

Letter from the Chair

I am pleased to send greetings and to highlight the exciting activities of the Chemistry Department over the past year. Our two new faculty members, Paul Zimmerman and Dominika Zgid, add significant strength to the areas of theoretical and materials chemistry. Both faculty members are developing innovative theoretical methods based on first principles with applications to solids (Zgid) and molecular catalysts (Zimmerman), as highlighted in this newsletter.

We are also proud to announce the promotion of three faculty members last year: Kevin Kubarych and Nikolai Lehnert to Associate Professor with tenure and John Wolfe to Professor with tenure. These faculty members were promoted based on their outstanding accomplishments in the areas of research, teaching and service. Finally, the research excellence of the Chemistry faculty members was recognized with numerous external awards over the past year including: Hashim Al-Hashimi received the Founders Medal from the Conference of Magnetic Resonance in Biological Systems; Charles L. Brooks, III was the recipient of the Protein Society's Hans Neurath Award, Robert T. Kennedy received the Marcel Golay Award and the Eastern Analytical Symposium Award, Mi Hee Lim received a Alfred P. Sloan Research Fellowship, Anna K. Mapp received an ACS Arthur C. Cope Scholar Award and Melanie Sanford was awarded the Theime-IUPAC Prize in Synthetic Organic Chemistry and the Paul N. Rylander Award.

In addition to achieving research excellence, our Department strives for outstanding pedagogy and innovation in teaching chemistry both in the classroom

and the laboratory. Our success in these endeavors is indicated by the all-time high number of credit hours taught and bachelors degrees awarded by the department last year as well as the increasing number of students taking advantage of the Chemistry minors. We are excited about the development of two new majors in the department that increase opportunities for undergraduates to experience the chemical realm: Interdisciplinary Chemical Sciences and Biomolecular Sciences. Furthermore, the number of applicants to our graduate program has reached a new high. Finally, the Chemistry faculty members have been recognized with a number of teaching awards: Brian Coppola received the Robert Foster Cherry Award for Great Teaching as well as the Provost's Teaching Innovation Prize and John Wolfe received the LSA Excellence in Education Award and the LSA John Dewey Award.

Both educational and research missions of the Chemistry Department are growing and thriving, despite budget challenges. The generous support of our research and teaching efforts by alumni (and others) has become increasingly important for maintaining and enhancing excellence in all areas of the department, including supporting undergraduates in research and attracting outstanding faculty. The students and faculty thank all of the benefactors of the department, including Professors Janet Bluemel and John Gladsyz (see Alumni News) for their gifts. I hope that you enjoy hearing about the Department in this newsletter and I invite you to visit the Department anytime that you are in town. I look forward to talking with you.

Best wishes,
Carol Ann Fierke, Chair, Jerome and Isabella Karle Professor of Chemistry and Professor of Biological Chemistry

Contents

Letter from the Chair	1
New Faculty	2
Faculty News.....	3
Faculty Profile	4
Graduate Program News	
Degrees.....	5
Vaughan	6
Awards	7
Undergraduate Program News	
Degrees.....	8
Awards	9
Summer Programs	9
Gifts.....	10
Alumni News	11
In Memoriam	12
Faculty Listing	14
Alumni Reply	
Form	inside back cover
Donations	reply envelope flap

2012

The Regents of the University of Michigan:
Julia Donovan Darlow, Laurence B. Deitch, Denise Ilitch, Olivia P. Maynard, Andrea Fischer Newman, Andrew C. Richner, S. Martin Taylor, Katherine E. White, Mary Sue Coleman, ex officio.
Mary Sue Coleman, president.

The University of Michigan is an equal opportunity/affirmative action employer.

Spotlight: Profiles of New Faculty

We highlight faculty members who have joined the Department since the last newsletter. Their appointment speaks well for our future.

Dominika Zgid, Assistant Professor

PhD: University of Waterloo, Canada
PostDoc: Cornell University, Columbia University
Electronic Structure of Molecules and Crystalline Systems

Newly emerging “electron correlation” devices made out of transition metal oxide heterostructures ($\text{Sr}(\text{Zr})\text{TiO}_3$), battery materials LiMPO_4 (with $M = \text{Mn, Fe, Co, and Ni}$) and new molecular magnets used in quantum computing are at the heart of new experimental developments in materials and chemical sciences. Such experimental progress poses many questions to our theoretical understanding. The answers can be found using a combination of modeling and theory to support the experiment. In our group, to tackle these important questions, we are developing controlled, reliable, and systematically improvable theoretical methods that describe correlation effects and are able to treat solids and large molecules realistically.

Our work is interdisciplinary in nature and we connect three fields, chemis-



try, physics and materials science. Our goal is to develop theoretical tools that give access to directly experimentally relevant quantities. We

develop and apply codes that describe two types of electronic motion (i) weakly correlated electrons originating from the delocalized “wave-like” s- and p-orbitals responsible for many electron correlation effects in molecules and solids that do not contain transition metal atoms, (ii) strongly correlated electrons residing in the d- and f-orbitals that remain localized and behave “particle-like” responsible for many very interesting effects in the molecules containing d- and f-electrons (transition metal nano-particles used in catalysis, nano-devices with Kondo resonances and molecules of biological significance - active centers of metalloproteins). The mutual coupling of these two types of electronic motion is challenging to describe and currently only a few theories can properly account for both types of electronic correlation effects simultaneously.

Paul Zimmerman, Assistant Professor

PhD: Stanford University
PostDoc: University of California-Berkeley
Physical Chemistry, Theoretical Chemistry

Alternative energy research can greatly benefit from ab initio simulation that provides molecular level insight into the nature of chemical bonds and excited states. The level of detail found using these methods is extremely high and not

often attainable via other means. However, many first principles methods are too costly for routine use in realistic systems due to poor scaling with system size. To alleviate this problem, our research group develops and applies state-of-the-art first-principles methods and support tools for the description of molecular catalysts and solar energy conversion systems.

Discovering mechanisms of catalysis to guide experiments toward increased rates and selectivity. New methods are being developed in the group to navigate complex reaction pathways with minimal computational and human effort. These tools (one example is the Freezing String Method), allow the study and discovery of catalytic processes even with limited a priori chemical insight. These methods are applied to difficult energy-related problems such as CO_2 reduction and methane conversion. This approach identifies the strengths and limitations of existing catalysts at an atomistic level to aid in the design of improved catalytic systems.

Characterizing the fundamental behavior of excited states in light harvesting materials. Solar cells and photocatalysts may be tuned to substantially higher efficiency when the character and interactions among electronically excited states are known. This level of detail, however, is especially hard to obtain due to the high cost of existing electronic structure methods that can treat excited states. New methods (such as Restricted Active Space Spin Flip) allow investigation of single and multiple exciton states in realistic models of molecular light harvesters and photocatalysts. The mechanistic information gained from these studies will lead to the development of highly efficient solar materials such as those that employ singlet fission, where a single photon is converted into two electron-hole pairs.



Faculty News

Hashim Al-Hashimi has received the Founders' Medal from the International Conference of Magnetic Resonance in Biological Systems (ICMRBS) at their 25th meeting held in Lyon, France in August 2012. The award is made in recognition of exceptional contributions by a young scientist for the development and/or progress in the field of magnetic resonance in biological systems.

Charles L. Brooks, III is the 2012 recipient of the Protein Society's Hans Neurath Award. The award recognizes an individual who has made recent contributions of unusual merit to basic research in the field of protein science, including but not restricted to the chemistry, design, folding, structure or biological function of proteins. Brooks was acknowledged at the 26th Annual Symposium of the Protein Society in San Diego, CA in August with a session in his honor.

Brian Coppola has been named by Baylor University to receive the 2012 Robert Foster Cherry Award for Great Teaching. The Cherry Award is the only national teaching award presented by a college or university for exceptional teaching. Coppola will receive the \$250,000 award and an additional \$25,000 for the Chemistry Department at UM. He will be in residence at Baylor during their Spring 2013 semester. His acceptance speech highlighting his storytelling approach to teaching is available at http://www.baylor.edu/cherry_awards/



Barry D. Dunietz has left the University. He is now at Kent State University.

Theodore G. Goodson, III has been named the Richard Barry Bernstein Collegiate Professor of Chemistry. In 2011 he received the Percy L. Julian Award for Outstanding Research in Pure and Applied Science and Engineering. The award was

presented by the National Organization for Professional Advancement of Black Chemists and Chemical Engineers. Ted has also been invited to serve as a Sigma Xi Distinguished Lecturer. He also received a 2012 Rackham Distinguished Faculty Achievement Award from the UM Rackham Graduate School.

Robert T. Kennedy received the 2012 Marcel Golay Award honoring his outstanding contributions to important aspects of chromatography research. The award was made at the International Symposium on Capillary Chromatography and Electrophoresis held in Riva del Garda, Italy on May 27. He also received the 2012 Eastern Analytical Symposium Award for Outstanding Achievements in Separation Science in November at Somerset, NJ.

Nancy Kerner is a recipient of the Sloan Consortium Effective Practice Award. Nancy and her colleague Brenda Gunderson received the award for their project, “Integration of Technology Into Undergraduate Education via Cross-Disciplinary Pollination.”

Robert L. Kuczkowski completed service as a program officer in the Chemistry Division of the National Science Foundation this past September. Since becoming Professor Emeritus in 2002, he has served in several programs at NSF including instrumentation, chemistry centers and undergraduate research (REU).

Mi Hee Lim received a 2012 Alfred P. Sloan Research Fellowship. Sloan Fellowships have been awarded since 1955 and are given to early career scientists in recognition of achievement and potential to make substantial contributions in their fields. She also received the 2012 Paul D. Saltman Award, which is given annually by the Gordon Research Conferences to an outstanding young investigator in the field of biological inorganic chemistry. Finally she has received the ACS Women Chemists Committee Leadership Award for 2012.

Anna K. Mapp has received a 2012 ACS Arthur C. Cope Scholar Award. The award was given at the recent national ACS meeting in Philadelphia.

Adam J. Matzger has received a 2012 Imes and Moore Faculty Award

for excellence in directing the Sloan Minority Graduate Program and making exceptional contributions in mentoring minority graduate students.

Kathleen V. Nolte has received the 2012 Excellence in Concentration Advising Award. The award recognizes her work as a mentor and advisor to undergraduate students in the Department of Chemistry at UM.

Ayyalusamy (Rams) Ramamoorthy received a UM Rackham Faculty Recognition Award for 2012. This award is given in recognition of his outstanding contributions to biological solid-state NMR spectroscopy and biophysical chemistry as well as his stellar teaching and services to science and the UM.

Paul Rasmussen became Professor Emeritus in 2006 but remains active in chemistry. For the past four years he has worked part-time in the laboratory of Professor Levi Thompson in the Department of Chemical Engineering at UM, where he is involved with research on super-capacitors, redox flow batteries and electrochemical catalysis. He regularly teaches a course, “Cars, Energy, and Sustainability,” in the Program in the Environment at UM. Finally Paul has founded a company, Vinazene, Inc., which is developing energy storage materials for use in redox flow batteries.

Melanie S. Sanford has become the Moses Gomberg Collegiate Professor of Chemistry. This summer she received the 2012 Theime-IUPAC Prize in Synthetic Organic Chemistry. The award was made at the 19th International Conference on Organic Synthesis (ICOS-19) held in Melbourne, Australia this July. Melanie is the eleventh recipient of the prize which is awarded to scientists under the age of 40 whose research has had major impact on synthetic organic chemistry

The Organic Reactions Catalysis Society has announced that Melanie is the recipient of the 2012 Paul N. Rylander Award. The award is sponsored by BASF and is awarded annually to researchers who have made significant contributions in the application of catalysis in organic reactions. She will be awarded the 2013 national ACS Ipatieff Prize. The award recognizes outstanding chemical experimental work in the field of catalysis or high pressure, carried out by an

individual of any nationality who is not over 40 years of age. Special weight is given to independence and originality. The prize is awarded every three years.

Melanie has also been selected to receive the 2013 Tetrahedron Young Investigator Award in Synthetic Chemistry. She will write an article for a Tetrahedron Journal Symposium-in-Print. Finally she has been given the Classical High School Distinguished Alumni Award for 2012.

Nils G. Walter has been selected as a 2011 AAAS Fellow. The award honors his distinguished contributions to the field of biophysical chemistry, particularly by applying experimental and computational biophysical approaches to elucidation of the function of non-protein coding RNAs. Last term he was on sabbatical as an Alexander von Humboldt Visiting Scholar at the University of Frankfurt in the group of Professor Harald Schwalbe.

John P. Wolfe received the 2012 LSA John Dewey Award. This award is made to the person who best models the full range of Dewey's talents: scholarly productivity, provision of leadership, and engagement with and the care of students. He has also received a 2012 LSA Excellence in Education Award

Maryland, Kalamazoo, and Oberlin. He is routinely amazed at the accomplishments of these students as they move forward into their own careers. Working with his students and post-docs he has published ~175 research papers.

Besides research and teaching, Bob has been involved in a number of other activities. In the department Bob led development of the most recent long range plan and served on the executive committee for

many years. Presently he is Director of the NIH-funded Microfluidics in Biomedical Sciences Training Program. He is also Associate Editor of Analytical Chemistry.

Faculty Profile

Robert Kennedy was born in Sault Ste. Marie, MI and raised in Kentucky and Florida. As an undergraduate at University of Florida he majored in chemistry with the intent of becoming a veterinarian. An undergraduate research experience with Bill Dolbier involving synthesis of difluorocarbene adding reagents convinced Bob to change plans and develop a career in chemistry. He earned a Ph.D. at the University of North Carolina where he studied miniaturized separation techniques and pioneered their application to single cell analysis under the direction of Jim Jorgenson. He furthered his bioanalytical interests through a NSF post-doctoral fellowship with Mark Wightman, also at UNC.



In 1991 Bob was hired as assistant professor at University of Florida where he taught analytical chemistry and developed a broad research program at the interface of biology and chemistry. During his education he became fascinated by the concept of using chemical tools and instrumentation to gain insight into living systems. This interest has been the driving force for his research program. A key project was development of a microelectrode that could detect insulin secretion from single beta-cells. This method allowed single exocytotic events to be detected and provided substantial insight into the function of these important cells. This work was the starting point for a long-running research project aimed at better understanding biochemical mechanisms of

insulin secretion and defects that occur in diabetes. Another project was development of fast (0.1 to 10 s) electrophoretic separations. One application of this work has been use of electrophoresis to detect and characterize non-covalent complexes (e.g., for immunoassays, aptamer assays, and protein-protein interactions). The fast electrophoretic separations also led to the concept of a "separations-based sensor" where a continuous sampling probe is coupled to fast separations to allow chemical monitoring. This work has been used extensively for monitoring neurotransmitters in the brain. While at UF Bob's work was recognized with several awards including a Teacher of the Year award in the College of Liberal Arts and Sciences, Beckman Young Investigator, and Presidential Early Career Award in Science and Engineering.

After getting his fill of sunshine and alligators, Bob moved to University of Michigan in 2002 along with 10 graduate students and post-docs. Amazingly no gear was broken during the move and the lab was quickly up and running. At UM Bob has continued his research in bioanalytical chemistry. He has enthusiastically taken advantage of the outstanding colleagues in chemistry, engineering, psychology, physiology, and pharmacology to develop an interdisciplinary research effort. A focus for analytical instrument and methods research has been investigation of chemical separations, microfluidics including "droplet fluidics", mass spectrometry, and HPLC-MS based metabolomics. These

methods are being applied in a wide range of projects. His work on beta cells have continued with development of microfluidic chips that can monitor insulin secretion from single islets of Langerhans over long term and metabolomic methods for studying the metabolic changes involved in insulin secretion. The lab is expanding to other cell types including adipocytes with the goal of generating "body-on-chip" systems with integrated chemical analysis tools. Droplet microfluidics is opening up a new research direction in high-throughput screening. This work combines droplet sample manipulation with fast electrophoresis and mass spectrometry to enable screening of previously intractable targets. Finally, a large portion of the lab is devoted to developing and applying separations-based sensing to neurochemical monitoring. A recent project, which typifies this work, identified enkephalins as key signaling molecules in motivating feeding behavior. During his 10 years at Michigan Bob has been recognized with a number of awards including two NIH MERIT awards, a McKnight Foundation Award for Innovations in Neuroscience, and the Golay Award for lifetime achievement in chromatography.

Bob has been fortunate to work with many excellent students and post-docs. Forty-four students have graduated from his group with PhDs (with four more expected this fall) and 19 post-doctoral fellows have been through the lab. Kennedy group alumni are presently at many different companies including Abbot, Amgen, BP, Dow, Eastman, Eli Lilly, Merck, Pfizer, Proctor & Gamble, and Vertex. Students taking academic careers are professors at a wide range of institutions including Virginia, Arizona, Minnesota, Florida State,

Graduate Program News

Graduate Degrees - Masters & Ph.D

August 2011, December 2011, May 2012 & August 2012

Doctorates

Thaddeus Boron Vincent Pecoraro
Control of Single-Molecule Magnetic Properties Using Metallacrowns

Jameson Bothe Hashim Al-Hashimi
Investigation of the Formation of Z-DNA and Other Non-Canonical DNA Conformations Using a Combined Spectroscopic and Biochemical Approach

Zach Buchan John Montgomery
Sugar Silanes in Carbohydrate Synthesis: Applications Towards Site-Selective Glycosylation

Jing Chen Anne McNeil
Sensing via Analyte-Triggered Gelation: Molecular Design and Implementation

Natalie Crist Mark Meyerhoff
Methods for the Detection of S-Nitrosothiols and Nitric Oxide in Blood and Breath

Leila Foroughi Adam Matzger
Polymers as Heterogeneous Growth Promoters for Protein Crystallization

John Brannon Gary Melanie Sanford
Next Generation Shilov Catalysis: Ligand Design and Computational Analysis for Improved Catalysis in C-H Activation and Functionalization Chemistry

Xiaomu Guan Carol Fierke
Mechanistic Studies of Protein Lipidation: Yeast Palmitoyltransferase Akr1p and Protein Farnesyltransferase

Kevin Hartman A. Ramamoorthy
Characterization of the Amyloidogenic Peptides Amylin and PAP248-286

Katie Hersberger Kristina Hakansson
Metal-Oxide Enrichment and Gas-Phase Characterization of Sulfopeptides using Fourier Transform Ion Cyclotron Resonance Mass Spectrometry

Amanda Hickman Melanie Sanford
Catalyst Controlled Site-Selective C-H Functionalization

Jiyoung Hong Kate Carroll
Toward the Discovery of Small Molecules that Target Latent Tuberculosis Infection

Joe Jankolovits Vincent Pecoraro
Using the Structural Versatility of Lanthanide Metallacrowns to Tune Anion Recognition, Self-Assembly, and Luminescence Properties

Colin Jennings Michael Morris
High Mass and Temporal Sensitivity Quantification of Biochemical Species in Microfluidic Devices

Austin Kizzie Adam Matzger
Synthesis and Characterization of Microporous Coordination Polymers as Adsorbents for Carbon Dioxide Capture

Asako Kubota Melanie Sanford
Pd-Catalyzed Oxidative Functionalizations

Wei Li John Montgomery
Nickel-Catalyzed Coupling Reactions

Matthew Lorenz Robert Kennedy
Development and Application of Metabolomic Techniques for Identification and Quantification of Intercellular Metabolites Relevant to Glucose Stimulated Insulin Secretion in B-cells

Anna Merkle Nicolai Lehnert
Investigation of the Electronic Structure and Photolability of Copper-, Manganese-, and Ruthenium-Nitrosyl Complexes

Sethu Pitchaiya Nils Walter
Probing miRNA Activity In Vitro and Inside Cells Using Single Molecule Microscopy

Joy Racowski Melanie Sanford
New Reactivity of High Oxidation State Palladium Complexes

Ahleah Rohr Daniel John Wolfe & Mark Banaszak Holl
Investigations of Polymorphic Germylene Structures, Experimental Calculations of a New Boron-Sulfur Heterocycle and Assessment of a Curriculum Addressing Safety in the Undergraduate Laboratories

Danielle Schultz John Wolfe
New Palladium- and Gold-Catalyzed Alkene and Alkyne Difunctionalization Reactions for the Efficient, Stereoselective Synthesis of Heterocycles and Beta-Alkoxy Ketones

Hangtian Song Kristina Hakansson
Novel Fourier Transform Ion Cyclotron Resonance Mass Spectrometric Strategies for Acidic Biomacromolecules: Characterization and Quantification

Kara Stowers Melanie Sanford
Mechanistic Studies and Synthetic Applications of Ligand Directed Pd-Catalyzed C-H Functionalization

Christopher Taylor Anna Mapp
I. The Utility of Activation Domain Mimics as Targeted Inhibitors of Transcription. II. The Design and Implementation of a Peer-

Lead Modul in Practical Research Ethics

Ben Thompson John Montgomery
The Reductive Couplings of Enones and Alkynes and Application to Heterocycle Synthesis

Amanda Ward John Wolfe
Method Development for the Stereoselective Synthesis of Heterocycles

Crystal Young Katrin Karbstein
RokIng the Ribosome Assembly Boat: An Investigation of the DEAD-box Protein Rok1 and its Co-factor Rrp5

Summer 2011

Andrew Boughton Zhan Chen
Sum Frequency Generation and Molecular Dynamics Studies of Biomolecular Orientation at Model Interfaces

Di Si Raoul Kopelman
PEBBLE nanosensors for calcium and zinc measurements

Summer 2010

Katie Cychosz Adam Matzger
Microporous Coordination Polymers as Selective Adsorbents for Complex Matrices

Jonathan Mortison David Sherman
Chemical and Biochemical Interrogation of Molecular Specificity in Modular Polyketide Synthases

Amberlyn Wands Anna Mapp
Characterization of the Dynamic Interactions of Transcriptional Activators

Natalie Giampietro John Wolfe
Development of Reactions for the Stereoselective Synthesis of

Heterocycles and Enantioselective Synthesis of Diols and Amino-Alcohols

Anne Vazquez Zhan Chen
Correlating Surface and Buried Interfacial Structures to Polymer Adhesion

Maximillian Bailor Hashim Al-Hashimi
RNA Topology as a Framework for Structure, Dynamics and Adaptation

Ajdin Kavara Mark Banaszak Holl
C-H Activation and Cyclizations using Stannylenes

Cornelius Kristalyn Zhan Chen
Surface Studies of New Anti-Fouling Polymers by Sum Frequency Generation

Chen Li David Lubman
Protein Expression and Glycosylation Level Change Associated Pancreatic Cancer

Laura Zimmerman Mark Meyerhoff
Pyrroloquinoline Quinone (PQQ) Labeling Moieties for the Ultra-Sensitive Detection of Biomolecules

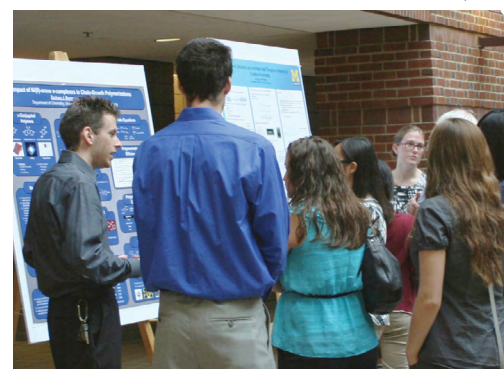
Masters

Heidi Alvey-Pedini
Wenyi Cai
Brendan Clifford
Andrew Crawford
Debasis Das
Kenneth Fletcher
Christina Franzese
Joseph Furgal
Ping Guo
Neil David Hershey

Chelsea Huff
Kelsey King
Se Ryeon Lee
Monica Lotz
Gabriel Roman Melendez
Sabrina Peczonczyk
Nicholas Roe
Lauren Soblosky
Molly Soper
Ning Wang
Anna Wagner

Arnold of California Institute of Technology. In between there were six 25 minute talks by graduate students. Student posters were presented in morning and afternoon sessions. There were a total of 260 attendees including twelve scientists from Dow. All registrants received a free lunch and a symposium t-shirt.

Drs. Arnold, Walsh and the Dow representatives selected the oral presentation by Se Ryeon Lee (Advisor: Anne McNeil) to receive the award for the outstanding oral presentation. The award consists of an \$800 travel award to attend a scientific meeting. There were two other awards for oral presentations and 21 for excellent posters. The awardees are listed in this newsletter. These awards of \$400 each are to be used to attend a scientific meeting. We are grateful to the Dow Chemical Foundation for their generous support of these awards.



The Victor C. Vaughan Symposium

The Vaughan Symposium (<http://umich.edu/~vvaughan/>) was held in the Chemistry Department on August 2, 2012. The symposium is named in honor of Victor C. Vaughan (1851-1921) who was one of the first students to graduate from the University with a PhD in Chemistry (1876). Dr. Vaughan subsequently earned an MD from Michigan in 1878 and went on to a distinguished career in medicine. He served as Dean of the Medical School 1891-1921 and president of the AMA (1914-5).

The Vaughan Symposium was designed by and is run by Michigan Chemistry Graduate Students. It serves as a venue in which to share exciting research taking place within the Department of Chemistry. Originally named Pecrum, the first symposium was held in 2003. Through participants presenting their work to the Department as a whole, students foster collaborations, inspire new avenues of research, and nurture a growing sense of community within the Department. The symposium has become an annual tradition within the Department of Chemistry.

This year's symposium was chaired by Amanda Dugan. It started and finished with two excellent plenary lectures by Dr. Terence Walsh of Dow AgroSciences and Professor Frances

Kasimir Fajans Dissertation Award

On February 22, 2012 Dr. Matthew V. Schulmerich received the Kasimir Fajans Award for the most outstanding chemistry dissertation for the years 2008-2009. Dr. Schulmerich is currently a postdoctoral fellow at the University of Illinois at Urbana-Champaign in the Department of Bioengineering, where he works with Professor Robit Bharhava. His lecture was titled, "Raman Spectroscopy in the Presence of Light Scattering: Polymer Model Systems and Applications Towards Biomedical and Agricultural Research." Kasimir Fajans' son Dr. Stefan Fajans and his mentor Professor Michael Morris attended a Chemistry Department reception prior to the lecture. Dr. Schulmerich's name has been placed on a bronze plaque on permanent display in the main conference room of the chemistry building.

Graduate Awards

Departmental Awards

American Chemical Society Outstanding Graduate Student Award for Research and Teaching

Lauren Goodrich Lehnert
This award is given by the Huron Valley Section of the American Chemical Society to recognize achievement in teaching and research by a graduate student.

Robert & Carolyn Buzzard Graduate Chemistry Student Leadership Award

Se Ryeon Lee McNeil
The award recognizes a student who has shown leadership in the Department. It was provided by Bob & Carolyn Buzzard.

Florence Fenwick Outstanding Graduate Student Instructor Award

Erik Guetschow Kennedy
Presented to graduate students who taught undergraduate courses in Chemistry during the 2011-2012 academic year. Recipients are selected based on their contribution to innovation in the lab or classroom, teaching evaluations and written recommendation of a professor. This award is provided by the Florence Fenwick Memorial Fund.

Milton Tamres Outstanding Teaching Award

Beth Haas Biteen
The late Professor Milton Tamres established this award to recognize outstanding cumulative teaching service. Mrs. Françoise Tamres continues to maintain the support for this award.

Alumni Fund Outstanding Graduate Student Research Award

John King Kubarych
This award is provided by the Alumni Fund to a graduate student for outstanding research.

Departmental Fellowships

George Ashworth Analytical Chemistry Fellowship

Yi Liao Biteen
The George Ashworth Endowment provides for a fellowship to

be given to a graduate student to continue research in analytical chemistry. The award provides for a summer half-term stipend.

Robert W. Parry Award

Zachary Bryan McNeil
The Robert W. Parry Awards are made possible through the generous donations of alumni, friends, industrial donors and the students of Professor Parry. It is awarded to a graduate student who has shown excellence in research in inorganic chemistry. This award provides for a summer half-term stipend.

Peter A.S. Smith Fellowship

Brian Larsen Nagorny
The Peter A. S. Smith Fellowship was endowed in 1995. The fellowship is awarded to a graduate student who is doing research in synthetic organic or inorganic chemistry. This award provides for a summer half-term stipend.

Margaret & Herman Sokol Graduate Summer Research Fellowship

Ning Wang Hakansson
Herman Sokol (MS 1940) and his wife, Margaret, established this fellowship in 1983. The award supports a graduate student who has demonstrated excellence in research.

Research Excellence Award

Nicholas Babij	Wolfe	John King	Kubarych
Paul Bruno	Mapp	Akiko Kochi	Lim
Zachary Bryan	McNeil	Yuwei Liu	Chen
Tyler Carter	Szymczak	Xin Liu	Fierke
Nathan Cichowicz	Nagorny	John-David	
Ananya Dutta	Matzger	McElderry	Morris
Lauren Goodrich	Lehnert	Sharon Neufeldt	Sanford
Junsi Gu	Maldonado	Bo Peng	Meyerhoff
Linjie Han	Ruotolo	Broc Smith	Sension
Beth Haas	Biteen	Peng Song	Kennedy
Xiaoguang Hao	Bartlett	Surma Talapatra	Geva
Martyn Haynes	Montgomery	Ning Wang	Hakansson
Rui Huang	Ramamoorthy	Sung-Hei Yau	Goodson
Alexander Johnson-Buck	Walter	Fangting Yu	Pecoraro

Vaughan Symposium Awards

Dow Chemical Oral Presentation Travel Award

Se Ryeon Lee

Oral Presentation Travel Award

Jeremy Feldblyum
Beth Haas

Poster Session Travel Awards

Neranga		Shi Jin	Kennedy
Abeyesinghe	Goodson	Kristin Ko	Soellner
Tim Berto	Lehnert	Akiko Kochi	Lim
Tanya Breault	Bartlett	Yi Liao	Biteen
Zachary Bryan	McNeil	Solymar Negretti-	
Amanda Cook	Sanford	Emmanuelli	Montgomery
Ananya Dutta	Matzger	Shuai Niu	Ruotolo
Joseph Furgal	Goodson/Laine	Laura Pfund	Matzger
Garrett Goh	Brooks	Sameer Phadke	Soellner
Junsi Gu	Maldonado	Yuta Suzuki	Marsh
Michael Howard	Fierke	Anna Wagner	Sanford
Chelsea Huff	Sanford	Yingda Ye	Sanford

Non-Departmental Awards

National Science Foundation Fellowship

Alaina DeToma Lim
Alina Borovika Nagorny

Roche 2012 Excellence in Chemistry Award

Yingda Ye Sanford

Eli Lilly Travel Award

Allison Knauff Montgomery

Rackham Outstanding GSI Award

Alexander Johnson-Buck Walter

Rackham Centennial Spring/Summer Fellowship

Timothy Berto Lehnert
Shuai Niu Ruotolo

Rackham One-Term Dissertation Fellowship

Anna Merkle Lehnert
Wei Li Montgomery

Rackham Predoctoral Fellowship

Joseph Braymer Lim
Alexander Johnson-Buck Walter

Rackham Graduate Student Research Grant

Jessica Rabuck Ruotolo

Rackham Science Awards

Jeremiah Alicea Wolfe
Eli Fahrenkrug Ruotolo
Peipei Hu Chen
Ashley McQuarters Lehnert
Tiffany Micyus Sanford
Jessica Rabuck Ruotolo
Nicholas Roe Lehnert

Training Grants

Proteome Informatics of Cancer Training Program (PICTP)

Molly Soper Ruotolo

Undergraduate Program News

Undergraduate Degrees

August 2011, December 2011, May 2012 & August 2012

Bachelor of Science Biochemistry

Fulla Abdul-Jabbar
Husam Alghanem
Abdallah Ali
Arafat Ali
Jeffrey Atkins
Mark Austin
Asia Body
Richard Boehnke
Joshua Bornstein
Alexandra Bourgis
Brian Chen
Yang Chen
Jane Cheng
Winnie Cheung
John Chism
Robert Collison
Hans Dalton
Angela Degraaf
Nicholas DeHaan
Vishan Dhamsania
Robert Dikeman
Anne Dosey
Elli Fackelman
Bryan Fiema
Vivienne Fong
Benjamin Gandomani
Ashley Gibbons

Melissa Gildeberg
Linxuan Hao
Kimberly Haupt
Marten Hawkins
Kyle Heckaman
Joel Hrit
Catherine Hwang
Alexis Jensen
Brice Jurban
Nayiri Kaissarian
Yi-Cheng Kao
Kristin Kopec
Kasha Krul
Clara Lee
Patrick Lee
Robert Lentz
Elton Li
Elizabeth Limback
Jimmy Lin
Emefah Loccoh
Angelical Martin
Austin McHenry
Alan McLean
Lucas McShosh
Nathan Merrill
Amber Miller
Brittney Miller
Saman Mirkazemi
Phil Nahirniak

Jennifer Nimtze
Kevin O'Neill
Tiffany Pham
Timothy Pituch
Randy Planegger Jr.
Jonathan Qiao
Shaoun Rahman
Alexander Sapick
Nicholas Sattelberg
Bruce Schultz
Erin Shea
Remzi Sipahi
Alexander Stark
Joshua Symes
Seena Tehrani
Rohit Vyas
John Wallington
Christopher Walters
Alan Wang
Jackie Wang
Elizabeth Williams
Peter Xie
Lindy Zhang
Alexander Ziegler

Bachelor of Science. Chemistry Concentration

Christopher Anderson
Jonathan Bassman
Kitae Chang

Victor Gu
Ashley Hartmann
Bradley Keller
Joseph Reed
Burton Simpson

Bachelor of Science in Chemistry

Andrew Bielawski
Daniel Camacho
Sean Collins
Robert Collison
Daniel Cummins
Xiaodi Gao
Allan Golden
Aaron Goodman
Matthew Hillyer
Scott Hogan
Heeyeon Kim
Yuzhong Liu
Elizabeth McDonagh
Meghan Orr
Tanvi Ratani
Ian Rust
Whitney Smith
Jacob Van Oosterhout
Victoria Washington
Holly Williams
Jerry Yan

Undergraduate Awards

Alpha Chi Sigma Outstanding First Year Student Award

Justin Wang

Alumni First Year Achievement Awards

Andrew Glatz, Vinay Guduguntla, Alex Kokaly, Matthew Thimm, Kaylee Van Dommelen, Sheri Vanomen, Abbey Weinstein, Jialing Zhou

Alumni Outstanding Awards

Second Year — Sepideh Ashrafzadeh
Third Year — Benjamin Levin
Senior — Holly Williams

American Chemical Society Analytical Chemistry Award

Dakota Suchyta

American Institute of Chemists Award

Biochemistry: Robby Lentz
Chemistry: Joseph Reed

Ash Stevens Undergraduate Research Award in Organic Chemistry

Newly established in 2012, this award is presented by Ash Stevens, a chemical process development company, to recognize an undergraduate doing outstanding work in the area of organic chemistry.
Seth Klapman

CRC Outstanding Achievement Award

Ray Strobel

Seyhan N. Ege—WISE Award

Jackie Wang

Honors College Vanko Award

Joshua Bornstein

Huron Valley Section Outstanding Student Leadership Award

Melissa Gildeberg

Undergraduate Programs

Research Experiences for Undergraduates (REU) 2012

This past summer, we hosted an REU site supported by the National Science Foundation for the 24th year. We had 16 participants from across the United States working full time for 10 weeks in our laboratories.

Unfortunately, the Chemistry Division at the NSF has curtailed its funding for international REU programs, and so we were not able to carry out our REU Site in China, which we had been doing since 2007. The companion program, in which students from Beijing come to UM, was also reduced in size this year because of diminished funding from our industrial sponsors. However, we did host 6 chemistry students from Peking University, and our colleagues in MCDB, EEB, and the Life Sciences hosted another 6 from Tsinghua University.

Jerome and Isabella Karle Award in Physical Science

Sean Michael Collins

Merck Index Award to Outstanding Seniors

Henry Kuang

Summer Research Awards

Each year, thanks both to endowment funds and the generous donations of private and industrial sponsors, we are able to support a large number of students for summer undergraduate research. Based on recommendations by the faculty, as well as their academic records, the selection committee recommended the following students for summer 2012 research support.

James E. Harris Scholarship Award:

Shin Hee Lee, Patrick Kurecka, Tim Pow, Monica Ray

Albert Euclid Hinsdale Memorial Endowment:

Vincent Lizzio, Ben Maynard, Halley Rycenga, Dan Semaan, Blane Zavesky

PPG Undergraduate Award:

Courtney Talicska

William G. Smeaton Memorial Award:

Brenden Magnan, Frank Mei, Wei Wei Wu

Margaret and Herman Sokol Endowment Award:

Kent Brummel, Josh Kurtz, Justin Liedel, David Quist, Sheng Zheng

Summer Undergraduate Research Program Award:

Brianna Chamberlin, Laura Essex, Nirbhay Jain, Elizabeth Keenan, Seth Klapman, Ben Levin, Andrew Phillips, Heeju Ryu, Emily Seeley Nicole Stegmeier, Ian Vonwald



Students from Peking University



REU students

Gifts

Contributions from private and corporate donors received from July 1, 2011 – June 30, 2012.

Chair's Discretionary Fund

Antone L. Lott
Edwin P. Przybylowicz
Mekhala Raghavan

Chemistry Alumni Fund

BASF Corporation
Sue E. Delos
Dominion Foundation
Judith L. Doyle
Helen E. Fan
Peter S. Friedman
Mary Ellen Heyde
Kurt W. Hillig
George B. Lowrie
Michael A. Mazzuchi
Veronica A. Miller
Geraldine C. O'Laughlin
Harold F. Sandford
Gregg S. Spitler

Chemistry Department Fund

Nancy E. Chapel
Steven A. Clarke
Ellene T. Contis
Evelyn P. Tyner
Susan E. Forest
Joel M. Goldberg
Mark T. Goulet
Philip L. Gravel
Kenneth L. Hall
Barry P. Hart
P & G Fund
Walter E. Rupprecht
Charles J. Scanio
Suzanne E. Schulz
Walter S. Syrkowski

Chemistry Strategic Fund

Bradley J. Adelman
Mark M. Banaszak-Holl
Bart Bartlett
BASF Corporation
J. Dolf Bass
John E. Bauman
Timothy G. Bee
Larry G. Bell
Jason A. Berner
Robert J. Beuhler
Neal B. Blatt
Sylvia L. Bone
Steven A. Boskovich
William F. Bradford
Amanda P. Buscetta
Thomas A. Caughey
Cengage Learning
Qinlin Chang
Mark A. Chidel
Elna M. Clevenger
Joseph S. Cook
Dwayne L. Cook
Marilyn A. Crane
Renee I. Cribbins
Robert Damrauer
Colleen M. DeKay
Theodore S. Dibble
James E. Dickson

Brian R. Dixon
Richard H. Douglas
Dow Chemical Company Fdn
Dow Corning Corporation
Roxanne M. Drnevich
David V. Duchane
David W. Ebdon
Elaine G. Shafrin
Eli Lilly & Company Fdn
Larry E. Fink
Kathryn L. Fok
Gerald D. Fong
Peter Fox
Shirley S. Fraley
Thomas J. Gallagher
William L. Gebo
Andrew J. Gesell
Thomas J. Giordano
Michael D. Gordon
Tony O. Greco
Sheila C. Greenblatt
David J. Hart
David P. Hesson
Roland F. Hirsch
Shirley M. Hoenigman
Walter M. Holloway
Instrumentation Laboratory
James F. Jackson
Norman P. Jensen
Eric T. Johnson
Robert L. Jones
Steven R. Jordan
James M. Julian
Phyllis W. Karseboom
Harold L. Kohn
Cordelia B. Kohnman
Paul M. Kovach
Paul E. Krieger
Kevin J. Kubarych
Dominick A. Labianca
Robert A. Landowne
Lisa A. Lanning
Ginny S. Lin
Richard N. Loeppky
John F. Mahaney
Jen-Jenliu Mao
Jessica M. Marsh
Adam J. Matzger
Eugene W. May
Kelly McDow
Kirsten L. McKillop
Myrtle S. McLain
Shirley A. McLean
Anne J. McNeil
Merck Company Fdn
David E. Newton
Edward D. North
D. Eugene Overton
P & G Fund
Richard A. Pacer
Janet P. Padilla
Pfizer Foundation
Pharmacia
Linda K. Phillips
Eric R. Pohl
John M. Powers

Lourdes I. Puig
James M. Reh
Nancy M. Rickey
Steven C. Rifkin
Thomas M. Rosseel
Charles A. Roth
Warren K. Russ
Russell E & Margaret G Price
Gloria E. Salavarría
James M. Samanen
Melanie S. Sanford
Helen S. Schaefer
Joel L. Schmiegel
Richard M. Scribner
Stephen H. Shane
Elvera B. Shappirio
Zhong-You Shi
Thomas G. Siracusa
Hilary E. Snell
Charles S. Spencer
Jack Sweet
Ashley E. Tan
James H. Thirtle
Lazarus D. Thomas
John K. Tomlinson
Robert C. Tripp
Joesph M. Vanderkelen
Nick P. Walker
Edward P. Washabaugh
James K. Watkins
Harriet R. Weinstein
Jamie A. Wiersema
Veronica H. Wiley
John P. Wolfe
William D. Wright
Dorothy T. Wu
Grace S. Yee
Steven R. Zawacky
Paul F. Zittel
In memory, Prof. Martin Stiles
Arthur J. Ashe
In memory, Theodore Jacob '44
Marilyn L. Jacob

Chemistry, Pres Challenge for Grad Support

John J. Callahan
Robert N. Ceo

Graduate Fellowships Funds

Timothy F. Merkel
In memory, Theodore Jacob
Marilyn L. Jacob

James & Madalene Davis Graduate Fellowship Fund

James K. Davis

Chemistry Special Scholarships Fund

Roger W. Blain
Dow Corning Corporation
J. M. Lagowski

Robert & Carolyn Buzzard Grad Chem Student Leadership

Robert A. and Carolyn Buzzard

Summer Chemistry Scholars Fund

J. Dolf Bass
Maria Coward
Norman P. Jensen
Gary R. Kravitz

Kelly McDow
Steven H. McKinley
Christer E. Nordman
Gordon A. Parker
David R. Parker
Norman R. Smith
John C. Whitmer
David L. Zellmer

Undergraduate Research in Chemistry

Mary E. Sheridan
Ruth A. Gustafson
Cengage Learning

Ash Stevens Undergraduate Research Award

Ash Stevens, Inc.

Leigh Charles Anderson Memorial Fund

Irving M. Adler

Seyhan N. Ege Junior Faculty Development Award

Marjorie L. Carter
Gerald D. Fong

Robert Kuczowski Faculty Award

Carol A. Fierke
Robert L. Kuczowski

Robert W. Parry Scholarship

Gary N. Bokerman
David W. Badger
Karen W. Morse
Robert T. & Bonnie P. Paine

Richard D. Sacks Memorial Student Travel

Michael D. Morris

Peter A.S. Smith Fellowship

David W. Emerson
Douglas M. Kalvin
George I. Fujimoto
Joanne and Jerry Robertson

Milton Tamres Teaching Award

Marjorie L. Carter
Irving M. Adler

Robert C. Taylor Fund

Irving M. Adler
Virginia A. Dilkes
Chava B. Kopelman
Robert T. & Bonnie P. Paine
David R. Taylor

Werner E. Bachmann Memorial Lecture Fund

Frederick L. Crane
Robert A. Gregg

Novartis Chemical Sciences Lectureship

Novartis Institute for BioMedical Research, Inc.

Chemistry Dept. - Library

Richard J. Bard
Janet C. Haartz

Other Support

Dow Chemical Company Fdn
3M Corporation

Alumni News

E-Mail your news: chem.alum@umich.edu

Update your contact information: <http://www.umich.edu/~michchem/alumni/>

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

Sultan T. Abu-Orabi (PhD 1982, Arthur Ashe) was elected Secretary General of the Association of Arab Universities. This association is the umbrella organization of 240 universities in 22 Arab countries.

Zain Bengali (BS 2001) completed a postdoctoral at the National Institutes of Health in Molecular Virology. He started work as a Research Scientist in October 2011 with Intrexon. He and his wife have recently had their second child and live in northern Virginia.

Murphy Brasuel (PhD 2002, Raoul Kopelman) began his service as Chair of the Department of Chemistry and Biochemistry at Colorado College. At the 2012 Colorado College Honors Convocation he received the Bob Pizzi Outstanding Faculty Advisor of the Year Memorial Award.

Christian F. Casper (MS 2001, Dimitri Coucouvanis) completed a PhD in 2009 in the interdisciplinary program in Communication, Rhetoric and Digital Media (CRDM) at North Carolina State University. He is now a Lecturer III in the Technical Communication Program in the College of Engineering at UM, specializing in chemical, biomedical and aerospace engineering.

Heather (Crocker) Clark (BS 1994, PhD 1999, Raoul Kopelman) is an Associate Professor in the Department of Pharmaceutical Science at Northeastern University. Dr. Clark's research focuses on the development of nanosensors to measure concentrations of ions and small molecules at the cellular level, as well as in vivo. Her work has been featured in a live CNN interview, the Wall Street Journal, WIRED magazine and the MIT Technology Review. In July she received a DARPA Young Faculty Award to develop tools for measuring neurotransmitter release.

Nicholas Deprez (PhD 2009, Melanie Sanford) has finished a postdoctoral appointment at the ETH in Zurich and has started a job at DuPont Agriculture.

Gerald (Jerry) Fong (PhD 1978, Robert Kuczowski), Professor of Chemistry at SUNY Alfred State College, has moved this summer to a newly refurbished building which provides a home for the forensic science technology program which he coordinates.

John A. Gladysz (BS 1971, Longone, PhD 1974 Stanford) Distinguished Professor of Chemistry, Dow Chair in Chemical Innovation and his wife, Professor Janet Bluemel, in the Chemistry Department of Texas A&M University, have made a bequest to the University of Michigan. The multi directed gift will endow a chair or professorship for an associate professor in the Chemistry Department in the name of Professor Gladysz's parents, Edward and Margean Gladysz. In addition, funds are provided to support the research efforts of faculty below full professor, for undergraduate research efforts and for departmental support without restriction.

Kim Haupt (BS 2012) will begin graduate studies at the University of Wisconsin, Madison. She did an undergraduate project with Nils Walter.

Kathy (Dien) Hillig (PhD 1983, Michael Morris) has completed 28 years in various positions for BASF Corporation. Working at Wyandotte, MI, Kathy started in the Environmental Analytical Lab and subsequently moved to the Ecology Group to consult on commercial environmental labs used in compliance testing. She next moved to the product regulation area, dealing mostly with EPA TSCA regulations. She now leads the Raw Material Team for the IS group responsible for Enterprise Master Data. Her husband **Kurt W. Hillig** (PhD 1981, Robert Kuczowski) spent 15 years after graduation in the Chemistry Department at UM as a Research Scientist in computational and computer system support. For the past 16 years he has been a Network Planning Analyst for the UM I.T. Communication Services.

Andrew Higgs (PhD 2010, Melanie Sanford) is a Visiting Professor at Washington and Lee University.

Kami Hull (PhD 2009, Melanie Sanford) has just started as an Assistant Professor of Chemistry at the University of Illinois, Champaign Urbana.

Dipannita Kalyani (PhD 2008, Melanie Sanford) is an Assistant Professor of Chemistry at St. Olaf College. She has just been awarded a PRF starter grant.

Kyle Litz (PhD 1998, Mark Banaszak Holl) is the Chief Technical Officer of Auterra, Inc of Malta, NY. He has developed a new catalyst for desulfurization and oil upgrading of Canadian oil sands. The catalyst has been featured in the Business Review and CBS Marketwatch.

Costas Lyssiotis (BS, 2004) received his PhD from Scripps Research Institute in 2010. He is now pursuing postdoctoral studies as a Damon Runyon Fellow at Harvard Medical School.

Liz McDowell (PhD (Biophysics) 2008, Nils Walter) has moved from Carleton College to a position as Assistant Professor of Physics at Kalamazoo College.

Jun Pan (PhD 2007, Arthur Ashe) works as a Medicinal Chemist with Incyte, Wilmington, DE.

Sethu Pitchaiyu (PhD 2011, Nils Walter) has published a "top download" article in the European Molecular Biology Organization (EMBO) reports and continues as a post doctoral in the Walter laboratory.

Douglas J. Raber (PhD 1968, Richard Lawton) and his wife Linda have published a new science fiction book, "Face of the Earth." It is the story about a smallpox outbreak on an Indian reservation in New Mexico and the geopolitical response in Washington. The

book is available at barnesandnoble.com or www.raberbooks.com.

Manfred T. Reetz (MS 1967, Daniel Longone) delivered the Werner E. Bachmann Lecture on March 27, 2012. Professor Reetz was the director of the Max Planck Institute for Kohlenforschung in Muelheim, Germany 1991-2010 and has recently become the first Hans Meerwein Research Professor at the University of Marburg. He has previously been honored by receiving a large number of awards. It was our great pleasure to welcome him back to the UM to deliver our premier lecture.

David Rueda (Postdoctoral 2001-5, Nils Walter) has moved from Wayne State University to a new position as Chair within

In Memoriam

We are saddened to announce the deaths of the following faculty, alumni, alumnae and friends of the Department.

Don C. DeJongh (PhD 1962, Michael Martin) died in Palo Alto, CA on July 24, 2011 at the age of 74. Dr. DeJongh received his BA in chemistry from Hope College, MI prior to attending the UM. After a year as a postdoctoral fellow with Klaus Biemann at MIT, DeJongh joined the Chemistry Department at Wayne State University, where he developed a research program examining the mass spectrometry of organic compounds. From 1972 until 1978 he was a professor of chemistry at the University of Montreal.

He then founded the Finnigan MAT Institute in Cincinnati, OH where he served as president until 1984, when he moved to the Finnigan headquarters in San Jose, CA, as market manager and customer service manager. In 1990 he managed the Mid-Pacific Laboratory in Mountain View, CA until his retirement in 1995.

Dr. DeJongh is survived by his wife of 51 years, Miriam, sons, Fritz and Matt and daughter Katie as well as six grandchildren.

David W. Emerson (MS 1954, PhD 1958, Peter Smith) died in Las Vegas, NV on January 12, 2012 at the age of 83. Professor Emerson was born in Littleton, MA. He received his AB in chemistry from Dartmouth College in 1952. At Michigan he received his PhD in 1958 working with P.A.S. Smith. Emerson was a veteran of

the Immunology section of the Division of Infectious Diseases in the Department of Medicine, Faculty of Medicine at the Imperial College, London.

Samer Salamekh (BS 2011), who worked with Professor Ramamoorthy, has coauthored several articles in the past year. He is currently a medical student at Ohio State and has received a Fulbright Fellowship to pursue research at the Max Planck Institute in Leipzig, Germany.

Richard W. Shubart (BS 1962) retired from Pfizer (formerly Searle/Monsanto/Pharmacia) as Senior Director of Global R&D Quality Assurance. He enjoys retirement and does some consulting.

Martha Bennett (Wells) Stiles (BS 1954) has published a new book, "Sailing to

the US Army having served in both WW II and the Korean War.

Professor Emerson served on the chemistry faculty of UM-Dearborn for 18 years. He was the dean of the College of Arts, Science and Letters. In 1981 he moved to the University of Nevada, Las Vegas (UNLV) to serve as dean of the College of Mathematics, Science and Engineering (now College of Science). He returned to full-time teaching in 1989 and retired in 1998.

Professor Emerson received the Donna Weistrop Career Achievement Award from UNLV in 2009. The Emerson Medal, at UNLV is named in his honor.

Professor Emerson is survived by his wife of 57 years, Shirley, sons Richard and Eric and daughter Ellen and seven grandchildren.

Jerome P. Horwitz (PhD 1950, Peter Smith, Post-doctoral 1951, Werner Bachmann) died in Bloomfield Township, MI on September 6, 2012 at the age of 93.

Dr. Horwitz was born in Detroit. He obtained his BS in 1942 and MS in 1944 in chemistry from the University of Detroit. At the UM he received his PhD in 1950 working with P. A. S. Smith. He then spent a year as a Parke Davis Fellow with Werner Bachmann.

Freedom," with Henry Holt Books. It is a story about the underground RR and is intended for middle grade readers. Peggy Stiles is a prizewinning author of more than eleven books primarily directed towards young readers.

Weihong Tan (PhD 1993, Raoul Kopelman) has been named Distinguished Professor in the Department of Chemistry at the University of Florida. He is also the winner of the 2012 ACS Florida Award for Outstanding Contributions to Chemical Sciences.

Salena Whitfield (PhD 2008, Melanie Sanford) is now a manager in the competitive diagnostics division of Abbott Diagnostics in Chicago.

From 1951-55 Dr. Horwitz was an Assistant Professor of Chemistry at Illinois Institute of Technology. In 1956 he became a Researcher at Detroit Institute of Cancer Research and a Professor at Wayne State Medical School. The Cancer Foundation was renamed the Barbara Ann Karmanos Cancer Institute on 1995. He remained with these institutions the rest of his life. In 2005 he became Professor Emeritus.

Dr. Horwitz published more than 100 articles in peer-reviewed Journals. His major contribution for which he became famous was the synthesis of AZT (azidothymidine) in 1964. AZT was originally prepared as an anti-cancer drug for which it was ineffective. In the mid 1980s Burroughs Wellcome (now Glaxo Smith Kline) patented AZT which became the first drug used to treat AIDS. Unfortunately Dr. Horwitz received no financial benefit from his discovery. He had also prepared several other compounds which have been widely used in anti-AIDS therapy.

He received numerous awards. Among them are: Honorary D. Sc., University of Detroit (1987), Michigan Scientist of the Year (1983), Outstanding Achievement Award in recognition of the synthesis of AZT by the University of Michigan, and the Distinguished Service Award by Wayne State University (1995).

Dr. Horwitz is survived by his wife of 61 years, Sharon, two daughters, Carol Kastan and Suzanne Gross and five grandchildren.

Robert E. Ireland (Chem. Fac., 1956-65) died on February 4, 2012 in Sarasota, FL at the age of 82.

A native of Cincinnati, Professor Ireland received his AB degree from Amherst College in 1951 and a PhD in chemistry from the University of Wisconsin, Madison in 1954 working with W. S. Johnson. He then spent two years as a post-doctoral fellow with W. G. Young at UCLA.

In 1956 Ireland joined the chemistry faculty at UM where he served until 1965. He then moved to the California Institute of Technology where he became a Professor of Chemistry. In 1985 he became director of the Merrell Dow Research Institute in Strasbourg, France. After one year he moved to the University of Virginia, where he was the Thomas Jefferson Professor of Chemistry. He retired in 1995.

Professor Ireland was a leading figure in synthetic organic chemistry. He is particularly known for his use of the ester enolate Claisen rearrangement, now known as the Ireland-Claisen rearrangement. He was recognized by the award of an A.P. Sloan Fellowship, the ACS Ernest Guenther Award in the Chemistry of Natural Products in 1977 and the ACS Award for Creative Work in Synthetic Organic Chemistry in 1988.

He is survived by his wife, Margaret and sons Mark and Richard. The family has asked that memorial contributions be made to the University of Michigan Chemistry Fund (Fund #791235)

Leroy O. (Lee) Krbecek (PhD 1961, Peter Smith) died in Salinas, CA on December 13, 2011 at the age of 77.

Born in Goodridge, MN, Krbecek did graduate work with Professor P.A.S. Smith at UM, receiving his PhD in 1961. Dr. Krbecek worked for the Henkel Corporation. He held more than fifty patents and had published twelve journal articles in the area of organic chemistry.

Dr. Krbecek is survived by his wife Blanche, sons Randy and John and a number of extended family members.

Edgardo Laborde (PhD 1984, Joseph Marino) died in Palo Alto, CA on September 27, 2011 at the age of 59.

He was born in Rosario, Uruguay and obtained his BS in Pharmacy from the Universidad de la Republica in Montevideo

in 1979. Dr. Laborde dedicated his professional life to the discovery of drugs for the relief of human suffering. Dr. Laborde was employed by Parke-Davis (Warner-Lambert), DuPont-Merck Pharmaceuticals and Ariad prior to joining Telik (then Terrapin) in Palo Alto. At the time of his death he was Executive Director of Chemistry at Telik. During his 14 years at Telik Dr. Laborde built the Chemistry Department and was intimately involved with the discovery and development of several clinical candidates in the oncology field.

Dr. Laborde is survived by his wife of 31 years, Laura and by daughters Ana and Andrea.

Richard (Dick) Loeppky (MS 1961, PhD 1963, Peter Smith) died on April 21, 2012 at the age of 74.

Dick was born in Lewiston, Idaho and received his BS in chemistry from the University of Idaho in 1958. During the summers he worked in a lumber mill. He recalled that, "The work was hard and boring but it paid very well and provided for my college education." In 1959 he came to the UM where he worked with P.A.S. Smith. He then spent a year as an NIH post-doctoral with Professor Nelson J. Leonard at the U. of Illinois.

In 1964 he began his independent scientific career at the University of Missouri-Columbia. After rising through the ranks from instructor to full professor, he was named H. G. Schlundt Distinguished Professor. In 2003 he became Professor Emeritus and was also a Visiting Scholar in the Department of Medicinal Chemistry at the University of Washington, Seattle, where he had relocated after retirement.

Dick's research involved chemical toxicology with special interest in carcinogenesis by N-nitroso compounds. He was named one of the inaugural Fellows of the ACS in 2009. He received the ACS Division of Chemical Toxicology Founders' Award in 2010 and was inducted into the University of Idaho Hall of Fame in 2011.

He is survived by his daughter Ann Loeppky-Finn and son Greg Loeppky and two granddaughters.

Eugene B. Reed (PhD 1939, Joseph Halford) died at his home in Pleasant Hill, CA on May 10, 2012 at the age of 98.

Dr. Reed was born in Chico, CA and received his BS from U. Cal.-Berkeley

in 1935. At Michigan he wrote his Ph. D. thesis on, "The Relative Stabilities of Aryl Chloro Methanes." While at Cal.-Berkeley he competed in the high jump and at Michigan he tutored some of Michigan's star athletes in chemistry.

During WW II he was drafted into the US Army and was deployed to Dutch Harbor in the Aleutian Islands. He then attended OCS in Maryland and became an instructor in the Army Chemical Warfare School. Subsequently he was active in the Army Reserve, retiring as a Lieutenant Colonel.

Dr. Reed was hired by Standard Oil Co. of California (now Chevron). He worked on maximum utilization of refinery stocks which led him into computations and computers. He introduced the first modern computer to Chevron. He retired in 1975.

He is survived by his daughter Gwen Lundmark, his son Dennis, five grandchildren and two great-grandchildren.

Kenneth L. Stevenson (PhD 1968, James Verdieck) died on February 22, 2012 at the age of 72.

Dr. Stevenson was born in Fort Wayne, IN. He received a BS in 1961 and an MS in 1965 both in chemistry and both from Purdue University prior to his attendance at UM.

Dr. Stevenson then joined the chemistry faculty at Indiana University-Purdue University at Fort Wayne (IPFW). He became a full professor in 1978 and served as the chairman of the chemistry department from 1979 to 2003. He did research in the area of photochemistry and published more than 50 articles in peer-reviewed journals. He was recognized as Chemist of the Year in 1979 and 1993 by the ACS Northeastern Indiana Section and Researcher of the Year by the IPFW Sigma Xi chapter in 1994.

Dr. Stevenson is survived by his wife Carmen, daughters Mindy Grewar, Jill Paulik and Sarah Stevenson and three grandchildren. His first wife Virginia died in 1991.

Florence (Barr) Westrum, wife of Professor Emeritus Edgar Westrum, died on August 6, 2012 at the age of 91. The Westrums had been married for 69 years. She is survived by Edgar and their four children, six grandchildren and four great-grandchildren.

Faculty

Hashim M. Al-Hashimi, J. Lawrence Oncley Collegiate Professor of Chemistry and Biophysics; Professor, Biophysics. *Chemical Biology*.

Philip Andrews, Professor of Biological Chemistry, Chemistry, Comp Med & Biology, Medical School and Director MLSC-Core Tech Alliance Proteomics Center. *Bioanalytical Chemistry*

Mark M. Banaszak Holl, Professor of Chemistry; Professor, Macromolecular Science & Engineering, Professor Biomedical Engineering. *Synthetic and Mechanistic Solution, Surface, and Solid State Chemistry*.

Bart M. Bartlett, Assistant Professor of Chemistry. *Inorganic, Materials Chemistry*.

Julie S. Biteen, Assistant Professor of Chemistry. *Physical and Biophysical Chemistry*

Charles L. Brooks III, Warner-Lambert/Parke-Davis Professor of Chemistry and Biophysics. *Physical Chemistry/Biophysical Chemistry/Theoretical and Computational Chemistry and Biophysics*.

Heather A. Carlson, Professor of Medicinal Chemistry; Professor, Chemistry. *Computational Chemistry, Drug Design, Theoretical Biophysics*.

Mary Anne Carroll, Professor of Atmospheric, Oceanic and Space Sciences; Professor, Chemistry. *Atmospheric Chemistry*.

Zhan Chen, Professor of Chemistry; Professor, Macromolecular Science & Engineering. *Biomaterial and Polymer Surface, Biocompatibility*.

Mary Sue Coleman, UM President and Professor of Chemistry.

Brian P. Coppola, Arthur F. Thurnau Professor of Chemistry; Associate Chair for Educational Development and Practice in Chemistry. *Organic Chemistry, Science Learning and Instructional Methods*.

Carol A. Fierke, Chair, Jerome and Isabella Karle Collegiate Professor of Chemistry; Professor, Biological Chemistry. *Chemical Biology, Bioinorganic Chemistry*.

Anthony H. Francis, Arthur F. Thurnau Professor of Chemistry; Associate Dean, LS&A. *Magnetic Resonance, Vibrational and Electronic Spectroscopy of Materials*.

Eitan Geva, Professor of Chemistry. *Theoretical and Computational Chemistry*.

Gary D. Glick, Werner E. Bachmann Collegiate Professor of Chemistry; Professor, Biological Chemistry. *Chemical Biology, Bioorganic Chemistry, Molecular Recognition*.

Theodore Goodson, III, Richard Barry Bernstein Collegiate Professor of Chemistry; Professor, Macromolecular Science & Engineering. *Physical Chemistry*.

Amy Gottfried, Lecturer IV.

Kristina Hakansson, Associate Professor of Chemistry. *Analytical Chemistry*.

Robert T. Kennedy, Hobart H. Willard Collegiate Professor of Chemistry; Professor, Pharmacology. *Analytical Chemistry*.

Nancy K. Kerner, Lecturer IV. *Chemical Education, Learning and Instructional Methods*.

Raoul Kopelman, Richard Smalley University Professor of Chemistry; Professor, Biomedical Engineering; Professor, Physics. *Analytical/Physical/Biophysical Chemistry*.

Masato Koreeda, Professor of Chemistry; Professor, Medicinal Chemistry. *Synthesis of Natural Products, Small Molecule-DNA Interaction, Chemical Carcinogenesis, Glycobiology*.

Kevin Kubarych, Associate Professor of Chemistry. *Physical and Biophysical Chemistry*.

Kenichi Kuroda, Assistant Professor of Dentistry, Biologic & Materials Sciences, Biomedical Eng, and Chemistry. *Physical Chemistry*.

Nicolai Lehnert, Associate Professor of Chemistry. *Bioinorganic Chemistry, Physical Inorganic Chemistry*.

Mi Hee Lim, Assistant Professor of Chemistry; Research Assistant Professor, Life Sciences Institute. *Bioinorganic, Medicinal Chemistry, Chemical Biology*.

David M. Lubman, Maude T. Lane Professor of Surgical Immunology; Professor, Surgery; Pathology; Professor, Chemistry. *Biological Mass Spectrometry, Spectroscopy and Instrumentation*.

Stephen Maldonado, Assistant Professor of Chemistry. *Electrochemistry, Materials Chemistry*.

Anna K. Mapp, Professor of Chemistry; Professor, Medicinal Chemistry. *Organic Chemistry, Chemical Biology, New Synthetic Methods*.

E. Neil G. Marsh, Professor of Chemistry; Professor, Biological Chemistry. *Chemical Biology, Enzymes, Structure, Mechanism and Specificity; Protein Engineering and Molecular Recognition*.

Brent R. Martin, Assistant Professor of Chemistry. *Bioanalytical Chemistry*.

Adam J. Matzger, Professor of Chemistry; Professor, Macromolecular Science & Engineering. *Organic, Polymers/Organic Materials*.

Anne J. McNeil, Seyhan N. Ege Assistant Professor of Chemistry. *Polymer and Organic Materials Chemistry*.

Mark E. Meyerhoff, Philip J. Elving Collegiate Professor of Chemistry. *Bioanalytical Chemistry, Electrochemical and Optical Sensors*.

John Montgomery, Professor of Chemistry. *Organic and Organometallic Chemistry*.

Michael D. Morris, Richard D. Sacks Collegiate Professor of Chemistry. *Analytical Laser Spectroscopy and Imaging; Electrophoretic Separations*.

Pavel Nagorny, Robert A. Gregg Assistant Professor of Chemistry. *Organic Chemistry*.

Kathleen V. Nolte, Lecturer IV. *Organic Biochemistry*.

Vincent L. Pecoraro, John T. Groves Collegiate Professor of Chemistry. *Synthetic Inorganic and Bioinorganic Chemistry*.

James E. Penner-Hahn, Professor of Chemistry; Professor, Biophysics. Associate Dean, LSA. *Biophysical Chemistry and Inorganic Spectroscopy*.

A. Ramamoorthy, Professor of Chemistry; Professor, Biophysics. *Structural Studies of Biological Molecules*.

Brandon Ruotolo, Assistant Professor of Chemistry. *Analytical Chemistry*.

Melanie Sanford, Moses Gomberg Collegiate Professor of Chemistry, Arthur F. Thurnau Professor of Chemistry, *Organometallic Chemistry*.

Roseanne J. Sension, Professor of Chemistry; Professor of Physics. *Physical Chemistry, Ultrafast Laser Spectroscopy*.

David H. Sherman, Hans W. Vahlteich Professor of Medicinal Chemistry; Professor, Microbiology and Immunology; Professor, Chemistry; Research Professor, Life Sciences Institute. *Medicinal Chemistry*.

Jadwiga Sipowska, Lecturer IV. *General Chemistry*.

Matthew Soellner, Assistant Professor of Medicinal Chemistry; Assistant Professor of Chemistry. *Bioorganic Chemistry, Chemical Biology, Organic Chemistry*.

Nathaniel Szymczak, Dow Corning Assistant Professor of Chemistry. *Energy Science, Inorganic Chemistry*.

Nils G. Walter, Professor of Chemistry. *Chemical Biology*.

John P. Wolfe, Professor of Chemistry. Associate Chair for Undergraduate Education. *Organometallic Chemistry*.

Ronald W. Woodard, Frederick F. Blicke Collegiate Professor of Medicinal Chemistry; Professor, Chemistry. *Medicinal Chemistry*.

Edward T. Zellers, Professor of Environmental and Industrial Health; Professor, Chemistry. *Environmental-Analytical Chemistry*.

Dominika Zgid, Assistant Professor of Chemistry. *Computational Chemistry, Inorganic Chemistry*.

Paul Zimmerman, Assistant Professor of Chemistry. *Physical Chemistry, Theoretical Chemistry*.

Professors Emeriti: Arthur J. Ashe III, Lawrence S. Bartell, S.M. Blinder, Dimitri Coucouvanis, James K. Coward, M. David Curtis, Thomas M. Dunn, B.J. Evans, John L. Gland, Henry C. Griffin, Robert L. Kuczkowski, Richard G. Lawton, Lawrence L. Lohr, Daniel T. Longone, Joseph P. Marino, Christer E. Nordman, Paul G. Rasmussen, Robert R. Sharp, Peter A.S. Smith, Leroy B. Townsend, Edwin Vedejs, Edgar F. Westrum, Jr., John R. Wiseman, Charles F. Yocum

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

Name _____ Name of Spouse _____
 University _____ Degree _____ Year _____ Advisor _____
 University _____ Degree _____ Year _____ Advisor _____
 Residence Address _____ Home Phone _____
 City, State, Zip _____
 Firm/Institution _____ Position _____
 Business Address _____ Business Phone _____
 City, State, Zip _____ E-mail _____

NEWS ABOUT YOURSELF: (Unless you request otherwise, we will feel free to mention any of this in future *Newsletters*)

I do NOT wish to have my news in the *Newsletter*.

Address corrections should be directed to UM Alumni Office website at <http://alumni.umich.edu/>
 Personal updates can be sent to: University of Michigan, Chemistry Alumni Office, Department of Chemistry
 930 N. University Ave., Ann Arbor, MI 48109-1055; E-mail: chem.alum@umich.edu
 Chemistry Web Address: <http://www.umich.edu/~michchem>



Incoming Graduate Class of 2012



Brian Larsen, John Montgomery and Peter A. S. Smith



Ice cream social



Vaughan poster session

University of Michigan
Department of Chemistry
930 N University
Ann Arbor MI 48109-1055

Address Service Requested

NON-PROFIT
ORGANIZATION
US POSTAGE
PAID
ANN ARBOR, MI
PERMIT #144

Nondiscrimination Policy Statement

The University of Michigan, as an equal opportunity/affirmative action employer, complies with all applicable federal and state laws regarding nondiscrimination and affirmative action, including Title IX of the Education Amendments of 1972 and Section 504 of the Rehabilitation Act of 1973. The University of Michigan is committed to a policy of nondiscrimination and equal opportunity for all persons regardless of race, sex, color, religion, creed, national origin or ancestry, age, marital status, sexual orientation, disability, or Vietnam-era veteran status in employment, education programs and activities, and admission. Inquiries or complaints may be addressed to the University's Director of Affirmative Action and Title IX/Section 504 Coordinator, 6041 Fleming Administration Building, Ann Arbor, Michigan 48109-1340, (734) 763-0235, TDD (734) 647-1388, FAX (734) 763-2891.