



University of Michigan

DEPARTMENT OF Chemistry

N E W S L E T T E R

Letter from the Chair

It's a pleasure for me to send you greetings from Ann Arbor and to highlight some of the exciting news from the Department of Chemistry in the last year. Faculty and graduate student recruitment remains a high priority for the Department. This past year has been an outstanding one in both areas.

In January, Professor Edwin Vedejs, the Moses Gomberg Professor of Chemistry, arrived in Ann Arbor from Wisconsin with some of his research group. Ed has now settled in and has put together a research group numbering eighteen already. Renovations of laboratories for Professor Carol Fierke will be completed in August, and Carol and her group will arrive then. Another exciting new senior hire in the past year is Professor Omar Yaghi from Arizona State University. Omar's research interests center around inorganic and materials chemistry. He will be a very significant addition to our efforts towards materials chemistry. Omar has already moved to Ann Arbor and his research group arrives in August. A fourth addition to our faculty in 1999 is Assistant Professor Nils G. Walter who received his Ph.D. from the Max-Planck-Institute for Biophysical Chemistry in Göttingen, Germany. He will arrive in Ann Arbor from a postdoctoral stay in the Department of Microbiology and Molecular Genetics at the University of Vermont. Nils' research plans will focus on the structure and dynamics in small catalytic RNA. His research interests span a variety of biophysical problems in chemical biology. In the coming year, we plan to

carry out faculty searches in organic chemistry, analytical chemistry, and theoretical physical chemistry.

Graduate student recruitment during the past year has been better than ever in both quality and quantity. In addition to the new students that come with Professors Fierke and Yaghi, we will have 56 new graduate students. It is also encouraging to note that at least 15 new entering students have research interests in inorganic chemistry. This past year, the Department was successful in obtaining an NSF IGERT grant for \$2.5 M over five years jointly with the Department of Materials Science in Engineering to train graduate students in materials science.

Other news in the Department includes the promotions of Dr. Mark Banaszak Holl and Dr. Roseanne Sension to Associate Professor with tenure. Associate Professor Gary Glick was promoted to Professor and named to a Collegiate Chair, which will be named the Werner Bachmann Professor of Chemistry. Professor Mark Meyerhoff finishes his term as Associate Chair for Graduate Student Affairs and will take a sabbatical leave next year. The Department and I are most grateful to Mark for the outstanding and effective job that he has done. I am pleased to announce that Professor Dimitri Coucouvanis has agreed to succeed Professor Meyerhoff as Associate Chair. During the past year, Professor Thomas Dunn retired and Professor Richard Lawton began a retirement furlough year.

There have been a number of changes and retirements on the staff side. This past

spring, Mary Browning, Lauren Meyers and Phyllis Peters retired from the University and this summer Wayne Burkhardt retired as supervisor of the electronic shop. There have been a number of new staff hires in the last year. In the technical area, Dr. Todd Raeker joined the Department as system manager in computing and Mohammed Hague in the area of NMR. Diane Viebahn and Laura Martinez joined the business office; Jacqueline Kuehn replaced Phyllis Peters and Karen Sturtz began as secretary to Professor Vedejs.

On the University front, a major new research initiative has been launched, and it is called the Life Sciences Institute. Last spring, President Bollinger announced a Life Sciences Commission chaired by Bill Roush from chemistry and Huda Akil from neurosciences to analyze the status of Life Sciences research at Michigan and make recommendations for a comprehensive initiative. The report of this Commission resulted in the projection of a \$200 million-dollar investment in the Life Sciences beginning with a 90 million dollar building to be the first of a Life Sciences Institute. A search for a director will begin this fall.

In the College, interim Dean Patricia Gurin is completing her year as Dean. Pat has been very supportive of the Department's efforts in faculty hiring. We appreciate all the hard work she has done this past year. In August, Professor Shirley Neuman from the University of British Columbia will begin her term as Dean of the College of LS&A. Currently, Professor Neuman is Dean of Arts at British

Contents

<i>Letter from the Chair</i>	1
<i>Symposia and Seminars</i>	2
<i>Spotlight Profiles</i>	3
<i>New Faculty</i>	4
<i>Faculty News</i>	6
<i>Special Events</i>	7
<i>Graduate Program News</i>	
<i>Graduate Awards</i>	8
<i>Doctoral Degrees</i>	11
<i>Undergraduate Program News</i> ...	13
<i>Undergraduate Awards</i>	15
<i>Summer Research Programs</i>	17
<i>Undergraduate Degrees</i>	18
<i>Gifts</i>	19
<i>Alumni News</i>	21
<i>In Memoriam</i>	28
<i>Faculty Listing</i>	29
<i>Conference Announcements</i>	30
<i>Alumni Reply</i>	
<i>Form</i>	inside back cover

The
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Columbia. We also have a new Vice-President for Research. He is Professor Fuwzay Ulaby from the Department of Electrical Engineering and Computer Science. He is very interested in preparing a coherent science agenda for LS&A with input from the science chairs.

I would like to thank all of you for your generous gifts and financial support to the

J. P. Marino

Symposia/ Seminars

The visit of Nobel laureate, Professor Thomas Cech, on May 19 to present the annual Bachmann Lecture was one of the high points of the seminar program this year. Professor Cech gave a compelling review of the discovery of catalytic RNA chemistry and recent results from his laboratory. The lecture and traditional celebratory dinner were among the most stimulating departmental events this year.

It has become customary to hold several of the special lectures in May when scheduling is more propitious. In this vein, the Elving Lecture was held the previous week. This biennial affair honors an analytical chemist. Dr. Janet Osteryoung who is the director of the chemistry program at the National Science Foundation presented this year's lecture. She maintains close ties with her home department and electrochemistry oriented research group at North Carolina State University.

On May 7 the Fifth Annual Michigan Symposium on Contemporary Challenges in Molecular Medicine was held in the department co-hosted with Parke-Davis Pharmaceutical Research. This year's theme was "Molecular Diversity at the Interface of Chemistry and Biology". Pe-

ter Schultz (Berkeley) opened the morning with *Functional Molecules: A Lesson from Nature*. Chaitan Khosla (Stanford) followed with *Assembly Line Synthesis Using Modular Enzymes*. The afternoon presentations were given by Jack Szostak (Massachusetts General Hospital) *RIVA-Protein Fusions: Applications to Directed Protein Evolution and Functional Genomics*, and Jonathan Ellman (Berkeley) *From Small Molecule Libraries to Function*.

The Moses Gomberg Lecture series, coordinated by the assistant professors, and sponsored by the Dow Chemical Co. continued its tradition of inviting distinguished leaders from across chemistry throughout the year. The series began in October with Jon Clardy (Cornell) discussing *Natural Products and Their Protein Targets*. In November, Stephen Benkovic (Penn State) spoke on *Enzyme Assembly*. Josef Michl (Colorado) spoke in January on *Localization and Delocalization of Electron Excitation in Sigma Frameworks*. The February lecture was given by Robert Shulman (Yale) on *Let Us Do Biochemistry In Vivo*. Carl Lineberger spoke in March on *Organic Radicals, Reactive Intermediates, and Transition States: Spectroscopy of the Reaction Coordinate*. In successive weeks in April, lectures were presented by Nicholas Turro (Columbia) *Stable Radicals Revisited: Supramolecular Stabilization*, and by Yves Chabal (Bell Labs/Lucent) *Semiconductor Surface Passivation: The Ubiquitous Role of Oxygen and Hydrogen*.

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The annual Floyd Bartell Memorial Lecture, which brings a distinguished physical chemist to the campus, was held in April. The Alpha Chi Sigma fraternity selects this speaker and acts as host. This year, Dr. Stephen Berry (Chicago) spoke on *Topographies and Dynamics in Many Dimensions: From Clusters to Proteins*.

These lectures as well as many others throughout the academic year provides a rich intellectual feast at the frontiers of the discipline. These seminars are essential to providing a stimulating and vibrant program for our students. They are supported by the various corporate sponsors and named endowment funds and also by a variety of internal sources including the annual alumni and alumnae gifts to the department. We are grateful to the many supporters of this important activity.

Spotlight Profiles on Faculty, Graduate Students and Undergraduates

We highlight one faculty member, one graduate student and one undergraduate student to let you know of their special accomplishments in the past year. Although the choice is difficult, considering the numbers of outstanding people in Chemistry at Michigan, we hope you agree this group deserves merit.

Faculty Member

Professor **James Penner-Hahn** has been at the University of Michigan for the last 15 years, since joining the faculty in the Fall of 1985. He has only been sighted briefly in Ann Arbor for the last 12 months spending his time at the Centre d' Etude Atomique laboratory in Saclay, on the outskirts of Paris, France. Professor Penner-Hahn has been on a sabbatical leave in the Department de Biologie Cellulaire et Moléculaire, supported by a Senior International Fellowship from the Fogarty Center. Thus, for the last year he

Gomberg 2000 Conference

VIIIth International Symposium on Organic Free Radicals
June 25 – 29, 2000
University of Michigan, Ann Arbor, MI
Masato Koreeda, koreeda@umich.edu
<http://www.umich.edu/~michchem/gomberg/2000>

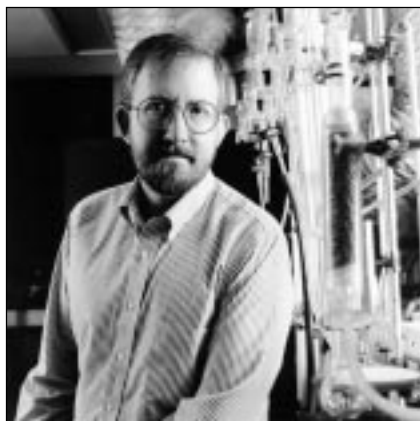




16th Biennial Conference on Chemical Education

July 30 – August 3, 2000
University of Michigan, Ann Arbor, MI
Rich Rothrock (734) 763-9069 Email: bcce@umich.edu
<http://www.umich.edu/~bcce>

has been spending his time studying the details of high-field EPR (electron paramagnetic resonance) spectroscopy as opposed to his usual interest in high-energy



James Penner-Hahn

(i.e., x-ray) spectroscopy. Instead of teaching classes in introductory chemistry, he has been taking classes in introductory French. Although the latter have only been modestly successful (after a year in the French schools, his children now routinely correct his pronunciation and grammar) the research has been very successful and has given exciting new insight into the structure of manganese redox enzymes.

Although it is with some regret that he will bid adieu to Paris, he is looking forward to rejoining his group for personal,

rather than e-mail, discussions. His research interests continue to focus on understanding the structure of the metal sites in metalloproteins. His group is particularly interested in the bioinorganic chemistry of Mn and Zn, and has been very active over the last year, even in Prof. Penner-Hahn's absence. The nine graduate students and postdocs have made numerous trips to synchrotron laboratories across the country and now have a large amount of data waiting for his return.

For most of his time at Michigan, Prof. Penner-Hahn has taught general, physical, or inorganic chemistry courses. This Fall will see a change, as he works on developing an exciting new "Projects Laboratory" for biochemistry undergraduates. This course, whose initial development is being supported by the Howard Hughes Medical Institute, will provide a structured research opportunity for the increasing number of biochemistry concentrators at the University of Michigan.

Professor Penner-Hahn's sabbatical marked the end of a three-year stint as the Associate Chair for the Undergraduate Program. Now, refreshed by his leave, he is looking forward to jumping back into University business, as a member of the departmental Executive Committee and Graduate Committee, as chair of the physical chemistry search committee, and as a

member of the Rackham Executive Board and the University Senate Assembly. In addition to his University service, Professor Penner-Hahn remains very involved in international activities, as chairman of the International Union of Crystallography Commission on XAFS, vice-chair of the International XAFS Society, co-editor of the *Journal of Synchrotron Radiation*, and a member of the editorial boards of the *Journal of Biological Inorganic Chemistry* and the *Journal of Inorganic Biochemistry*.

Graduate Student

Heather Clark (Kopelman) is a researcher who has focused on the design and application of optical sensors to the analysis of single cells. This has led to the development of the smallest sensors available, each only 20 nanometers in diameter, called PEBBLES (Probes Encapsulated By Biologically Localized Embedding). These tiny sensors have proven to be a non-invasive method to measure ion concentrations inside single cells. In collaboration with a group in the



Heather Clark

department of Neurotoxicology, Heather has applied the sensors to single neural cells, and studied calcium release from mitochondria during the mitochondrial permeability transition.

She has authored and co-authored many publications, focusing on methods for intracellular analysis, including "Optical Nanosensors for Chemical Analysis inside Single Living Cells. Part 1: Fabrication, Characterization and Methods for Intracellular Delivery", and "Part 2: Sensors Specific for pH and Calcium and the Intracellular Application of PEBBLE Sensors", both in press for *Analytical Chemistry*. Her work has also been featured in several magazines, including *Science*, *Analytical Chemistry*, *The Economist* and *Business Week*. The PEBBLE project is scheduled to appear this fall on the ABC Nightly News.

Heather will begin postdoctoral studies at the University of Connecticut Health Center this fall in the Center for Biomedical Imaging Technology, where she will be studying calcium levels in neural cells using near-field optical microscopy. Her husband, Roger, will begin a position at Bayer Pharmaceuticals in combinatorial chemistry.

Undergraduate Student

David White (honors chemistry, Koreeda) August 1999

David has participated in Prof. Koreeda's lab for three years. Independ-

ent study began with the palladium catalyzed coupling of terminal acetylenes to halogenated aromatic compounds. He



David White

then pursued research on the total synthesis of LL-Z1220, a fungal product possessing antibacterial properties, under a summer fellowship from Pfizer. His Honors

thesis is entitled "Organoborane Mediated Asymmetric Reduction of TBDMS Protected -hydroxy Ketones." David will continue his organic research at Harvard this fall under a National Defense Science and Engineering Graduate Fellowship. At Michigan, his honors include a Goldwater Scholarship, three summer research fellowships, a National Starch Scholarship, and the American Institute of Chemists Chemistry Award. If past honors are an indication, we should look forward to David's future accomplishments while pursuing his Ph.D. and thereafter in academia or industry.

New Faculty



Carol A. Fierke, Professor Biological Catalysis: Molecular Recognition, Enzyme Engineering Ph.D., Brandeis University

Our goal is to comprehend the high efficiency and specificity of biological catalysts, both proteins and nucleic acids. An understanding of these principles is essential for: interpreting biological catalysis in vivo, designing inhibitors for therapeutic use, and developing novel catalysts for a variety of tasks, including organic synthesis and analysis of complex mixtures.

We are elucidating the catalytic mechanism and molecular recognition of medically important metalloenzymes, including carbonic anhydrase (CAII), protein farnesyltransferase, and UDP-3-O-acyl-GlcNAC deacetylase. Structure-function relationships are being investigated using mutagenesis, kinetic analysis, alternative substrates, X-ray crystallography, and NMR spectroscopy to enhance our understanding of catalytic zinc sites and our ability to design inhibitors useful for the treatment of glaucoma, cancer and bacterial infections.

To identify the catalytic modes used by ribozymes in comparison to protein catalysts, we are investigating the mechanism of ribonuclease P, a ribonucleoprotein complex where the RNA component catalyzes the cleavage of tRNA precursors. We are determining the structure and func-

tion of both the prokaryotic and eukaryotic holoenzymes using crosslinking, crystallography, spectroscopy, kinetic analysis and synthesis of modified RNA molecules.

Finally, we are rationally redesigning proteins for optimization of biosensors,

including a CAII-based metal ion biosensor. We are using “directed evolution” approaches to alter (i) the substrate specificity of aldolases for use as biocatalysts in organic synthetic reactions and (ii) the catalytic mechanism of trypsin to provide insights into molecular evolution.



Nils G. Walter, Assistant Professor
Chemical Biology
Ph.D., Max-Planck Institute, Technical
University of Darmstadt

The discovery of catalytic RNAs, or ribozymes, in the early 1980s was a landmark in the biological sciences. RNA was found to catalyze complex chemical reac-

tions in the absence of proteins, dismantling the dogma that protein enzymes are the sole biological carriers of catalytic activity. As such catalysts, ribozymes need to be extremely dynamic. Their structures and interactions with substrates and cofactors, such as metal ions and proteins, undergo substantial changes over time scales of microseconds to hours. The major goal of our group is to understand these dynamics by the combined use of state-of-the-art chemical, molecular biology, and biophysical approaches. In particular, we employ fluorescence based techniques to acquire unique kinetic data that allow to dissect the reaction pathways of ribozymes. In addition, we are extending these techniques both to the single-molecule level and to studies in live cells.

The systems we study range from small RNA catalysts, such as the hammerhead and hepatitis delta virus ribozymes, to large RNA-protein complexes, such as

the spliceosome. As the common nucleobases do not fluoresce, we incorporate fluorophores into RNA by chemical methods. Steady-state and time-resolved fluorescence measurements of these site-specifically modified RNAs allow us to ask questions such as: What is the distance between the attachment sites of a fluorophore and its quencher (e.g., a second, so-called acceptor fluorophore)? Are there conformationally distinct RNA molecules present in solution, so that separate distance distributions are observed? How do these distances change over time? What influence do cofactors and sequence modifications have? Our studies help, first, to understand the principles of structure folding in RNA and ribonucleoprotein complexes and, second, to illuminate the molecular basis of catalysis by RNA. Applications include the identification and optimization of ribozymes for gene therapy applications within cells and the exploration of novel applications for RNA, e.g., as biosensor.

Omar M. Yaghi, Professor
Materials Design and Discovery Group:
Materials Chemistry of Molecular and
Extended Organic and Inorganic Solids
Ph.D., University of Illinois-Urbana

Controlling the atomic structure, topology and function of extended solid state materials is one of the most challenging issues facing chemistry. Our approach toward addressing this challenge has involved developing synthetic strategies to the design of extended networks from soluble molecules with special emphasis on the synthesis of inorganic and organic porous materials. Using this molecular building block approach, it is possible to tailor the pore shape, size and function, thus it has been possible for my group to generate new



classes of materials, where the molecular properties have been translated into the designed solids, which are then examined for their use in catalysis, sensors, separations, transport and information storage.

Specifically, the research efforts in my group include: (1) designing porous metal-organic crystals by the copolymerization of metal ions with organic molecules such as 1,4-benzenedicarboxylate, where their multidentate functionalities allow the formation of stable open networks in which highly selective molecular recognition and sensing is achieved; (2) the assembly of inorganic metal oxide, sulfide and nitride networks with unprecedented porosity and the use of their voids as microvessels for the synthesis and study of unusual compounds;

(3) synthesis of organic zeolites constructed mainly by C-C, C-N, and C-O bonds by applying ordinary organic reactions to the solid state; (4) probing the chemical environment within the pores by gas sorption and liquid sorption isotherm measurements in order to design metal Lewis acid sites for catalysis of organic reactions; (5) preparation of metal-organic porous thin films for device applications and their study by atomic force microscopy. In addition, this group has recently embarked on a collaborative program aimed at employing theory toward understanding and predicting framework structure, host-guest and template interactions, pore reactivity, and structure stability.

Graduate students and postdoctoral fellows in my group receive training across several disciplines including organic, inorganic, and materials chemistry with special attention given to synthesis, structure, and properties. These projects are interdisciplinary and provide unique training in molecular and solid state chemistry, with working knowledge and expertise in several laboratory techniques including single crystal and powder diffraction, solution and solid state NMR, thermal gravimetry, FTIR, UV-Vis, gas chromatography, HPLC, electrochemistry, gas sorption, BET, electron microscopy, and molecular modeling.

Gary Glick was promoted to Werner Bachmann Professor of Chemistry. He received funding from NIH to study the “synthesis of disulfide cross-linked nucleic acids.”

Richard Goldstein completed five months at the Newton Institute at Cambridge University (England) attending a workshop titled “Biomolecular Function and Evolution in the Context of the Genome Project.”

Nancy Konigsberg Kerner received the 1999 Computerworld Smithsonian Award for her work with CoLABnet.

Raoul Kopelman, the Kasimir Fajans Collegiate Professor of Chemistry, Physics and Applied Physics, was involved in the organization of and gave presentations at various international conferences in Europe, Japan, and North America. In addition, Professor Kopelman received funding from Media Sense for work on “Glucose NanoSensors for Diabetics” and funding from DARPA for “Dynamic Nano-Platforms for Cancer Detection and Remediation” and NSF/DNR (5 year grant) on “Excitations and Kinetics in NanoStructures”.

Robert Kuczkowski has been elected a member of the International Advisory Committee of the Ohio State University International Symposium on Molecular Spectroscopy.

Lawrence Lohr (with **John Barker** *et al.*) received a three year grant from NASA to work on “State-to-State Rate Constants for Computation of Non-LTE Infrared Radiative Transfer in the Middle Atmosphere.” He was the keynote speaker at the Third Turkish National Chemical Physics Meeting at Bogazici University in Istanbul, Turkey.

Neil Marsh received funding from NSF (along with co-P.I. **Jim Penner-Hahn**) for the purchase of fermentation equipment.

Mark Meyerhoff completed his term as Associate Chair for Graduate Affairs. He will begin a year-long sabbatical to refresh and restore himself. During the year, he received a U.S. Patent for “Unitary Sandwich Enzyme Immunoassay Cassette Device and Method of Use”. He is co-investigator with Elzbieta Malinowska on a U.S.-Polish Maria Sklodowska-Curie Joint Fund award.

Michael Morris received funding from NIH to study DNA Capillary electrophoresis protocols and processes. He received

Faculty News

Arthur Ashe received a provisional U.S. Patent for “Electron Rich Bridged Metallocenes.”

Mark Banaszak Holl was promoted to associate professor with tenure and received the prestigious Alfred P. Sloan Research Fellowship this year. He received the Research Corporation General Award to study “the nature of the chemical bonding between two ortho-CF₃ groups and germanium.”

Professor Emeritus **L. S. Bartell** presented seminars on electron diffraction and nucleation at the University of Akron and the Universities of North Carolina at Wilmington and at Charlotte.

Larry Beck completed his first year at Michigan as an assistant professor. He was awarded an NSF grant to study the “design and characterization of porous materials for heterogeneous catalysis”.

Brian Coppola, as co-PI, received a NSF grant for his work on “ChemSense: Promoting Representational Competence to Facilitate Understanding and Epistemological Thinking in Chemistry”. He also traveled to various universities to give presentations on undergraduate curriculum development.

Dimitri Coucouvanis participated in many international lectures including the Industrial Applications of Bioinorganic Chemistry at Corfu, Greece (plenary speaker), the International Conference on Bioinorganic Chemistry in Florence, Italy as well as many national lectures.

M. David Curtis (with **Richard Laine**) was named co-PI for a National Science Foundation training grant. This grant will provide funding for an initial five year period in the new Integrated Graduate Education and Research Training program. The training grant is a collaborative effort with groups of various University of Michigan faculty as well as industrial and government participants. In addition, Professor Curtis received funding from the Department of Energy to continue his work on reactivity and safety.

B.J. Evans received a Presidential Award for Excellence in Science, Mathematics and Engineering Mentoring from President Bill Clinton at a White House ceremony. Evans was honored for his work with U of M’s program in scholarly research for urban minority students. This award is funded through the National Science Foundation.

the Distinguished Faculty Achievement Award from the University of Michigan for recognition of his numerous and innovative scientific contributions, his extraordinary mentoring of students and his many years of loyal service to the University.

After an invigorating sabbatical, **Will Pearson** rejoined the faculty to teach, continue research and share his knowledge from his time away.

Vincent Pecoraro received funding from NIH for his work on "structural models for multinuclear manganese enzymes".

A. Ramamoorthy received a career development award from NSF. Additionally, he was nominated for the Lucille Packard Fellowship for Science and Engineering for 1999.

William Roush assumed the position of Associate Editor of the *Journal of the American Chemical Society*.

Richard Sacks received a grant from NIOSH with **Ted Zellers** for "microanalytical system for indoor VOC monitoring." He was instrumental in obtaining a time-of-flight mass spectrometer with HP 6890 GC and auto injector as well as a GC

with two ultra-high-speed temperature-programmed ovens.

Roseanne Sension was promoted to associate professor with tenure. In addition, she was elected member-at-large to the Division of Chemical Physics of the American Physical Society.

Edwin Vedejs completed his first winter semester with the Department. The Moses Gomberg Professor of Chemistry completed moving his lab and his group from Wisconsin while obtaining a new grant from NSF to study "Chiral Nucleophiles and Electrophiles in Relay Catalysis".

Special Events

Sokol Tea

On November 3, 1998, the Department hosted a Tea Party with our special guest of honor, Mrs. Margaret Sokol. Professor Joe Marino welcomed all to a feast of pear walnut sandwiches, fruit, chocolate truffles and of course Earl Grey tea. Each year Mrs. Sokol visits the Department to meet with recipients of the Margaret and Herman Sokol Fellowship. The Department selects two graduate student fellows and eight undergraduate fellows. In addition, the Rackham Graduate School selects a faculty member from the sciences to receive a Margaret and Herman Sokol Faculty Award in the Sciences.

Professor **Dimitri Coucouvanis** received this award in the fall of 1997. We've included his picture this year. We invite all past fellowship recipients to the tea each year.

The 1998-99 undergraduate awardees were: Aparna Arunkumar, Jennifer Baker, Brian Clarke, Erik Kornmiller, Russell Miller, Danielle Sgambati, Timothy Stucka, and Joseph Wachter. The 1998-99 graduate student fellows were Ting-Lan Chiu and Mark Mowery.



Sokol Awardees. (back row left to right) Adam Janco (97), Brian Clarke (98), Erik Hofer (97), Zain Bengali (97), Russell Miller (98), Erik Kornmiller (98). (front left to right) Kendra Frederick (96), Angkana Roy (97), Mrs. Margaret Sokol, Joseph Wachter (98), Marieke Gilmartin (96)



Xinggao Fang (97), Mrs. Margaret Sokol, Ting-Lan Chiu (98)



Prof. Dimitri Coucouvanis and Mrs. Margaret Sokol

Graduate Program News

56 Entering Graduate Students for Fall, 1999

The Department anticipates a welcome addition of 56 new faces to the graduate program for the Fall 1999 year. With so many new ideas, thoughts, and research concepts floating about, the Chemistry Building will be THE place to be on campus.

New Program - CSIE

The Department implemented a new Chemical Sciences at the Interface of Education (CSIE) program this past year. CSIE is a Graduate Assistance in the Area of National Need Grant sponsored by the Department of Education. The CSIE vision is to create an infrastructure for the scholarship of teaching by broadening the research training. Professor Brian Coppola is leading this program and has implemented CSIE as part of his work as a 1998-99 Pew Scholar in the Carnegie Foundation Fellows Program.

Departmental Awards Ceremony and Ice Cream Social

The Department hosted the annual awards ceremony on May 26, 1999. Our special guest was Professor Milton Tamres who was on hand to give the Milton Tamres Outstanding Teaching Award. Students, faculty, staff and postdocs filled up on ice cream sundaes and took delight in the recognition of outstanding colleagues.

Outstanding Graduate Student Instructor Award (GSI)

The Department of Chemistry provides awards annually to outstanding graduate student instructors. Award recipients are chosen for their contributions to innovation in the lab or classroom, teaching evaluations, and written recommendations of faculty supervisors. The 1998-99 Outstanding Graduate Student Instructor



GSI Award - Jose Santos, Prof. Robert Kuczowski

Award winners were: Dan Hutta, Jose Santos, Deanne Taylor.

Outstanding Graduate Student Research Award



Outstanding Graduate Student Research - Kelly Mowery, Prof. Mark Meyerhoff

This award is given to those students that demonstrate superior research skills and recognizes the creativity of the students and the uniqueness of their topic. Winners of this award have several publications and have presented at major national conferences. The 1998-99 Outstanding Research Award winners were: Kelly Mowery (Meyerhoff) and Katrina Peariso (Penner-Hahn).

Ms. Mowery's research has been on the development of more biocompatible polymer materials through the use of ni-

tric oxide release technology. These polymer materials have many biomedical applications, including utility for fabricating implantable sensors and as coatings for tubings and catheters which are exposed to blood during surgery. This research has been the focus of 5 papers within the last year, and 9 publications during her time here at Michigan.

Ms. Peariso's research has been on the application of x-ray absorption spectroscopy to the characterization of spectroscopically 'silent' metal ions, with a primary focus on Zn(II). The majority of this research has been focused in two areas: 1) mechanistic and geometric studies of the zinc catalyzed methyl transfer reaction carried out by methionine synthase enzymes; and 2) examining the spatial and temporal changes in zinc ligand environments during the early development of Zebrafish embryos using x-ray fluorescence microprobe imaging and micro-XANES spectroscopy. Current efforts are also being placed into determining the effect of ligand exchange versus geometric changes in x-ray absorption near edge structure spectroscopy.

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. The 1998-99 award winner was Heather Clark (Kopelman). Ms. Clark's research has focused on the development and application of submicron



ACS Research and Teaching Award - Heather Clark, Prof. Raoul Kopelman

sized optical sensors for the analysis of intracellular ion concentrations. These sensors, called PEBBLEs (Probes Encapsulated By Biologically Localized Embedding) are small enough to be contained entirely within a single cell, and have proven to be non-invasive. She is the co-author of 8 publications. Ms. Clark has taught a variety of courses for the department during her tenure as a graduate student. She has had an appreciable impact on the lives of many undergraduate students here.

Milton Tamres Outstanding Teaching Award



Milton Tamres Outstanding Teaching Award - Prof. Milton Tamres, Prof. Lawrence Bartell, James Zimmerman

This award was established in the name of Emeritus Professor Milton Tamres. This award recognizes outstanding cumulative teaching service.

James Zimmerman (Sacks/Becchetti (Physics)) was the 1998-99 winner. Since 1994, Jim has been involved in the teaching of multiple terms of CHEM 106, 125, 130, 462 and 480. He has also been involved in the design of the websites for CHEM 106 and CHEM 130. Jim assisted with the departmental GSI training for two years. Jim's research at Michigan has been primarily focussed on Neutron-Halo Radioactive Nuclear Beams and has also exposed him to the areas of gamma-ray spectroscopy as well as chemical separation techniques of naturally occurring radioisotopes.

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 giving extra time assisting with graduate recruitments,



Leadership Award - Prof. Mark Meyerhoff, Jenny Holt

working with faculty and staff to provide a better environment for graduate students, and also serves as a morale and welfare support resource for the graduate students. The 1998-99 winner was Jennifer Holt.

In addition to the Departmental awards, we wish to recognize three additional awards given to our students this year.

Roche Award (Spring 1999)

This is an external award given by the Hoffmann-La Roche Company for Excellence in Organic Chemistry.

The Department chose one student to be nominated for this award. The 1998-99 winner, Glenn Micalizio (Roush), was



Roche Award - Dr. Lee E. Babiss, Glenn C. Micalizio

one of a select few graduate students in chemistry from top-ranking universities chosen to receive this honor. Glenn's research focuses on the total synthesis of Spongistatin 1, hailed to be one of the most potent inhibitors of cancer cell growth discovered to date. In addition, he

is currently developing a novel convergent approach to tetrahydrofurans employing bifunctional allylic organometallics. He is also developing a synthetic route to another anticancer marine macrolide, Pectenotoxin II employing the newly developed tetrahydrofuran synthesis.

ACS Analytical Division Fellowship

This year, we were fortunate to have a 1999-00 ACS Analytical Division Full Year Fellowship winner. Jerilyn Timlin (Morris) received this award and is sponsored by Proctor and Gamble. Her research focuses on developing Raman spectroscopic imaging as a tool for characterizing the chemical microstructure of bone. Using multivariate image processing techniques, her group has identified at least three unique mineral species present in bone and have mapped their distribution in mature and newly formed bone trabecular and cortical bone. Correlating these spectroscopic changes with physiological microstructure will have a wide-spread impact in the biomedical community aiding in fracture repair, bone replacement, and development of new techniques such as gene-therapy.

Union Carbide Corporation Kenan Award

This award is given for outstanding graduate students working in the field of measurement science.

Jeongim Park (Zellers) was the 1999 recipient of the Union Carbide Corporation Kenan Award from Michigan. The goal of her research is to develop an instrument small enough to be worn by a worker that can provide selective, simultaneous measurement of personal exposures to organic vapors. The instrument employs an array of surface-acoustic-wave (SAW) sensors as well as a thermally desorbable adsorbent preconcentrator. By using sensors with different polymer coatings in the array, it is possible to produce a pattern of responses that can be used to identify the vapor. Quantification is achieved by calibrating the response peaks against known test-atmosphere concentrations.



Samuel H. Baer Fellows -
Katherine Henzler, Joseph Gardner



GAANN Fellows - *Melissa Batchelor, Ashley Holleman, Cory Emal, Roxanne Kunz, Stacey Nevins*



Rackham Merit Fellows -
Murphy Brasuel, Jason Brown



Schalon Fellows - *Karla Miller, Kimberley O'Neil*



Sloan Fellows - *Angela Carden, Carrie Leonard, Xiaoying Jin, Jenny Holt*



Sokol Graduate Fellows -
Ting-Lan Chiu, Mark Mowery

Graduate Fellowships

In addition to the awards, the Department provides fellowships to outstanding students. Fellowships given during the past year by the Department, the College and the Rackham Graduate School include:

Samuel H. Baer Fellows: Joseph Gardner, Katherine Henzler

Chemical Biology Interdisciplinary (CBI) Training Grant Fellows: Beth Knapp, Nicholas Knuth, Craig McClure, Jessica Pankuch, Jennifer Pickett

Dow Britton Fellows: Steven Clarke, Joseph Gardner

Graduate Degrees for Minorities in Engineering and Science (GEM) Fellow: Jason Brown

Graduate Assistance in the Area of National Need (GAANN) Fellows: Melissa Batchelor, Tino Cavaggiola, Brett Duersch, Cory Emal, Ashley Holleman, Roxanne Kunz, Stacey Nevins

Hughes Predoctoral Fellow: Katherine Henzler

Medical Scientist Training Program (MSTP) Fellows: Jeffrey Bednarski, Neal Blatt

Pharmacia & Upjohn Fellow: Stephanie Chervin

Rackham Merit Fellows: Murphy Brasuel, Jason Brown, Millicent Weldon

Rackham One Term Dissertation Fellows: Joan Esson, Neal Blatt

Rackham Predoctoral Fellow: Laurie Yoder

Regents' Fellows: Jeffrey Bednarski, Neal Blatt, Matthew Hartman, Morris Slutsky, Ryan Sweeder, Craig Vanderkooi, Neal Yakelis

Schalon Fellows: Karla Miller, Kimberley O'Neil, Lloyd Simons

Sloan Fellows: Angela Carden, Jennifer Holt, Xiaoying Jin, Amy Koren, Carrie Leonard, Rebecca Peebles, Ipsita Roymoulik, Xiaoying Yu

Sokol Graduate Fellows: Ting-Lan Chiu, Mark Mowery

Walter Yates Fellow: Kirk Hering

These fellowships recognize the academic, research, and teaching excellence of our graduate students.

Doctoral Degrees

August, December, 1998 and May, 1999

Susan Barker (Kopelman)

Development of Anion and Nitric Oxide Selective Chemical Sensors and Biosensors. *Dr. Barker has accepted a position at the National Institute of Standards and Technology (NIST) in Gaithersburg, Maryland.*

Adam Capitano (Gland)

Exploring New Reactions and Establishing Structure/Reactivity Relationships for Gas-Phase Hydrogen Radicals on Metal Surfaces. *Dr. Capitano has accepted a post-doctoral research position at the Massachusetts Institute of Technology.*

Jiong Chen (Townsend)

Synthetic Studies of Pyrazine, Indole and Quinoline Nucleosides and Related Chemistry. *Dr. Chen is a Research Chemist at Pharmacia & Upjohn, Inc. in Kalamazoo, Michigan.*

David Coutant (Meyerhoff)

The Characterization and Application of Hydroxyphenyltriphenylporphyrin- Silica Phases. *Dr. Coutant is employed by Eli Lilly and Company in Indianapolis, Indiana.*

Brett Donovan (Sension)

Characterization of the Primary Processes in the Photosystem II Relaxation Center by Ultrafast Laser Spectroscopy.

Michael Ducey (Meyerhoff)

Characterization and Applications of Microporous Gold Electrodes in Bioanalysis. *Dr. Ducey is currently a post-doctoral researcher at the University of Arizona.*

Xinggao Fang (Ashe)

Aromatic Boron Heterocycles and Their Metal Complexes. *Dr. Fang is currently a post-doctoral researcher at Los Alamos National Laboratory, New Mexico.*

Brian Gallagher (Pearson)

The Reactions of Alkyl Azides with Alkenes and Alcohols; Rearrangements Involving Electron Deficient Nitrogen Atoms: I. Design and Synthesis of Potential Dopamine Analogs. II. An Approach to the Total Synthesis of (-)-Pictamine. *Dr. Gallagher is employed as a Research*

Investigator at the Eisai Research Institute in Wilmington, Massachusetts.

Geoffrey Gardner (Lee)

Porous Coordination Networks Based on Trigonal Ligand Topologies and Silver(I) Trifluoromethanesulfonate.

Shirley Hoenigman (Evans, C.)

Spectroscopic Studies of Pressure-Induced Perturbation in Inclusion Complexation Equilibria. *Dr. Hoenigman has accepted a position as an Assistant Professor of Chemistry at Neumann College in Aston, Pennsylvania.*

Nancy Jestel (Morris)

Raman Microspectroscopy and Hyperspectral Raman Line Imaging of Hydrothermal Aluminosilicate Glasses. *Dr. Jestel is employed as a research scientist for General Electric Plastics in Evansville, Indiana.*

Neil Law (Pecoraro)

Properties and Reactivity of Model Manganese Complexes for the Oxygen Evolving Complex of Photosystem II. *Dr. Law is a post-doctoral researcher at Princeton University in New Jersey.*

Kyle Litz (Banaszak-Holl)

Germynes as Active Ligands on Group-10 Metals

Hong-Jun Liu (Sension)

The Vibrational Energy Relaxation of Iodine-Aromatic Hydrocarbon Charge-Transfer Complexes

Emily Maglott (Glick)

Structural and Kinetic Studies of Tertiary Folding of an Unmodified Transfer RNA. *Dr. Maglott is a staff scientist at Avery Dennison in Painesville, Ohio.*

Michael Migawa (Townsend)

Synthesis and Reactivity of Novel Pyrrolo[2,3-d][1,2,3]Triazine. *Dr. Migawa is employed as a Scientist at Isis Pharmaceuticals in Carlsbad, California.*

Ramasubramanian Narayanan (Laine)

Novel Routes to Metalloorganics Containing Aluminum from Minerals.

James Pennington (Koreeda)

Application of α -OXA- α Silyl Radical Cyclization to the Stereocontrolled Synthesis of Trans- α -Lactones. *Dr. Pennington is a lecturer at the Department of Chemistry at Texas A & M University in College Station, Texas.*

Stuart Pullen (Sension)

Ultrafast Time-Resolved Spectroscopy of Polyene Reaction Dynamics in Solution: 1,3,5-CIS-Hexatriene and 1,3-Cyclohexadiene in Cyclohexane and Hexadecane Solvent. *Dr. Pullen is employed as a Process Evaluation Scientist at Magellan Laboratories Inc., Research Triangle Park, North Carolina.*

Narayanan Ramamurthy (Meyerhoff)

Development and Biomedical Applications of an Improved Polycation-Sensitive Membrane Electrode. *Dr. Ramamurthy is employed by Medtronic Inc. in Parker, Colorado.*

Dell Rosa (Coucouvannis)

Benzo-Crown Ether, and Catechol Functionalized Salicylideneimine Complexes and Their Transport Properties as a New Class of Supramolecular Complexes. *Dr. Rosa is a post-doctoral researcher in the Chemistry Department at the University of Michigan.*

Trevor Rudalevige (Francis)

The Study of Fullerene Aggregates in Solution. *Dr. Rudalevige has accepted a position at the University of Massachusetts in Boston, Massachusetts.*

Heather Smith (Sacks)

Vector Modeling and Tunable Selectivity Strategies for High Speed Gas Chromatography.

Glen Southard (Curtis)

Conjugated Organometallic Polymers: Poly(Metalloacylene Arene)S and an Acetylide Bridged Decamethylhafnocene Acetylide Dimer. *Dr. Southard is a post-doctoral researcher at the Coatings Institute at Eastern Michigan University in Ypsilanti, Michigan.*

Larry Walker (Sension)

Ultrafast Transient Absorption Studies of Vitamin B12 Coenzymes: Investigation of the Cobalt-Carbon Bond in Alkylcobalamins. *Dr. Walker is employed as a Staff Scientist at Clark-MXR Inc. in Dexter, Michigan.*

Patrick Walker (Morris)

On-Line Normal Raman Spectroscopic Monitoring of Isotachophoretic Separations. *Dr. Walker is employed as a research scientist for BetzDearborn in Treviso, Pennsylvania.*

Yamin Wang (Koreeda)

1. The Total Synthesis of Thiarubrine C, A DNA -Cleaving Natural 1,2-Dithiin 2. Application of (Alkoxy-carbonylamino)methyl Radical Cyclization to the Total Synthesis of () Sibirine. *Dr. Wang is a research scientist at Bayer Corporation Pharmaceutical Division in West Haven, Connecticut.*

Robb Wilson (Kuczkowski)

Fourier-Transform Microwave Spectroscopy: A Study in Spectrometer Automation, Testing and Application. *Dr. Wilson has accepted a position as an Assistant Professor at Louisiana State University – Shreveport.*

Jin-Hai Yang (Koreeda)

Synthesis of Optically Active trans-Dihydrodial and syn- and anti-Diol Epoxide Metabolites of Polycyclic Aromatic Hydrocarbons. *Dr. Yang is a post-doctoral researcher at Pennsylvania State University.*

Kefei Zheng (Lubman)

Capillary Liquid Chromatography and Mass Spectrometry Study of Biological Molecules. *Dr. Zheng is a post-doctoral researcher at the University of California - San Diego Veterans Hospital.*

Yongdong Zhu (Lubman)

Fundamental Studies of Matrix-assisted Laser Desorption/Ionization Time-of-Flight Mass Spectrometry (MALDI-TOF/MS) and its Applications to the Analysis of Biological Materials. *Dr. Zhu is employed at Quest Pharmaceutical Services in Delaware.*

Undergraduate Program News

ACS Student Affiliates

This year, the American Chemical Society Student Affiliates continued to bring science to the community through their expanded outreach program. In addition to the traditional National Chemistry Week event on the diag, the month of October was deemed National Chemistry Month, which included a day of hands-on activities at the Ann Arbor Hands-On Museum and outreaches at several area schools. Also, a new DNA station, where students extract DNA from bananas and use gel electrophoresis to identify an un-

known "guilty" strand of DNA, was implemented as part of a six-session series of classes for the KidSport summer camp hosted by the Kinesiology Department.

Activity at ACS national meetings was maintained this year, with Student Affiliate posters being presented at the Boston and Anaheim meetings. At the Boston meeting, the ACS Phoenix Award was presented to the UM Affiliates, who were recognized for their work on behalf of the Huron Valley Local Section during National Chemistry Week. In Anaheim, our

Student Affiliates chapter received an Outstanding Chapter Award for the 1997-1998 academic year.

The newly elected officers for 1999-2000 are: Jennifer Chang and Scott Harrison—co-presidents; Benjamin Singer—Vice-President; Ross Smith—Treasurer; Désirée Thayer—Secretary/Historian. Outgoing co-presidents, Suzanne Blum and Rebecca Ihrie, will be completing their senior year and will continue to contribute their experience and advice to the group.

Website: <http://www.lsa.umich.edu/saa/>

Undergraduate Horizons

Our chemistry and biochemistry graduates pursue a number of different career paths: graduate school, MD/PhD programs, industrial internships, medicine, public health, teaching, or employment in industry are a few examples. Some of this year's graduates are highlighted below. For 1998-99 chemistry degrees totaled twenty-three, biochemistry had forty-eight, with five students concentrating in both programs.

Scott Travis Lefurgy (honors biochemistry, Yocum, May 1999)

Scott, a dual degree student, earned an honors degree in biochemistry and also a degree in voice performance from the School of Music. His research started in Prof. Coppola's lab where he helped adapt CAChe software on molecular visualization for our structure and reactivity class. Later, he was part of a team to create a computer program that would teach high-school students about chemistry by linking a manipulable visual model of a molecule to its chemical properties. He collaborated with programmers to design a molecule building interface. He then moved on to photosynthesis research in Prof. Yocum's lab where he produced a thesis entitled "Characterization of Structure and Function of Manganese-Stabi-

lizing Protein of Spinach Photosystem II Using Site-Directed Mutagenesis." Scott is currently interning at Parke Davis where he is in a protein crystallography group, with whom he had an opportunity to collect diffraction data at the Advanced Photon Source at Argonne National Laboratory. Scott has been recognized nationally as a Goldwater Scholar, and the department awarded him two summer fellowships, a National Starch Scholarship, a Lubrizol Scholarship and the American Institute of Chemists Biochemistry Award. He plans to pursue his biochemistry Ph.D. at the University of Wisconsin in a year and possibly join the ranks of academia.

Carolyn Elaine Owen (honors chemistry, Toogood, December 1998)

Carolyn has had experience in both academia and industry. She has had internships at 3M in optical materials chemistry and is currently at Pharmacia & Upjohn in process development. At Michigan, she taught a first semester organic chemistry lab, tutored organic chemistry, chaired the F.E. Bartell Memorial Lecture for Alpha Chi Sigma Chemical Sciences Fraternity, and pursued research for her honors thesis entitled, "The Synthesis of the Amino Hexanoic Acid Fragment of Keramamide J Containing R Stereochemistry at the C-3 Center." In the summer of 1997, at the University of Minnesota, she studied the total synthesis of substituted

cross-ring naphthoquinones for testing against various cancer cell lines. Nationally she presented research at the 1998 ACS spring and fall meetings. The Department awarded her a Herman and Margaret Sokol Scholarship, a National Starch Scholarship and the ACS Huron Valley Section Outstanding Leadership Award. She will attend UC Davis this fall to pursue her Ph.D in organic chemistry.

Amethyst Cook Smith (honors chemistry biochemistry, C. Evans, May 1999)

Amethyst has been in Christine Evans' research group for three years, producing an honors thesis entitled "Polydiacetylene Monolayers: Electrochemical Characterization and Surface Design." She had two summer fellowships from the department, and a scholarship from the Lubrizol Corporation. She was recognized as the outstanding second year student, received the ACS Junior Analytical Award and this year received the Seyhan N. Ege Award from the Women in Science and Engineering Program. Amethyst was an undergraduate student instructor for Chemistry 210 and will continue teaching chemistry and integrated physics/chemistry at Furr High School in Houston, TX through the Teach for America Program. She earned an honors chemistry degree and also a biochemistry degree. Amethyst intends to pursue a Ph.D. degree in two years.

Jean Dreyfus Boissevain Scholarship

The Department received funding from the Camille and Henry Dreyfus Foundation for the Jean Dreyfus



Aaron Daniel

Boissevain Scholarship, a scholarship to recognize outstanding undergraduate research. Ms. Boissevain was President of the Camille and Henry Dreyfus Foundation from 1956 until 1991. The scholarship recipient for the summers of 1998 and 1999 was **Aaron Daniel**. Aaron worked with Professor Masato Koreeda during the summer of 1999. His research during that period was attempting to synthesize

dithionate compounds through various reaction pathways. In previous work, Mr. Daniel worked with Professor Jim Penner-Hahn to conduct research on the alkyl transfer reactions of Cu and Zn. Aaron plans to work for a year, then apply to graduate schools to pursue a Ph.D. in Chemistry.



Scholarships (front left to right) Sara Aeschliman, Ann Chopp, Angkana Roy, Shirley Lee (back left to right) Ian Stewart, Jennifer Chang, Nick Keppeler, Jennifer Stahl, Desiree Thayer, Milike Bayram



Upperclass Awards (front left to right) Kevin Oh, Laura Khoury, Professor Joseph Marino, Maggie Hui (back left to right) Omer Yilmaz, Michael Bruderly, Manish Sharma, Scott Lefurgy, David White



Margaret and Herman Sokol Scholars 1998-99 (back left to right) Russell Miller, Brian Clarke, Joseph Wachter, Erik Kornmiller. (front left to right) Jennifer Baker, Mrs. Margaret Sokol, Aparna Arunkumar. (Not present) Timothy Stucka, Danielle Sgambati



1999 Graduation Reception (front l to r) Elizabeth Mieczkowski, Aaron Daniel, David White (middle) Mindy Grunzke, Jordan Laser, Andrew Bolig, Jeffrey Bryant, Ben Tourkow (back) Elizabeth Rieth, Miguel Pereira, David Meyer, Kurt Morrison, Tim Murray, Scott Lefurgy

Undergraduate Awards

The 1998-99 Undergraduate Awards ceremony in April 1999 at the Michigan League was well attended. Our guest speaker was Professor Robert Owen, Associate Dean for Undergraduate Education and Long Range Planning in the College of Literature, Science and the Arts. Professor Owen regaled the audience with tales from his undergraduate career in Chemistry. In addition, our special guest of honor was Professor Wilbur Bigelow. Professor Bigelow is the benefactor of the Carlene Friedley Scholarship, which is given in memory of his wife, Alyce Carlene Friedley.



ACS Leadership Award - Sara Roberts, Prof. Brian Coppola, Prof. Neil Marsh



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



Summer Research Fellowships (front left to right) Rebecca Ihrle, Scott Harrison, Delia Chien, Sara Roberts (middle left to right) Clara Chen, Eric Budor, Ann Chopp, David White, Eric Hyun, (back left to right) Ian Stewart, Nicolas Keppeler, Jesse Kuiper, Jeffrey McMahan, Andrew Waltman



First Year Awards (front left to right) Russell Miller, Douglas Boyer, Samantha Tarras (back left to right) Eyad Abu-Isa, Prof. William Pearson, Ross Smith, Brian Clarke



Carlene Friedley Scholarship (left to right) Shirley Lee, Prof. Wilbur Bigelow, Desiree Thayer, Ann Chopp



AXE Outstanding First Year Award (left to right) Erica Guice, Ross Smith, Prof. Brian Coppola

Undergraduate Awards and Sponsors – 1999

<u>1998-99 Margaret and Herman Sokol Scholarships</u>	Aparna Arunkumar, Jennifer Baker, Brian Clarke, Erik Kornmiller, Russell Miller, Danielle Sgambati, Timothy Stucka, Joseph Wachter
<u>CRC Outstanding Freshman Achievement Award</u>	Douglas Boyer
<u>First Year Chemistry Achievement Awards</u>	Eyad Abu-Isa, Brian Clarke, Russell Miller, Ross Smith, Samantha Tarras
<u>AXE Outstanding First Year</u>	Ross Smith
<u>Summer Research Funding</u>	
Abbott Labs	Michael Asuncion
PPG Industries	Andrew Budor
PPG Industries	Clara Chen
James E. Harris	Delia Chien
Pfizer Inc	Ann Chopp
Jean Dreyfus Boissevain	Aaron Daniel
Dow AgroSciences	Scott Harrison
Abbott Labs	Eric Hyun
Dow AgroSciences	Rebecca Ihrle
Pharmacia & Upjohn Fdn	Nicholas Keppeler
Pharmacia & Upjohn Fdn	Jesse Kuiper
Alumni Fund	Roneil Malkani
Amoco Foundation	Jeffrey McMahon
Pharmacia & Upjohn Fdn	Sara Roberts
Amoco Foundation	Ian Stewart
James E. Harris Scholarship	Andrew Waltman
Alumni Fund	David White
<u>Outstanding Second Year Student</u>	Eric Hyun
<u>Honors College Vanko Award</u>	Michael Bruderly
<u>Helen S. Schaefer Scholarship</u>	Sara Aeschliman , Angkana Roy, Jennifer Stahl
<u>Carlene Friedley Scholarship</u>	Ann Chopp, Shirley Lee, Desiree Thayer
<u>Lubrizol Scholarship</u>	Nick Keppeler
<u>National Starch Scholarship</u>	Melike Bayram, Jennifer Chang, Ian Stewart
<u>ACS Analytical Chemistry Award</u>	Laura Khoury
<u>Merck Index</u>	Jeffrey Bryant, Aaron Daniel, Maggie Hui, Kevin Oh, Omer Yilmaz
<u>Marc Feldmann Award</u>	Manish Sharma
<u>ACS Outstanding Senior Leadership Award</u>	Sara Roberts
<u>S.N. Ege WISE Award</u>	Amethyst Smith
<u>AIC Chemistry Award</u>	David White
<u>AIC Biochemistry Award</u>	Scott Lefurgy

Research Experiences for Undergraduates (REU) Program Summer 1999

The Research Experiences for Undergraduates (REU) program funded by the National Science Foundation (NSF) provides opportunities for talented undergraduate students to participate in research projects during a 10-week period each summer. REU "sites" are established by the NSF in all fields of science, mathematics, and engineering at host institutions throughout the United States. At Michigan the program provides undergraduate students nationwide an opportunity to conduct research in ongoing projects in Chemistry. It provides an exceptional opportunity for undergraduates considering a career in science to engage in substantive research activities with scientists working in the forefront of chemistry. Active research experience

is one of the most effective techniques for attracting talented undergraduates to and retaining them in careers in science. As part of their research activities, REU students gain first-hand experience with state of the art equipment and develop expertise in chemical data reduction and analysis. In this year's ten-week program, students carried out research in biochemistry, analytical, inorganic, organic, and physical chemistry.

Our summer research program is designed to match each student with a faculty member to optimize the research experience for all participants. Students are provided a stipend, and are assisted with housing, parking, and travel expenses. Those who are in groups traditionally under-represented in science (women, members of under-represented minorities, and those with disabilities) are particularly urged to apply. This year eleven undergraduate students were invited by site director, Prof. Brian Coppola to attend the Department of Chemistry's

program. REU students participated in the following activities which sought to enrich their research experience and better prepare them for their future careers: science and ethics, industry tours, careers and graduate school discussions, research presentations, departmental pizza parties, and recreational outings. The program also provided the opportunity for students to co-author papers. To maximize interactions between students, students were housed together in Markley Hall. A series of regularly scheduled meetings by faculty mentors were held to give students a broad perspective on current research directions in chemistry, and the opportunities available for careers in this field. At the end of July 1999, students participated in a collective symposium of area REU sites hosted at Hope College, where students displayed posters on their projects and, selected participants gave oral presentations on their research.

List of Summer 1999 REU Participants and their Project Titles

MATTHEW BOYD/Francis <i>Classical Light Scattering of Polystyrene in Toluene</i>	University of Michigan, Flint
SULIE CROAN/Townsend <i>Facile One Pot Conversion of 2-Aminopyridines into 2-Chloro-pyridines</i>	Southern California College
KATHERINE ELLISON/Sacks <i>Quantitative Analysis and Solvent Management with High Speed Gas Chromatography and Time-of-Flight Mass Spectrometry</i>	Scripps College
SATISH IYER/Goldstein <i>A Computational Approach to Understanding Thermostability</i>	University of Massachusetts, Boston
JENNIFER A. JAKUBOWSKI/Evans C. <i>Liposome Capillary Electrophoresis as a Tool for Analyzing Cell Membrane/Drug Interactions</i>	Union College
CHRISTOPHER JOHN/Banaszak Holl <i>Chemistry Vapor Deposition of Tri-t-Butoxysilanol on Si</i>	Muhlenberg College
I. CAGLAR TANRIKULU/Marsh <i>The Synthesis of Hexafluoroleucine for the Study of Fluorous Effects in Oligopeptides.</i>	Ohio Wesleyan University
TRACY J. TERRY/Coucouvannis <i>Study of the Nitrogenase Enzymes: The Proposed Synthesis of a P-Cluster Analog</i>	University of the South
SHERRY M. TSAI/Glick <i>Autoantibody Levels in Lupus-prone mice: Elucidating the Mechanism of a Novel Drug</i>	Yale University
ADAM VAN WYNSBERGHE/Kuczkowski <i>Structure Determination of 1,2-Dichlorotetrafluorocyclobutene by FT-MW Spectroscopy</i>	Ohio Wesleyan University
KEVIN A. WIER/Curtis <i>Synthesis of Dialkoxy-Substituted Thiophenes</i>	Michigan Technical University

Bachelors Degrees

August, December, 1998 and May, 1999

CHEMISTRY DEGREES

Renee A. Beardslee (*Banaszak Holl*) – Parke Davis
Jeffrey R. Brender (*Lohr*) *
Michael I. Bruderly (*Marsh*) – medicine (UM)*
Jeffrey H. Bryant (*Curtis*) – materials science (U Florida)
Sang Ouk Chin (*Zellers*)
Jacquelyne S. Chu (*Lee*)
Christopher A. Conrad (*Coppola*) – Parke Davis
Catherine E. DeLeeuw (*Weiss/Toogood*) – medical sciences (MCP Hahneman)*
Brian M. Eklov (*Coppola*) – organic (U Minnesota)
Mark A. Even (*Meyerhoff*) – analytical (UM)
Irwin Iskandar
David S. Lewy (*Glick*) – organic (Scripps Institute)*
Claudia Lopez (*Marino*) – medicine (U Connecticut)*
David R. Meyer – medicine
Kurt L. Morrison – medicine (Ft. Lauderdale)
Timothy J. Murray (*Laine*) – Cayman Chemical
Gisele A. Nishiguchi (*Laine*) – Parke Davis
Carolyne E. Owen (*Toogood*) – organic (UC Davis)*
Bharat R. Patel – employed
Ly Thi Pham – Parke Davis
Wendy M. Robertson (*Glick*) – Parke Davis
Amethyst C. Smith (*C Evans*) – Teach for America, Houston*
Lisa Viculis (*Laine*) – materials science (UCLA)*

BIOCHEMISTRY DEGREES

Farrah Bagaman
Chad S. Brody (*Andrews*) – medicinal chemistry (UM)
Michael I. Bruderly – medicine (UM)
Austin B. Capper – biomedical science (UM)
Jacquelyne S. Chu
Jason M. Coats
Kevin D. Cox – public health (UM)
Emily C. Dawson (*Cordes*)
Catherine E. DeLeeuw – medical sciences (MCP Hahneman)
Aidan C. Dysart (*R. Goldstein*)
Angela N. Eickhorst (*Kaufman*)
Brandon Farley (*Seaholtz*) *

Michael Feld

Laura L. Fleischer (*Thompson*) – research assistant (UM Kellogg Eye Center)
Adam R. Geiger (*Toogood*)
Robert M. Gomez
Mindy Grunzke (*Townsend*) – medicine (Temple)
Maggie Hui (*Coward*) – human nutrition (UM SPH)*
Maria Jancevski (*Vojtek*) – medicine (Wayne State)
Sarah M. Johnson (*Gafni*)
Shirley A. Kadoura
Jordan S. Laser
Cheong Lee
Scott T. Lefurgy (*Yocum*) – biochemistry (U Wisconsin)*
Irwin M. Liu (*Coward*)
Claudia Lopez – medicine (U Connecticut)
Raymond J. Malewitz
Jennifer L. Marti (*Peliska*) *
Sarah McDonald
Bryan M. McCormick
Elizabeth Mieczkowski (*Menon*) – research assistant (UM pathology)*
Christopher E. Millikin (*Engelke*) *
Laquandra Nesbitt
Edward P. Nicholas (*Gafni*)
Kevin Oh (*Carter-Su*) – medicine (UM)
Timothy R. Peterson (*I Goldstein*)
Monica V. Rader (*Meyerhoff*) – epidemiology (UM SPH)
Junewai L. Reoma (*Uhler*) – medicine (UM)*
Elizabeth F. Rieth (*Franceschi*) *
Timothy R. Rozof (*Townsend*)
Bisan A. Salhhi (*Thiele*) – medicine
Manish R. Sharma (*Ballou*) – medicine (UM)*
Michael H. Shaw (*Peliska*)
Amy Y. Shih
Amethyst C. Smith (*C. Evans*) – Teach for America
David T. Stephensen (*Engelke*)
Matthew A. Wheatley
Grace Shau-Moi Yee (*Schacht*) – Parke Davis
Omer H. Yilmaz (*Gafni*) – medicine (UM)

*Honors Degree (includes undergraduate thesis)

GIFTS

Contributions from private and corporate donors received from July 1, 1998 – June 30, 1999.

(* Indicates corporate matching funds.)

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John Pendery
Mary Perry
Pharmacia & Upjohn Fdn*
Wayne Pletcher
Eric Pohl
Irvin Potts
Margaret Price
Procter & Gamble Fund*
Edwin Przybylowicz
Ellen Racusin
James Reh
Robert Reynolds
Rhone-Poulenc Inc*
Daniel Ricca
John Rosemergy
Walter Rupprecht
Joel Schmiegel
Erich Schulz
Ronald Seamans
Elaine Shafrin
Joseph Shepard
Sherwin-Williams Co*
Zhong Shi
James Sommers
Gloria Stevens
David Stewart
Jack Sweet
Kumiko Takeuchi
James Thirtle
Donald Thompson
Richard Tomko
John Tomlinson
George Towe
Mary Trawick
Kelly Triplett
Robert Tripp
Howard Un
Warner Lambert*
Toni White
Raymond Wilkinson
Joel Wolfe

Katherina Woodward
Otto Wurzburg
Arthur Zambito

Bachmann Memorial Lecture Fund

BP Exploration*
Wayne Cole
Monsanto Fund*
Patrick Mosier
Leland Pence
John Petrasky
Shell Oil Company Fdn*
Evelyn Tyner
USX Fdn Inc.*
Lawrence Wick
Frederick Wiselogle

Biennial Conference

Dow Chemical Co. Fdn.
Minnesota Mining and Manufacturing
Warner Lambert Fdn
World Heritage Foundation

Chair Discretionary Fund

Ayco Charitable Fdn.
Dan Chapel
Robert Damrauer
E.I. DuPont DeNemours & Co*
Melvin Friedland
Carl Johnson
Minnesota Mining and Manufacturing
Procter & Gamble*
Edwin Przybylowicz

Dow Britton Fellowship

Dow Chemical Co Fdn

Equipment Fund

Lawrence Bartell
David Reed

James E. Harris Scholarship

Marian Harris

Kent P. Lanini Memorial Fund

Dow Chemical Co. Fdn.*
Stephen Gaudio

Library Fund

Richard Bard
John Callen
Janet Haartz
Robert Karpiuk
Irene Piscopo
John Quin
Helen Schaefer

Parry Scholarship

David Berman
C Heitsch
Alfred Kiessel
Joseph Morse
Karen Morse
Monsanto Fund*
Robert Paine
Duward Shriver
Masanobu Yamauchi
John Yoke

Helen Schwartz Schaefer Scholarship

Helen Schwartz Schaefer

P.A.S. Smith Scholarship

Elmer Carlson
Robert Edgerton
David Emerson
Jerome Horwitz
Norman Jensen
Lawrence Mitchell
Roy Pointer
Peter Smith

Special Scholarships

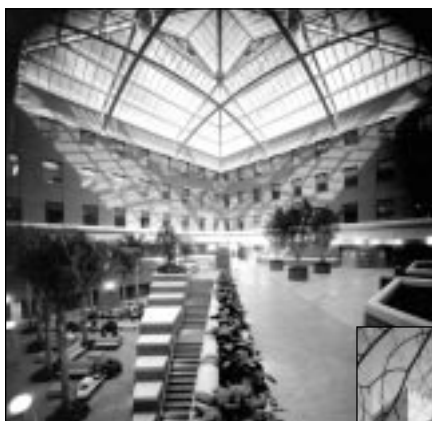
Abbott Laboratories Fund
American Chemical Society
American Home Products Corp.
Dow AgroSciences
Richard Doyle
John Griffin
Elizabeth Hugel
National Starch
Pfizer
Pharmacia & Upjohn
PPG Industries Fdn
Samuel Root
Shell Oil Company Fdn*

Student Affiliates

Saline Area Schools

Willard Memorial Fund

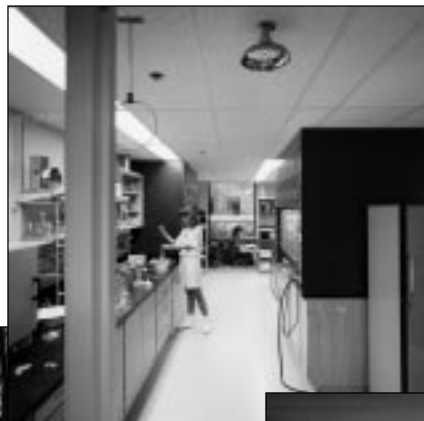
Taft Toribara



Chemistry Building atrium



*1988 Willard H.
Dow Chemistry
Laboratory*



*Research
Laboratory*



*Teaching
Laboratory*

Alumni News

E-Mail: chem.alum@umich.edu

BEFORE 1940

Robert K. Mueller (MS 1935) has retired from Arthur D. Little in Boston and is now consulting. He is the author of seventeen books on management and corporate governance.

David W. Stewart (PhD 1939, Fajans) recalls that he was a post doc with Harold Urey at Columbia Univ. from 1939 to 1941 engaged in isotope separation, a "hot" topic at the time. During WWII he was Superintendent of Process Improvement on the Manhattan Project at Oak Ridge and afterwards went to work for the Eastman Kodak Co. from where he retired as Head of the Analytical Laboratory in 1975. He still lives in Rochester, NY. His wife, Gretchen B. (Mueller) Stewart (PhD 1940, Fajans) passed away in 1989.

Howard E. Winters (MS 1938) retired from Henry Ford Community College in Illinois in 1973. He writes and enjoys reading the news of the Department.

1940 - 1949

Paul H. Cardwell (PhD 1941, F.E. Bartell) is living in Williamsburg, VA.

Julius F. Chikos (BS 1949; DDS 1954, U. of Detroit) has retired from the practice of dentistry and is living in Dearborn, MI.

Andre S. Dreiding (PhD 1948, Bachmann) was honored by the American Chemical Society in 1998 as a fifty year member. He is Professor Extraordinary at the University of Zurich.

Helen G. (Shulman) Jaspén (BS 1943) has retired and moved to Bellevue, WA.

Charles F. Krecke (BS 1948, MD 1953) is retired and living in Pentwater, FL.

Patricia G. (Bierregaard) Lavanchy (BS 1943; MS 1946, Brooklyn Polytechnic) has retired from her position as a medic-

inal chemist and lives in West Chester, PA.

Albert E. Taylor (PhD 1945, Willard) recently sent the Department a copy of his



Albert Taylor and Taft Toribara making preparations for a party at the laboratory.

letter to **Taft Y. Toribara** (PhD 1942, Willard) in which he reminisces about their time in graduate school together. Dr. Taylor lives in Pocatello, ID. He retired from Idaho State University and still does some cross country skiing at age 90. Dr. Toribara recently retired as Professor of Biophysics and Toxicology at the University of Rochester Medical Center.

Horst D. Weinberg (BS 1949; MD 1953, U. of Chicago) has retired and is living in Long Branch, NJ.

1950 - 1959

Robert E. Bacon (BSC, BSE 1956; PhD 1960, MIT (Phys Chem)) has retired and is living in Darien, IL.

Arthur C. Bond, Jr. (PhD 1952, Brockway) recently moved from Delaware to Cary, NC.

Lyubica Dabich (BSC 1950, MD 1963) has retired as Associate Professor from the Internal Medicine Department of the University of Michigan. She still lives in Ann Arbor.

Elmer S. Dupre (MS 1956) has retired from Akzo Nobel Chemicals, Inc. and moved to Florida.

David W. Emerson (PhD 1958, Smith) retired from the University of Nevada at Las Vegas last year. He is an active member of the regional accrediting committee and tutors in organic chemistry.

Charles A. Horton (PhD 1950, Willard), one of Prof. Willard's last students, wrote

a nice note from his home in Oak Ridge reminiscing about the period in the fifties when Prof. Willard consulted for the Oak Ridge laboratories. Dr. Horton retired from the Union Carbide Corp. in Oak Ridge.

Enver Mehmedbasich (BS 1954; PhD 1961, Wayne State U. (Organic)) retired from the Chevron Research & Technology Corp. in California and has moved to Grand Junction, CO.

Roberta G. (Wood) Pourcho (BS 1954; PhD 1972, Wayne State U. (Anatomy)) is a Professor of Anatomy and Cell Biology in the Wayne State School of Medicine and received the Gershenson Distinguished Faculty Fellowship in 1997.

Richard W. Robertson (BS 1950, MBA 1957) has retired from the Dow Chemical Co. and moved to Florida.

Ellen S. (Eckwall) Schwartz (BS 1957; PhD 1970, Wayne State Univ. (Phys. Chem.)), is presently employed by General Motors Research Laboratories where she is a Senior Staff Research Scientist.

Bernard J. Sivak (BA 1950; MD, New York Coll. of Med.) retired as Associate Professor and Adjunct Physician at Wayne State University.

Norman R. Smith (BSC 1955; JD, MS (Educ), PhD) is President of Catalytica, Inc., in Mountain View, CA.

Martha B. (Wells) Stiles (BS 1954) sent us the advance publication notice of her first adult novel, "Lonesome Road", which appeared in late 1998. She is the author of ten books for juveniles. Her husband, **R.**



Martin Stiles on his Kentucky Thoroughbred farm

Martin Stiles, was Professor of Chemistry at Michigan from 1955 until 1979 and is a former editor of the Journal of the American Chemical Society.

Clarence G. Thornton (BS 1949, PhD 1953, Brockway) retired as Director of

the Electronics and Power Sources Section of the U.S. Army Research Laboratories in New Jersey.

Mary E. (Hall) Ware (MS 1956) retired from the Grant-Blackford Mental Health Hospital in Indiana as a therapist.

The following alumni all were honored by the American Chemical Society in 1998 as fifty year members:

Donald R. Baer (PhD 1953, Smith) retired from the Jackson Laboratory of the DuPont Co.

Max Boudakian (MS 1950; PhD 1955, Purdue U.) was named "Inventor of the Year" by the Rochester Patent Law Assoc. in 1981 and was employed by the Olin Corporation.

George F. Dasher (PhD 1950, F.E. Bartell) retired from the Alberto-Culver Co., where he was vice president for research and development. He lives in Vermont.

Simon Frank (PhD 1951, Smith) retired from American Cyanamid Co. in 1985.

George G. Hazen (PhD 1952, Bachmann/Dreiding) retired from Merck Sharpe & Dohme as Associate Director of their research laboratories.

Milton D. Heller (PhD 1952, Bachmann/Dreiding) retired from Lederle Laboratories, a division of American Cyanamid Co. He was a senior scientist engaged in chemical and clinical research.

William B. Hillig (PhD 1954, Fajans) retired from the research laboratories of the General Electric Co. in Schenectady.

Jerome P. Horwitz (PhD 1950, Smith) is a Professor of Hematology and Oncology at the Detroit Institute for Cancer Research, associated with Wayne State University.

John T. Yoke, III (PhD 1954, Parry) is Professor Emeritus at the Oregon State University in Corvallis, OR.

Masao Yoshimine (PhD 1956, Vaughan) retired as a research chemist for the Dow Chemical Co. in Midland, MI.

1960 - 1969

Norman P. Arends (BS 1967) lives in France where he is an international consultant for medium and high tech companies in France and North America.

John E. Bauman (PhD 1962, Atkinson) retired as Professor of Chemistry at the University of Missouri/Columbia. He teaches in summer institutes and assists with alumni activities.

Alan E. Brandt (BSC 1966, PhD 1972 (Biochem)) moved Insect Biotechnology, a company he cofounded and of which he is president, to North Carolina, near Research Triangle Park.

Yondani C.C. Butt (MS 1968; PhD) received acclaim as an orchestral conductor and musician. He is resident conductor of the Victoria International Festival in Canada and has received numerous awards for recordings made with the Royal Philharmonic and London Symphony Orchestras.

James H. Carter (PhD 1963, Smith) retired from Barnard College of Columbia University where he was Director of the Organic Chemistry Laboratories. He has moved to Florida.

Dan G. Chapel (BSC, BSE 1960; MSE 1962, U. of Southern Calif. (Chem. Eng.)) was recently promoted to Senior Vice President of the Technology and Energy group at Fluor Daniel Corp. in Irvine, CA.

David D. Dexter (BSC 1963; PhD 1968, Georgetown Univ.) has moved to Earlsyville, VA, in order to participate in the growing wine industry there.

Dolores G. (Novak) Eaton (MS 1967) is president and CEO of Diagnostic Assay Services, a clinical laboratory, in Maryland.

David W. Ebdon (BSC 1961; PhD 1967, U. of Maryland) retired as Associate Dean of the College of Sciences, Eastern Illinois University in Charleston.

Bruce F. Hiscock (BSC 1962; PhD 1966, Cornell Univ.) writes and illustrates children's books in Porter Corners, NY. His most recent book is "The Big Rivers".

David R. Ingrum (BSC 1968, MD 1972) is now a member of the Scripps Occupational Health System in San Diego, CA.

Richard N. Loeppky (PhD 1963, Smith) was named the first Schlundt Distinguished Professor of Chemistry at the University of Missouri/Columbia in 1998.

John G. MacConnell (PhD 1969, Martin) retired from Merck and Co. in 1993 and is now living in rural North Carolina.

Eugenia (Pann) Parcus (BS 1962; MD 1966, Med. Coll. of Pennsylvania) is a pediatrician in private practice in Newtonville, MA.

Lowell R. McCoy (PhD 1967, H.B. Mark) retired from Atomics International in California.

Lawrence C. Mitchell (BSC 1958, PhD 1962, Smith) retired from Avery International Corp. in 1998, as Vice President and General Manager of the Engineered Coatings Division.

Masayoshi Morimoto (PhD 1969, Overberger) has retired from the Kajima Technical Research Institute in Japan and has accepted a position as Professor at Purim in Kuala Lumpur, Malaysia.

Leonard N. Schoenberg (PhD 1966, Cooke) took early retirement from the Bell Laboratories and is now working for Viasystems Technologies in New Jersey.

James M. Scofield (BSC 1968, MD 1972) is a family practice physician in Glendale, CA.

Michael W. Stanton (BS 1968, MD 1972) is a cardiothoracic surgeon and president of the Northern Colorado Heart and Lungs Clinic in Greeley.

Janice R. (Bellinger) Ugolini (MS 1969) is a senior programmer at Keane, Inc., in New York.

Basil H Vassos (PhD 1965, H.B. Mark) is Professor of Analytical Chemistry at the University of Puerto Rico, Rio Piedras. His wife, **Aurora I. (Rincon) Vassos** (BSC 1965) is an Associate Professor of Chemistry there.

David S-N. Wang (BSC 1961) retired as a supervisor from the Boeing Co. in 1998. He now lives in California.

Bruce H. Wark (PhD 1960, Elderfield) retired from Lehn and Fink Products Co., a Division of Eastman Kodak, and is now living in New Jersey.

1970 - 1979

Samuel E. Backos (BSC 1978) lives in Clinton Township, Michigan, and is self employed.

John E. Bercaw (PhD 1971, Brintzinger) was honored by the American Chemical

Society with its 1999 George A. Olah Award for significant contributions to hydrocarbon chemistry. Dr. Bercaw is Professor of Chemistry at the California Institute of Technology.

David A. Binstock (MS 1970; PhD Duke Univ.) is a research chemist at the Research Triangle Institute in North Carolina.

Peter J. Bonk (BSC 1975; PhD 1985, U. of Wisconsin) is a senior research development chemist for Abbott Laboratories.

Larry E. Brown (MS 1971; MD 1980, Loyola Univ. of Chicago) is an emergency medical physician at the Pullman Memorial Hospital in the state of Washington.

William R. Buslee (MS 1979) is Vice President of Marketing for ReliaStar Life Insurance Co. of New York.

Robert D. Chirico (PhD 1979, Westrum) has moved to the Washington, DC area where he will be a research chemist at the National Institute of Standards and Technology.

Robert C. Dieterle (BSC 1975, MS 1979 (Bioengin.)) is the Senior Vice President and General Manager for the Cerner Corp. in Kansas.

William D. Fetchik (BSC 1976; DO, Des Moines Coll. Osteopathic Med.) is a physician in Quarryville, PA.

Thomas J. Giordano (PhD 1974; MBA 1990, Colorado State U.) is a staff environmental engineer concerned with water quality for the Lockheed Martin Astronautics Co. in Denver.

John A. Gladysz (BSC 1971; PhD 1974, Stanford) has accepted the Chair of Organic Chemistry at the University of Erlangen, Nuremberg, Germany, where he succeeds Paul von Schleyer. John and Janet Bluemel were married in December of 1997. She holds a position as Associate Professor of Chemistry at the



John Gladysz and Janet Bluemel

University of Heidelberg, specializing in solid state NMR.

Arthur C. Guterl (PhD 1977, Overberger) retired from the Gencorp Polymer Products Co. in June of 1997 and has moved to New Jersey.

Thomas J. Haas (MS 1976; MS 1981, Rennselaer Polytechnic U. (Management); PhD 1987, U. of Connecticut) was recently appointed Dean of Academics at the U.S. Coast Guard Academy in New London, CT.

Steven W. Kaiser (PhD 1975, Rasmussen) is Technology Manager in surfactants for the Union Carbide Corporation in West Virginia.

Ruth E. Kelly (BSC 1979; PhD 1986, Wayne State U.) is a staff scientist for Bayer USA in California.

Jolanta (Jazwinski) Lott (BSC 1977, BSE 1983) is a materials engineer for the Ford Motor Co. She writes that in her spare time she's a soccer mom.

John G. McGrew, II (PhD 1972, Green) is Assoc. Professor of Computer Science and Dept. Chair at Carthage College in Wisconsin.

Barry J. Meneghelli (PhD 1977, Rudolph) was recently honored for his role in the NASA Space Flight Awareness Program as an employee of Dynacs Engineering, Inc., where he is a principal investigator in their applied chemistry laboratory.



Barry Meneghelli

Andrea B. Miller (BS 1978; MD 1998, McGill University, Canada) has completed her MD degree and has accepted a position in Tucson, Arizona.

Anne E. Missavage (BSC 1976; MD 1980, Wayne State Univ.) is a general surgeon living in Chesterfield, MO.

Ronald V. Perkins (BS 1979; MS, Calif. State Univ.) is a scientist employed by Thermo Quest, a supplier of software for HPLC systems located in California.

Jeffrey D. Peters (BS 1973; MBA 1980, Florida Inst. Technol.) is President and CEO of the Interactive Pictures Corp. in Lenoir City, TN.

Irvin W. Potts, Jr., (PhD 1971, Stiles) is now R&D Director for the Dow Chemical Co. at their Lake Jackson, Texas installation.

Gregory R. Quinting (BSC 1979; PhD 1985, Wisconsin) is involved in the application of NMR for educational purposes with Anasazi Instruments, Inc., in Indianapolis.

Linda J. (Wolpert) Ray (MS 1971; MS (Telecommunications)) manages technical publications for Lucent Technologies in Boulder, CO.

David P. Richardson (BSC 1979; PhD 1984, U. of Calif./Berkeley) has recently been promoted to full professor at Williams College in Massachusetts.

Steven C. Rifkin (BSC 1971; PhD 1976, Wisconsin) is senior principal consultant for the Oracle Corp. in New Jersey.

Thomas M. Rosseel (BSC 1975; PhD 1981, U. of Wisconsin) has been named Manager of the Steel Irradiation Program in the Metals and Ceramics Division of the Oak Ridge National Laboratory.

Michael J. Sayers (BSC 1975; PhD 1980, MIT (Phys. Chem.)) is an Instructor in technical training for Navisys, Inc., in Edison, NJ.

Vivian (Yang) Steger (BSC 1972) is living in San Diego and is a part

time teacher on the adjunct faculty of National University.

James H. Thirtle (PhD 1974, Dunn) retired after twenty years with the Dupont Corporation and is now a technical consultant living in Rochester, NY.

Peter L. Thomas (BSC 1975, BSE 1978 (Elec. Eng); PhD 1997, U. of Northern Colorado (Educ.)) has accepted a teaching position at the University of Science and the Arts in Chickasha, OK

Michael Van der Puy (PhD 1975, Groves) is a Senior Principal Scientist for the Allied Signal Corp. in Buffalo, NY.

John T. Warsop (MS 1975) is a research chemist for the Cyprus Foote Mineral Corporation in North Carolina.

David B. Whyte (BSC 1979; PhD 1987, U. of Calif./San Francisco (Biophys.)) is a senior group leader in molecular generics for Sugen, Inc., in San Francisco.

William A. Wood, III, (BSC 1973; PhD 1977, Univ. of Calif./Berkeley; MS 1983, Fuller Theological Seminary, (Divinity)) has accepted the post of pastor at the First Presbyterian Church of Santa Monica, CA.

Maw Sheng Wu (MS 1971, PhD 1976 (Pharm. Chem.)) is Director of Product Development for the Bayer Co. in New Jersey.

1980 - 1985

Sultan T. Abu-Orabi (PhD 1982, Ashe) after two years as Visiting Professor at King Fahd University in Saudi Arabia, has returned to Yarmouk University in Jordan where he is the Head of the Department of Chemistry.

Andrew F. Childs (PhD 1985, Francis; MD 1998, Univ. of Connecticut) has completed his MD degree and is a resident in diagnostic radiology at the Yale-New Haven Hospital.

Carl C. Correll (BSC 1984, PhD 1992 (Biochem.)) has been appointed an Assistant Professor in the Biochemistry/Molecular Biology Department of the University of Chicago and is engaged in establishing protein-RNA recognition principles using X-ray crystallography and biophysical solution techniques.

Thomas L. Cupps (PhD 1982, Townsend) is Associate Director of Chemical Development for Procter & Gamble Pharmaceuticals in Norwich, CT.

Barbara L. (Ruppel) De Clerck (BSC 1983; MS 1993, U. of Oklahoma (Meteorology)) writes that she is a "stay at home mom," in Fort Leavenworth, KS.

Kathy J. (Dien) Hillig (PhD 1983, Morris) currently represents the chemical industry on the EPA Environmental Advisory Board and is employed at the BASF Corporation in Wyandotte, MI.

Kevan R. Kreitman (BSC 1983; DPM 1987, Pennsylvania Coll. of Podiatric Medicine) is a podiatrist and owner of Kevan Kreitman DPM in Roseville, MI.

Edward G. Ludwig (PhD 1984, Ashe) has moved to Iowa City, IA.

David P. Michelin (BS 1984, MS 1986 (Pub. Health); MD 1990, Michigan State U.) is now a physician at the Munson Medical Center in Traverse City, MI.

Mark O. Neisser (PhD 1981, Marino) has left IBM and is now manager of deep UV technology for Olin Microelectronic Materials in Rhode Island. His wife, **Guillermina Avaria-Neisser** (PhD 1984, Groves) is a senior regional medical associate for SmithKline Beecham.

Paul J. Nowak (BSC 1982; MS) is an Automotive Sales Manager at Engelhard Corporation in Bay City, MI.

Jerome C. Pando (BS 1984; PhD 1989, West Virginia U. (Organic)) is a Senior Projects Chemist for Merck & Company in Pennsylvania.

Gary L. Parenteau (BS 1982, MD 1986) is a cardiac/thoracic surgeon in Toledo, OH.

David P. Recker (Ex 1980, MD 1983) is Medical Director for Searle & Company in Illinois.

Charles E. Schmidt (PhD 1980, Sacks) operates his own firm, C. E. Schmidt Environmental Consulting, in Red Bluff, CA.

Olga I. Shamraj (BDC 1983; PhD 1994, U. of Cincinnati (Mol. Biol.)) is an executive recruiter for the Madison-Davis Group in New York.

Marjorie S. Soloman (BSC 1983; PhD, Univ. of Washington) is a research scientist for Millennium Pharmaceuticals in Somerville, MA.

Birgit M. Stengren-Roy (BSC 1983) is a molecular biologist with the Wyeth-Ayerst Research Laboratories in New Jersey.

Gloria J. Stevens (BSC 1981; MD 1985, Wayne State Univ.) is a dermatologist in Upland, CA. and a Clinical Assistant Professor at the University of Southern California.

Nguyen Van-Det (PhD 1980, Longone) is a Senior R&D Associate with the B. F. Goodrich Co. in Brecksville, OH.

Ronald A. Voice (BS 1984, MS 1988 (Toxicology), MD 1992) is a physician/cardiologist in Okemos, MI.

1986 - 1989

Richard N. Andrew (BS 1987, MBA 1990) is a senior chemist with Ann Arbor Technical Services concerned with environmental waste water problems.

Christopher B. Bookout (BS 1986; MD 1990) is an orthopedic surgeon with the U.S. Navy stationed in Florida.

Ruth A. Bucsh (MS 1986) has enrolled in a Clinical Research Administration program at Eastern Michigan University and is employed by the University of Michigan in their Cancer Center Clinical Trials.

Charles H. Chanpagne (MS 1989; MBA 1997, U. of Chicago) is a senior planner with the Mobil Oil Corp. in Washington, DC.

Mark A. Holmes (BSC 1987) is a research chemist with the Merck & Co. research laboratories in New Jersey.

Kira D. (Oswell) Hutchinson (BS 1986; PhD 1990) is a Drug Sciences Officer at DEA. She comments that life is somewhat peaceful.

Ira Finkelstein (BS, BSE 1987; JD 1998) is an Associate with the law firm of Arnold, White and Durkee in Houston, TX.

Val S. Goodfellow (PhD 1986, Lawton) is Project Team Manager for the Systems Integration Drug Discovery Company, a subsidiary of Asahi Chemical and lives in Tucson, AZ.

Jeffrey A. Henchel (BS 1987) is a consultant to the automotive paint and plastics industry and lives in North Carolina.

Kenneth J. Henry, Jr. (BSC 1987; PhD 1993, Indiana Univ.) accepted a position in drug discovery with Eli Lilly & Co. in Indianapolis. His wife, **Cynthia L. (Long) Henry** (BSC 1987; MS 1990, Indiana Univ.) is enjoying raising their two young children.

Carol A. (Laubach) Hoag (BS 1988) is leading the commercialization of silicone rheology modifiers for the Dow Corning Company.

John C. Kacoyannakis (MS 1985; JD 1990, Boston Univ.) is an attorney with Palmer & Dodge in Boston.

Julianne L. (Groh) Kampling (BSC, BSE 1987, MBA 1992) is Strategy and Alliance Manager for the Amoco Oil Company in Georgia.

James Ing Hui Lee (PhD 1989, Meyerhoff) is a Research Fellow in

bioanalytical research with the Merck Corporation in Pennsylvania.

Ping Li (PhD 1989, Curtis) is a staff engineer for Seagate Technology in California.

Daniel J. Link (BS 1988, MD 1992) is an anesthesiologist in Las Vegas, NV.

Josef K. Ludwig (BSC 1989; MBA 1995, Ill. Inst. Technology) is principal chemist and coordinator for Lancaster Laboratories in Lancaster, PA.

Norman J. Meluch (BSC 1987) is manager of Directory Services for the General Motors Corporation.

Michael V. Milburn (BSC 1986; PhD 1991, Univ. of Calif./Berkeley) is Department Head of Structural Chemistry at Glaxo Wellcome Inc., in North Carolina.

James S. Newhouse (PhD 1985, Kopelman) is in Hawaii where he is senior scientist at the High Performance Computing Center on Maui, associated with the University of New Mexico. He and his wife, **Elizabeth** (PhD 1986, Kopelman), recently adopted a Romanian orphan.

Chris J. Noah (BSC 1987; MD 1994, Wayne State Univ.) is a family practice physician at the Midland (Michigan) Regional Medical Center.

Andrew J. Patterson (BSC 1987; MD 1991, Emory Univ.) has joined the staff of Stanford University as a physician.

Vassiliki Roulia (BSC 1986, MS 1988 (Pharmacology); MBA 1997, U. of Florida) is Program Manager of Clinical Research Trials for the Neuroscience Department at the University of Florida.

Ashis K. Saha (PhD 1986, Marino/Wuts) is a Principal Scientist for the Janssen Research Foundation in Pennsylvania and is engaged in applying combinatorial chemistry in their Medicinal Chemistry Department.

Kristi Ann (Dell) Snell (BSC 1989; PhD 1993, Purdue Univ.) is a research scientist with Metabolix, Inc., in Massachusetts.

Daniel J. Vargo (BSC 1987; MD 1992, Baylor Univ.) is a surgeon specializing in trauma and critical care for the University of California at Davis.

John R. Wagner (MS 1986; MD 1993, St. Louis Univ.) is an orthopedic surgeon with the Mayo Clinic in Rochester, MN.

Pin-Pin Wu (MS 1985, PhD 1989, Filisko (Macromol. Sci.)) is a principal plastics engineer for the Medtronic Interventional Vascular Corporation in San Diego, CA.

1990 – 1995

Saleem A. Al-Ahmad (PhD 1990, Coucouvanis) is a research chemist with the Lubrizol Corporation in Wickliffe, OH.

Valarie I. Benezra (BSC 1993; PhD 1998, MIT (Materials Sci.)) is employed as a staff scientist by Choate Hall & Stewart in Boston.

Jason A. Berner (BSC 1994; MD 1998, Wayne State Univ.) is a resident physician in internal medicine at Emory University in Atlanta, GA.

Paul D. Boyce (BSC 1994; MD 1998, Emory Univ.) is a resident physician at the Emory University Medical School.

Kelvin R. Bray (BSC 1994; MD 1998, Morehouse Univ.) is a resident physician at the Alton Ochsner Medical Foundation Hospital in Louisiana.

Nicole M. Budrys (BSC 1993) is a validation specialist with Baxter Healthcare in Michigan.

Venus M. Buller (BS 1995) is self employed and living in Virginia Beach, VA.

Mark R. Burns (PhD 1993, Coward) is a senior scientist for the Oridigm Corp. in Washington state.

Benjamin M. Chien (PhD 1994, Lubman) is President and CEO of Quest Pharmaceutical Services located in Newark, Delaware.

Stephen S. Y. Cho (BS 1991) is a graduate student with Barry Trost at Stanford University.

Inchan Choi (PhD 1995, Kopelman) is a Senior Research Chemist with Bisco Inc., in Naperville, IL.

Joe S. Chomchai (BSC 1990; MD 1994, Wayne State Univ.) is a physician specializing in otolaryngology at Central Michigan Community Hospital in Mount Pleasant, MI.

Julie Ann Church (BS 1993; MD 1997, Wayne State Univ.) is engaged in medical practice in Rochester Hills, MI.

Konstantinos Demadis (PhD 1995) is with the Nalco Chemical Co. in Naperville, IL.

Matthew T. DesJardins (BS 1993; MD 1998, Wayne State Univ.) is a resident physician at the Wake Forest University Baptist Medical Center in North Carolina.

David J. Detlefsen (PhD 1990, Pecoraro) is a senior research investigator in the Pharmaceutical Research Institute of Bristol-Myers Squibb in Pennsylvania.

John M. Ellison (MS 1992) is Manager of Technical Publications for LifeScan, Inc. in California.

Scott T. Fountain (PhD 1994, Lubman) is a senior scientist in the pharmacokinetics and metabolism division of Warner-Lambert Parke-Davis Co. in Ann Arbor.

Bin Fu (PhD 1994, Meyerhoff) is a senior scientist and group leader for the Bayer Corporation in New York state.

Brent M. Fuller (BSC 1993; MD 1997, Wayne State Univ.) is a resident physician at William Beaumont Hospital in Royal Oak.

Patricia F. (Yocum) Gaskamp (BS 1995) is an English language teacher in Korea.

Ramesh Gopalaswamy (PhD 1993, Koreeda) is a research chemist with Glycosyn Pharmaceuticals, Inc., in Cary, NC.

Eva J. Gordon (BS 1993; PhD 1998, Univ. of Wisconsin/Madison) is a Postdoctoral Fellow at the Harvard Medical School.

Daniel W. Grossman (MS 1993) is an analytical chemist with the Diamond Vogel Paint Company in Iowa.

Carl W. Hahn (BS 1991; PhD 1997, Princeton Univ.) is a senior chemist for Nalco-Exxon Energy Chemicals in Sugarland, TX.

Benjamin E. Haithcock (BS 1993; MD 1998, Michigan State Univ.) is now a resident in surgery at Henry Ford Hospital in Detroit.

Michael D. Harvey (BS 1993) is a senior chemist for Ann Arbor Technical Services.

Laura M. Hoistad (PhD 1993, Lee) is an Assistant Professor of Chemistry at the University of Northern Iowa.

Jeffrey D. Hsi (PhD 1990, Koreeda; JD, Rutgers Univ.) is a patent counsel with Kinetics Pharmaceuticals, Inc., of Medford, MA.

Omar M. Javaid (BS 1995) consults for Deloitte & Touche in Detroit.

Kirk W. Jobe (BSC 1993; MD 1997, Wayne State U.) is a resident in surgery at Wayne State.

Dennis H. Kim (BS 1995; MS 1998, UCLA) has entered the Albany Medical College as a medical student.

Will K. Kowalchyk (PhD 1995, Morris) is an applications scientist with Kaiser Optical Systems in Ann Arbor.

Traci J. Lee (BS 1993, PhD 1997 (Pharmacy)) is an Associate Drug Information Product Manager for SmithKline Beecham Pharmaceuticals in Pennsylvania.

Andrew K. Lesko (PhD 1994, Francis) works for Praegitzer Industries, Inc. in Dallas, OR as Chemical Engineer Manager.

Thomas H-C. Li (BS 1992, MS 1994 (Epidemiology); MD 1998, Wayne State Univ.) is a resident physician in internal medicine at the William Beaumont Hospital in Detroit.

James H. Lindner (PhD 1990, (Chem. Engin.), Postdoctoral 1991-4, Gland) is with the Environmental Protection Agency in Gainesville, FL.

Bryan E. Little (BS 1994; MD 1998, Wayne State Univ.) is a resident orthopedic surgeon for Northwestern University.

Larry J. Markosi (BS 1994) is an academic professional with the University of Illinois in Urbana.

Rachele A. Mastromatteo (BS 1995; MS (Physical Therapy)) lives in Roseville, MI, where she is a physical therapist.

Randolph P. Matthews (BS 1990; PhD 1996, MD 1998, Univ. of Washington) is a resident physician in pediatric medicine at the Childrens Hospital of Philadelphia.

Shahid M. Maturza (BS 1994) is a graduate in chemistry at Pennsylvania State University.

Brett T. Mercer (BS 1993) is pursuing an MBA degree at Purdue University.

Patrick E. Mosier (PhD 1995, Coucouvanis) works for B.P. Chemicals in Ohio as a Senior Associate engaged in catalyst research. His wife, **Gayatri Jacob-Mosier** (PhD 1995, Lawton) is raising their two daughters, ages 5 and 1.

Jamey A. Nelson (BSC 1991; MS, Trinity Lutheran Seminary (Divinity)) is a pastor of the Faith Evangelical Lutheran Church in Saginaw.

Gregory T. Randall (BS 1993, DDS 1997) is a dentist in Berrien Springs, MI.

Pamela J. Riggs-Gelasco (PhD 1995, Penner-Hahn) is an Assistant Professor of Chemistry at the College of Charleston, South Carolina. Her husband, **Andrew K. Gelasco** (PhD 1995, Pecoraro) is a research scientist in pharmacology at the Medical University of South Carolina in Charleston.

Michael R. Savina (PhD 1995, Francis) is an assistant chemist at the Argonne National Laboratory in Illinois.

Jason L. Schweitzer (BS 1995) is EDI Coordinator for the Robert Bosch Foundation in Chicago.

Cathy L. (Lobach) Scott (BS 1994) was a lab supervisor for the Cayman Chemical Co. but now lives in Dexter, MI.

Karen E. (Ramos) Sexton (BSC 1995) is a Senior Assistant Chemist in medicinal chemistry with the Parke-Davis Research Laboratories in Ann Arbor.

Scott P. Sibley (PhD 1993, Francis) is an Assistant Professor of Chemistry at Goucher College in Maryland. He and **Sharon M. Pan** (BS 1992) were married in 1998.

Andreas I. Toupadakis (PhD 1990, Coucouvanis) is a senior staff scientist at the Lawrence Livermore National Laboratory in California.

Gregory W. Wells (BSC 1993; PhD 1998, Wayne State U.) is a senior research chemist with the Wyckoff Chemical Co. in South Haven, MI.

Mary Ann Wemple (BS 1991; MD 1995, Univ. of Washington) is a Rheumatology Fellow at the University of Washington Medical Center in Seattle.

Zhifu Xu (PhD 1992, Moore) is a senior research scientist with S. C. Johnson & Son, Polymer Division, in Racine, WI.

Louis K. Zweig (BS 1992; MD 1996, Ohio State U.) is a physician at Georgetown University in Washington, DC.

1996 – 1999

Tracy L. (Rapp) Brice (PhD 1997, Morris) works as a research chemist for the Abbott Laboratories in Illinois.

E. Joseph Campbell (BS 1997) is attending graduate school in Chemistry at Northwestern University.

Jiong “Jack” Chen (PhD 1998, Townsend) is doing research for Pharmacia & Upjohn in Kalamazoo, MI.

Wonyoung Choe (PhD 1998, Lee) is a postdoctoral fellow at Iowa State University in Ames, IA.

Melvin C. Dacres (BS 1997) is employed at the Detroit Waste Water Treatment plant as a junior chemist.

Sanmitra S. Deo (MS 1998) is with the Advisory Board Company in Virginia.

Michael W. Ducey, Jr. (PhD 1998, Meyerhoff) is a Postdoctoral Research Associate at the University of Arizona in Tucson.

Christopher A. Engel (BSC 1996) is a chemist with the Henkel Surface Technology Corp. in Michigan.

Kelly A. (Daly) Flynn (PhD 1998, Penner-Hahn) is employed by Energy Conversion Devices in Troy, MI.

Thaddeus H. Fox (BS 1998) is attending graduate school in business at University of California-Berkeley.

Alois M. Gerlach, Jr. (BSC 1997) is engaged in strategy and operations management for the chemical industry at the Arthur D. Little Co.

Brent J. Hamstra (PhD 1998, Pecoraro) is a postdoctoral associate at the University of Notre Dame, working with another Michigan graduate, Prof. **Walter Scheidt** (PhD 1968).

Ramy A. Hassan (BS 1998) is a Drug Safety Coordinator for the Parke-Davis Pharmaceutical Co.

Brent H. Hilbert (MS 1997) is a chemist with Beckman & Coulter in Chaska, MN.

Tracy M. Hobson (BS 1998) is an associate scientist with the DuPont Pharmaceutical Co. in Wilmington, DE.

Shirley M. Hoenigman (PhD 1998, C. E. Evans) is an Assistant Professor of Chemistry at Newman University in Wichita, KS.

Heather L. (Smith) Holmes (PhD 1998, Sacks) is an Assistant Professor of Chemistry at Eastern Michigan University.

Maria Jancevski (BS 1998) is a graduate student in basic medical sciences.

Nancy L. Jestel (PhD 1998, Morris) is a research chemist for the General Electric Co., Plastics Division.

Sarah L. Jouppi (BSC 1996; MS 1998, Univ. of Massachusetts) is a senior research associate with CombiMatrix Corp. in Santa Clara, CA.

Ricky Tsz Lam Li (BSC, BSE 1997) is a member of the technical staff for Lucent Technologies in New Jersey.

David J. Lieberman (BS 1998) is a research chemist with the Great Lakes Chemical Co. in West Lafayette, IN.

Kyle E. Litz (PhD 1998, Banaszak-Holl) has accepted a position as a staff chemist with the General Electric Corp. in Schenectady, NY.

Honjun Liu (PhD 1998, Sension) is a Research Assistant at the Scripps Research Institute in La Jolla, CA.

Hui Liu (PhD 1997, Rasmussen) is a Senior Application Chemist at Solutia, Inc., in Springfield, MA.

M. Adnan Mansour (PhD 1996, Curtis) is a Postdoctoral Associate with Elf Atochem North America, Inc. in their strategic research division.

Leah M. Meeuwenberg (MS 1998) is a failure analysis engineer for Smartflex Systems in Tustin, CA.

Paul Milne (PhD 1996, Lubman) is a Senior Research Specialist for the Pepsi

Cola Co. in New York State. His wife, **Elizabeth Todd Milne** (PhD 1996, Morris) is a self employed technical writer.

Anil Mitra (BSC 1997) is an associate chemist at Dupont-Merck in Philadelphia.

Brian T. Molenda (BS 1997) is working as a bench chemist with Philips Industrial Services in Detroit.

Michael Molinier (Postdoctoral 1998, Curtis) is a research chemist with the Allied Signal Environmental Catalyst Corp. in Tulsa, OK.

Ramasubramanian Narayanan (PhD 1998, Laine) is a research chemist for TAL Materials in Ann Arbor.

Carolyn E. Owen (BS 1998) is attending graduate school in chemistry at the University of California-Irvine.

Adarsh D. Pandit (BS 1998) works at the Brigham and Women's Hospital in Boston, MA.

James D. Pennington (PhD 1998, Koreeda) is a Lecturer and Postdoctoral Scholar at Texas A&M University in College Station, TX.

Moira C. Ringo (PhD 1999, CE Evans) will be a research chemist in their analytical sciences division with the Glaxo-Wellcome Corp. in New Jersey.

Dell T. Rosa (PhD 1998, Coucouvanis) is continuing as a postdoctoral scholar at the University of Michigan.

Arif M. Sitabkhan (BSC 1998) has joined Blue Coral-Slick 50 in Westlake, OH, as a R&D chemist.

John P. Snow (BS 1998) is a Research Associate at the University of Michigan.

Karen E. (Guzdial) Spiteri (BSC 1996) works as a research chemist in the New Technologies Division of ND Industries near Detroit.

Tresa M. Staeven (BSC, BSE 1997) is a report coordinator for Weyco, Inc., in Grand Rapids.

Joseph W. Styrna (BS 1998 (Chem., Econ.)) runs his own investment office in Walled Lake, MI as an affiliate of Edward Jones Investments.

Jack R. Waas (PhD 1997, Ashe) will be starting a tenure track position at Bethel College in Arden Hills, MN, in the fall of 1999.

Patrick A. Walker, III (PhD 1998, Morris) is a senior scientist with Betz Dearborn in Pennsylvania.

Brent W. Warner (MS 1996; MS 1997, West Virginia Univ. (Safety Management)) is working for the Dick Corporation as a safety representative.

Robb J. Wilson (PhD 1998, Kuczkowski) has accepted a tenure track position as Assistant Professor of Physical Chemistry at Louisiana State University at Shreveport.

Jinhai Yang (PhD 1998, Koreeda) is a Postdoctoral Fellow at the Pennsylvania State University.

Shuliang Zhang (PhD 1994, Univ. of Alberta; Postdoc 1997, Morris) has accepted a position as a research scientist with Unilever Research in New Jersey.

Valentin R. Zhelyaskov (PhD 1989, Sofia Univ.; Postdoctoral 1996, Morris) is a senior scientist with World Precision Instruments in Sarasota, FL.

In Memoriam

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

David B. Andrews (PhD 1938, Schoepfle) died September 16, 1997, in Maryville, TN. Dr. Andrews retired from the Koppers Company as Vice President of their International Division. Prior to that he was employed at the General Aniline Company, leaving in 1959. He was the first chairman of the Air Quality Commission of the Manufacturing Chemists Association.

Karen G. (Kammann) Cuneo (BSC/BSE 1985) passed away March 18, 1996 in Albuquerque, NM. She was previously employed at Honeywell Defense Avionics Corp.

Robert O. Eberbach (BS 1937) died in Ann Arbor on June 27, 1999. Mr. Eberbach was a member of the family that owned the Eberbach Scientific Co. which, for many years, was the supplier of scientific apparatus and chemicals to the University.

Henry C. Godt, Jr. (PhD 1953 (Pharm. Chem.)) died January 29, 1998 in St. Louis, MO. He retired from Monsanto Chemical Co. having spent his entire career with that company. His area of research was the oxidation of cyclohexanol to adipic acid and the development of new insecticides. In 1970, he became the technology appraisal manager and was involved in the evaluation of the environmental impact of the company's products and collection of the data necessary to submit to the government to satisfy the Toxic Substances Control Act.

Ira E. Halt, Jr. (BSC 1948) died November 3, 1997, in Chesterland, OH. He retired from the Lamp Division of the General Electric Co. in Cleveland.

Robert S. Hansen (PhD 1948, FE Bartell) died June 16, 1998 in Ames, IA. He was Emeritus Distinguished Professor of Sci-

ences and Humanities at Iowa State University, where he had taught for 40 years; a former Chair of the Chemistry Department, he had also served as Director of the AEC Ames Laboratory. His area of research was surface chemistry, particularly adsorption, catalysis, interfacial tension and structure.

Raymond E. Hoffman, Jr. (BSC 1965, MD 1969) died unexpectedly July 23, 1997 from a cardiac arrhythmia. He was a practicing surgeon with the Rockford Surgical Service in Rockford, IL. He is survived by his wife Nancy and their two children.

Teresa C. Hsu (BS 1998) passed away on May 5, 1999, while a student at the California Institute of Technology in Pasadena, CA.

Charles K. Hunt (PhD 1934, Schoepfle) died March 24, 1998, in Hinsdale, IL. He was an Emeritus Professor of Chemistry at the University of Illinois, Chicago. Prior to his academic career he worked for the Mellon Institute, Gulf R&D Corp., Pittsburgh Plate Glass Co., and Sharples Chemical Co., where he was a research director. He served as Chair for both the Detroit and Chicago Section of the American Chemical Society.

Walter E. Kester (BS 1950) died December 17, 1996 in Midland, MI. He was a member of the analytical research department of the Dow Chemical Co. for 31 years when he retired in 1982.

Beatrys L. A. (DeSmet) Kolaitis (MS 1984) died unexpectedly at age 37 in Meise, Belgium, on June 18, 1998. She had been a Product Development Manager with Procter & Gamble in Brussels. She leaves her husband, **Leonidas Kolaitis** (PhD 1987, Lubman), and two children, ages 6 and 3.

Robert E. Machol (PhD 1958, Westrum) died on November 12, 1998. He had left the field of chemistry and held the post of chief scientist for the Federal Aviation

Administration in Washington, DC, at the time of his death.

Rees T. Makins (MS 1937) died July 7, 1998 in Deerfield Beach, FL. He founded M-W Laboratories of Chicago, an electroplating company. He retired in 1986 and moved to Florida.

Terrell C. Myers (PhD 1952, Bachmann/Dreiding) died August 6, 1997 in Chicago. He had been a Professor of Biochemistry at the University of Illinois Medical Center in Chicago.

Donald O. Niederhauser (PhD 1947, F.E. Bartell) died July 20, 1997 in Stanton, DE. He retired from the Textile Division of the DuPont Co. where he was a senior research supervisor and had generated 12 patents during his career. In the 1960's, he had led a successful drive for the reapportionment of the General Assembly in Delaware.

Ralph W. Raiford (PhD 1955, Halford) died in Ann Arbor February 19, 1999. After a period in industry, Ralph supervised the University of Michigan Chemistry Store until its close, moving to General Stores until his retirement.

Esther M. Rice (MS 1931), one of our older alumnae, died March 12, 1999, in Dallas, TX.

James E. Scott (BS 1940) died November 22, 1998 in Minneapolis, MN. After graduation, he joined the General Electric Co. and then, after the war, the Nuclear Materials and Equipment Corp. where he specialized in spectrographic analysis of nuclear materials. Later he was involved in combustion engineering and retired as supervisor of analytical services. His son, David and David's wife, Andrea, both Michigan alums have established an endowment to fund the Scott-Larsen Professorship in Chemistry in honor of their parents. Andrea's father is John A. Larsen, a graduate of the University in Civil Engineering.

Walter J. Warzybok (BS 1967) died September 22, 1998 in Hamtramck, MI.

FACULTY

- 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*.
- Mary Anne Carroll**, Associate Professor, Chemistry and Atmospheric, Oceanic and Space Sciences. *Atmospheric Chemistry*.
- Brian P. Coppola**, Associate Professor, Organic Chemistry. Coordinator of Undergraduate Organic Chemistry Curriculum. *Science Learning and Instructional Methods*.
- Gene H. Cordes**, Professor, Chemistry and Medicinal Chemistry. *Molecular Design; Enzymatic Reaction Mechanisms; Biochemistry*.
- Dimitri Coucouvanis**, 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*.
- Seyhan N. Ege**, Professor. *Heterocyclic Reactive Intermediates*.
- B. J. Evans**, Professor. *Solid State Chemistry: Electronic and Magnetic Materials*.
- Christine E. Evans**, Assistant Professor. *Analytical/Physical Chemistry*.
- Carol Fierke**, Professor, *Biological Chemistry*.
- Anthony H. Francis**, Arthur F. Thurnau Professor. *Magnetic Resonance, Vibrational and Electronic Spectroscopy of Materials*.
- 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*.
- Richard A. Goldstein**, Associate Professor and Research Scientist, Chemistry and Biophysics Research Division. *Computational Molecular Biophysics, Physical Chemistry*.
- Adon A. Gordus**, Professor. *Radioanalytical-Radiation Chemistry*.
- Henry C. Griffin**, Professor. *Nuclear Chemistry: Gamma-Ray Spectroscopy of "Hot" and "Cold" Nuclei*.
- 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*.
- Robert L. Kuczkowski**, Professor. *Microwave Spectroscopy of Weakly Bonded Complexes*.
- Richard M. Laine**, Associate Professor, Materials Science and Engineering and Chemistry. *Materials Chemistry*.
- Richard G. Lawton**, Professor. *Organic Chemistry*.
- Lawrence L. Lohr**, Professor. *Theoretical Studies of Molecular Structure and Reactivity*.
- David M. Lubman**, Professor. *Biological Mass Spectrometry, Spectroscopy and Instrumentation*.
- Joseph P. Marino**, Professor and Chair. Chemistry and Medicinal Chemistry. *New Synthetic Methods and Strategies for Natural Product Synthesis*.
- E. Neil G. Marsh**, Assistant Professor. *Enzymes: Structure, Mechanism, and Specificity; Protein Engineering and Molecular Recognition*.
- Mark E. Meyerhoff**, Professor. *Bioanalytical Chemistry, Electrochemical and Optical Sensors*.
- Michael D. Morris**, Professor. *Analytical Laser Spectroscopy and Imaging; Electrophoretic Separations*.
- Kathleen V. Nolte**, Lecturer III. *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*.
- Roseanne J. Sension**, Associate Professor. *Physical Chemistry, Ultrafast Laser Spectroscopy*.
- Robert R. Sharp**, Professor. *Multidimensional and Multiquantum NMR of Paramagnetic Systems*.
- Leroy B. Townsend**, Professor, Medicinal Chemistry and Chemistry. *Design Synthesis and Biological Evaluation of Heterocycles and Nucleosides*.
- Edwin Vedejs**, Moses Gomberg Professor. *Organic Chemistry*.
- Nils G. Walter**, Assistant Professor. *Chemical Biology*.
- Barbara J. Weathers**, Lecturer, and Lecturer in Comprehensive Studies Program.
- John R. Wiseman**, Professor. *Synthetic Organic Chemistry and Mechanisms of Chemical Reactions*.
- 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: **Lawrence S. Bartell, S. M. Blinder, Thomas M. Dunn, Daniel T. Longone, Christer E. Nordman, Lawrence J. Oncley, Peter A. S. Smith, Milton Tamres, Robert C. Taylor, Edgar F. Westrum, Jr.**

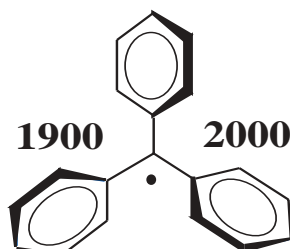
Gomberg 2000 Conference

VIIIth International Symposium on Organic Free Radicals

June 25 – 29, 2000

University of Michigan, Ann Arbor, Mi

Contact Masato Koreeda, koreeda@umich.edu
Web: <http://www.umich.edu/~michchem/gomberg/2000>



The VIIIth International Symposium on Organic Free Radicals will be held June 25-29, 2000 in Ann Arbor, Michigan. This symposium will celebrate 100 years since Moses Gomberg's publication on triphenylmethyl. The conference will emphasize all aspects of organic radicals – mechanism and theory, synthesis, free radicals in Biology and Polymers.



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