
- M. David Curtis, Professor. Organometallic and Conducting Polymers.
- **B. J. Evans**, Professor. Solid State Chemistry: Electronic and Magnetic Materials.
- Carol A. Fierke, Professor, Biological Chemistry.
- Anthony H. Francis, Arthur F. Thurnau Professor. Magnetic Resonance, Vibrational and Electronic Spectroscopy of Materials.
- **Eitan Geva**, Assistant Professor. *Theoretical and Computational Chemistry*.

- John L. Gland, Professor, Chemistry, Chemical Engineering, and Applied Physics. *Solid State and Surface Chemistry, Physical Chemistry.*
- Gary D. Glick, Werner Bachmann Professor. Bioorganic Chemistry, Molecular Recognition.
- Henry C. Griffin, Professor. Nuclear Chemistry: Gamma-Ray Spectroscopy of "Hot" and "Cold" Nuclei.
- Melinda Gugelchuk, Adjunct Assoc. Professor: Organic Chemistry
- Kristina Hakansson, Assistant Professor. Analytical Chemistry.
- Marc Johnson, Assistant Professor, Inorganic Synthesis
- **Robert T. Kennedy**, Professor. *Analytical Chemistry*.
- Nancy K. Kerner, Lecturer, Coordinator of General Chemistry Laboratory. *Chemical Education : Learning and Instructional Methods.*
- Raoul Kopelman, Kasimir Fajans Professor. Chemistry, Applied Physics, and Physics. Analytical/Physical/Biophysical Chemistry.
- Masato Koreeda, Professor, Chemistry and Medicinal Chemistry. Synthesis of Natural Products. Small Molecule-DNA Interaction, Chemical Carcinogenesis, Glycobiology.
- David M. Lubman, Professor. Biological Mass Spectrometry, Spectroscopy and Instrumentation.
- Anna K. Mapp, Assistant Professor. Organic Chemistry, Chemical Biology, New Synthetic Methods.
- E. Neil G. Marsh, Associate Professor. Enzymes: Structure, Mechanism, and Specificity; Protein Engineering and Molecular Recognition.
- Rowena G. Matthews, Professor. *Biological Chemistry*.
- Adam J. Matzger, Assistant Professor. Organic, Polymers/Organic Materials.
- Mark E. Meyerhoff, Professor. Bioanalytical Chemistry, Electrochemical and Optical Sensors.
- Michael D. Morris, Professor. Analytical Laser Spectroscopy and Imaging; Electrophoretic Separations.
- Kathleen V. Nolta, Lecturer. Organic Biochemistry.
- William H. Pearson, Professor. Synthetic Organic Chemistry.

- Vincent L. Pecoraro, Professor. Synthetic Inorganic and Bioinorganic Chemistry.
- James E. Penner-Hahn, Professor. Biophysical Chemistry and Inorganic Spectroscopy.
- A. Ramamoorthy, Assistant Professor and Research Scientist, Chemistry and Biophysics Research Division. *Structural Studies of Biological Molecules*.
- Paul G. Rasmussen, Professor. Polymer/ Inorganic Chemistry.
- William R. Roush, Warner Lambert/Parke Davis Professor. *Organic Chemistry*.
- **Richard D. Sacks**, Professor. *High Speed Analytical Separations.*
- Melanie Sanford, Assistant Professor. Organometallic Chemistry.
- **Roseanne J. Sension**, Associate Professor. *Physical Chemistry, Ultrafast Laser Spectroscopy.*
- **Robert R. Sharp**, Professor. *Multidimen*sional and Multiquantum NMR of Paramagnetic Systems.
- Dotie Sipowska, Lecturer, General chemistry
- Edwin Vedejs, Moses Gomberg Professor. Organic Chemistry.
- Nils G. Walter, Assistant Professor. Chemical Biology.
- John P. Wolfe, Assistant Professor. Organometallic Chemistry.
- Ronald Woodard, Professor. *Medicinal Chemistry.*
- **Omar Yaghi**, Professor. *Materials Chemistry*.
- **Charles F. Yocum**, Professor, Biological Sciences and Chemistry. *Biological Chemistry of Photosynthesis.*
- Edward T. Zellers, Associate Professor, Chemistry and Environmental and Industrial Health. *Environmental-Analytical Chemistry*.
- Erik R. P. Zuiderweg, Professor, Chemistry and Biophysics. NMR Studies of Biomacromolecular Conformation and Dynamics in Solution.
- Professors Emeriti and Emerita: Lawrence S. Bartell, S. M. Blinder, Thomas M. Dunn, Seyhan N. Ege, Adon A. Gordus, Robert L. Kuczkowski, Richard G. Lawton, Lawrence L. Lohr, Daniel T. Longone, Christer E. Nordman, Lawrence J. Oncley, Peter A. S. Smith, Leroy B. Townsend, Edgar F. Westrum, Jr., John R. Wiseman





### Alumni Survey

As I am now beginning my second year as Chair of the Department of Chemistry, I have been thinking about some of the experiences and acquaintances I have enjoyed in this new role. A real highlight of this past year was the opportunity I had to learn about departmental alumni from all over the country. There is a tremendous wellspring of support for Michigan's Chemistry program from our alumni, people like you whose gifts over the years have meant a lot to the department. Many alumni have written personally to wish me well; others have sent tangible good wishes in the form of annual gifts to support the department. I am writing now to thank you for your goodwill to the department, and to tell you a little about my plans for the future.

In conversations with my fellow faculty and with alumni who serve on the Department's Alumni Advisory Committee, I have explored a number of ways in which we might do a better job of reaching out to our alumni. Among the suggestions we are considering is an annual (or bi-annual) "Alumni Day" that would offer a mix of intellectual and social programming designed to appeal to alumni from all walks of "life after Chemistry." I hope to continue these discussions over the next year with a view toward implementing some sort of pilot program in 2004. A key part of this effort will begin with a survey of alumni that is inserted into our annual newsletter, attached. I would encourage you to take a look at the survey, fill it out and send it back to me. Your input would be very helpful to us as we go forward.

The annual newsletter has information about some of the past year's accomplishments of our faculty and students. There is much to be proud of and many who justly deserve recognition. I am particularly pleased that so many of our faculty and students have received awards for their scholarly accomplishments. Our continued successes in recruiting top notch faculty and students is definitely something we will strive to continue this year also!

I hope that you will continue to support the Department as we go forward. I have been gratified to know that you, and others like you, have been instrumental in our continuing success, and I thank you for it. I hope to hear from you in future and will look forward to our continuing pleasant association.

Sincerely, William R. Roush, Chair



## Alumni Survey

Name:
Preferred Mailing Address:
Telephone: ( )      Email:
Degree information:
If Ph.D. degree conferred, mentor's name:
Occupation:
Business address (if different from above):
Business telephone:  ()    Business email:
The Department of Chemistry is contemplating a number of outreach activities to engage alumni. If invited back to campus for a reunion-like activity, what is the likelihood you would attend such an event:
Very likely Somewhat likely Not very likely
What programming would influence your decision to attend?
Intellectual presentation related to my career
Substantive scientific talk for more general audiences
Activities for pre-college children
Opportunity to meet with current students and faculty
Alumni mentoring and/or recruiting session with current students
Invitation to meet with former faculty and mentors (specify:)
Likelihood of meeting fellow classmates
Football tickets
Cultural event, such as concert or play
Golf or Tennis
At what general time of the year would you be most likely to attend:
Spring (April/May) Fall (September-November)
What is the best time plan?
Thursday evening-Friday Friday-Saturday morning Friday only Saturday only
Volunteer: Would you be willing to serve on a planning committee, or to write letters or make telephone calls on behalf of this event?YesNo

Costs: We propose making all intellectual programming free, although alumni would be responsible for assuming the costs for athletic and cultural tickets, in addition to their travel and hotel expenses. If we elected to charge for meals, what would you consider a fair charge for the following:

\_\_Luncheon \_\_Dinner \_\_Special event (such as a play or concert):

Additional thoughts:

*Please return in the enclosed envelope (no postage necessary) to the Department of Chemistry on or before December 15, 2003. Thank You!* 

I

Alumni-Alumnae Reply Form Please complete and return this form for our alumni files; include news of your current activities or suggestions for the next *Newsletter*:

Name	Name of Spouse _				
University	Degree	Year Advisor			
University	Degree	Year Advisor			
Residence Address		Home Phone			
City, State, Zip					
Firm/Institution	Pos	sition			
Business Address		Business Phone			
City, State, Zip		E-mail			
This is a New Address					
INFORMATION ABOUT YOURSELF:					
(Unless you request otherwise, we will feel free to mention any of this in future <i>Newsletters</i> ) I do NOT wish to have this information in the <i>Newsletter</i> .					

Corrections to address and updates can be sent to: Chemistry Alumni Office, University of Michigan, Department of Chemistry, 930 N. University Ave., Ann Arbor, MI 48109-1055; E-mail: chem alum@umich.edu

World Wide Web Address: http://www.umich.edu/~michchem E-mail: chem.alum@umich.edu

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