Chair's Letter

To all our chemistry alumni and friends,

It has been an exciting year since the last newsletter. As just punishment for my youthful indiscretions or perhaps the sins of a previous life, I was asked to serve another term as interim chairman for the 2015/2016 academic year. While the circumstances were not the most auspicious, involving as they did health issues for the previous chairman, I am delighted to report that James Kallmerten is in good health and spirits and making a full recovery. We all wish our friend and colleague Jim continued good health and many years of service to the department.

The department has witnessed a number of significant changes in the past year, including the addition of two assistant professors, Weiwei Zheng, who joined us in the fall of 2015, and John Franck, who will be joining us for fall 2016. Information about their backgrounds and research interests can be found in a later section of this newsletter. Professors Jerry Goodisman, Philip Borer, and James Dabrowiak have retired from their normal duties and become emeritus professors. We hope that all will continue their relationship with the department through their many collaborations with the faculty. Professor John Baldwin has now retired, and he and his lovely wife Anne have moved to Pennsylvania. We wish John and Anne a long and healthy future. Finally, we note the retirement of Cathy Voorhees. Cathy served as the department's administrative assistant for more than 16 years and for four different chairs. Cathy was truly the indispensable member of the department, supervising the staff and keeping the faculty in line with her pleasantly efficient personality. She will be missed by all, including faculty, staff, graduate, and undergraduate students. Her role has now been assumed by April LePage, who joined us last summer. April has moved into the position seamlessly, much to the contentment of the chair, who could not survive without her.

The department is proud that our colleague Professor Karin Ruhlandt has been named permanent dean of the College of Arts and Sciences. We wish Karin every success in her new and demanding role. She is certainly bringing the vision and enthusiasm to her leadership of the college as she did to the department during her tenure as chair.

General University news includes the naming of Professor Michele G. Wheatly as vice chancellor and provost. Wheatly has an impressive academic record. Her inquisitiveness led her to study physiology to help advance the understanding of how animal systems work. She has received continuous National Science Foundation funding totaling $25 million over 30 years. Her academic leadership trajectory blended research, teaching undergraduates and training graduate students. She eventually became chair of a department and dean of a college. Wheatly comes to Syracuse University from West Virginia University, where she served as special assistant to the president. She also served as WVU's provost from January 2010 through June 2014. As provost at SU, Wheatly will serve as the chief academic officer of the University and oversee the academic side of SU and also to lead the implementation of the Academic Strategic Plan, one of the three components of Chancellor Kent Syverud's Fast Forward initiative.

The department anticipates a continued positive trajectory in the coming year. As of July 1, 2016, the chairmanship will have been assumed by my very capable friend and colleague, Tim Korter. Tim and I hope that all members of our chemistry family will continue to keep us updated on accomplishments in their lives and careers. We particularly welcome you to visit us, should the occasion present itself. On behalf of the faculty, staff, and students of the chemistry department, I wish all the best.

Warmest regards,

Jon Zubieta
UNDERGRADUATE ACHIEVEMENTS

Melanie Fellner (an Austrian REU student in summer 2015 in Joe Chaiken's laboratory) presented her work titled *The Effect of Red Blood Cell Induced Turbidity on Quantitative Raman Spectroscopy* at two venues, the Stanford Research Conference and the National Collegiate Research Conference at Harvard University. The work was an in vitro simulation of noninvasive in vivo probing of human capillary beds in volar side fingertip skin that validated the proprietary algorithm used by the Chaiken group to noninvasively monitor hematocrit and plasma volume.

Hayley Glicker (REU in the Kahan lab, 2015) accepted a Ph.D. position at University of California Irvine.

Arman Hussain has been awarded the 2016 Jonathan Chayat Memorial Award. This award of $1,000 is given to those who best reflect the broad spectrum of values and interests—intellectual, moral, and aesthetic—that informed the life and mind of Jonathan Chayat, who as a student peer advisor was selfless and generous in his contributions to the Syracuse community.

Madalynn (Maddy) Marshall (REU student from Iowa State University in the Hudson lab) was able to prepare a single crystal of a polymorphic (and tautomeric) form of barbituric acid for the first time. The single crystal structure was determined at 95 K by Valerie Lopez (graduate student in the Ruhlandt group). This confirmed that the higher energy tautomer (by ca. 55 kJ/mol) was the species in the crystal. The results have been published in *Angewandte Chemie International Edition*.

Joshua Woods ’16 was elected as one of 12 Syracuse University Scholars, the University’s highest honor for graduating seniors. He also won an NSF graduate fellowship.

GRADUATE STUDENT ACHIEVEMENTS

Awards and General Information

Kyle Blaha has been awarded an EMPOWER NRT Fellowship for the 2016-2017 year. The EMPOWER NRT is an interdisciplinary graduate program, with a research emphasis on the interface of the water and energy cycles, and comprehensive professional training in the skills needed for science careers.

Joseph Darling has been awarded an All University Doctoral Prize from The College of Arts and Sciences for his dissertation, *Identification of Substrate Chemical Groups Important for Ghrelin o-Acyltransferase Activity*. Joe is a CRTA Postdoctoral Fellow in Professor Sriram Subramaniam’s Group, Biophysics Section, Laboratory of Cell Biology NIH/NCI, in Bethesda, Maryland.

Shawn Kowal won an outstanding TA award from the Graduate School in 2016.

Zsófia Lengyel and Tiffany Dunston of Ivan Korendovych’s group won first and third prizes, respectively, for best posters at the 14th Upstate New York NMR and Structural Biology Symposium.

Alexandra Remillard was accepted into the WISE-FPP program.

Alexa Statthis has been awarded a University Water Fellowship for the 2016-17 academic year, as well as an EMPOWER NRT Fellowship for the 2017-18 year.

ALUMNI CORNER

Stephanie Jones Labadie ’12

After graduation in May 2012, Stephanie Jones Labadie accepted a postdoctoral research and teaching position in the chemistry department at the University of New Hampshire. She began working with Professor Sam Pazicni on the design and synthesis of thiophenolate ligands for incorporation into heme-thiolate model complexes, with the goal of exploring the effect of hydrogen bonding secondary interactions on the reactivity of the metal thiolate bond. She was also assigned to teach the one-semester general chemistry course for engineering students for two years. In fall 2014, she joined the Biomaterials Design Group led by Professor Leila Deravi. While helping to set up new lab space for the group, she worked on a project investigating the contribution of chromatophore pigment organs to adaptive coloration in cephalopods. She was involved in every step of the project, from the dissection of squid dermal tissue and isolation of pigment granules through the separation and structural and spectroscopic analysis of specific pigment molecules. In spring 2015, Stephanie accepted a position as general chemistry laboratory coordinator at UNH. She now works on general chemistry lab curriculum design, manages a small army of graduate student teaching assistants who instruct as many as 40 lab sections per week, supervises undergraduate student workers who help with lab preparation, and fields questions from the 650 to 900 students enrolled in the four introductory chemistry courses offered on campus throughout the year. In her spare time, she tries to take advantage of New Hampshire’s seacoast, lakes, and mountains as often as she can.
Wayne Ouellette ’07

After graduation in June 2007, Wayne Ouellette accepted a position as a research scientist at the U.S. Navy’s Naval Surface Warfare Center at Indian Head, Maryland. Wayne began synthesizing and modeling crystal structures of various novel energetic materials. Later he became an integral part of a counter-IED team sponsored by JIEDDO (now the Joint Improvised-Threat Defeat Agency) and invented a special explosives detection kit that is still in use today. While at Indian Head, Wayne earned several awards, including the U.S. Navy NAVSEA Command Excellence Award, the U.S. Navy Admiral Harold R. Stark Award for Innovation, and the U.S. Navy RD&A Dr. Delores M. Etter Top Scientists and Engineers Award. In summer 2013, Wayne joined the research team at TPC Group in Houston. As North America’s largest producer of finished butadiene and the largest producer of butene-1, TPC Group specializes in production of a variety of C4 products and derivatives. As a research chemist, Wayne leads multiple multifunctional groups in efforts to improve productivity, increase reliability, and lower production costs. This work involves researching and understanding catalytic reactions, chemical interactions with undesirable contaminants, and purification methods such as extractive distillation. While not at work, Wayne enjoys training and competing in ironman triathlons, riding motorcycles, and attending his children’s school band events.

Degrees were confirmed from fall 2014 to spring 2016. Students are listed with the name of their advisor and title of their dissertation.

- Ijaz Ahmed (Chisholm) Development of Improved Methodologies Toward the Formation of C-C and C-N Bonds.
- Christopher Blanton (Chakraborty) Theoretical Investigation of Quantum Confined Stark Effect in Nanoparticles.
- Elizabeth Caselle Raymond (Korendovych) The Design of Allotropically Regulated Protein Catalysts.
- Christopher Chu (Zubieta and Doyle) Coordination Chemistry in Biology and Medicine
- Kaitlin Coopersmith (Maye) Nanoparticle Biofunctionalization for Self-Assembly and Energy Transfer Applications
- Joseph Darling (Hougland) Identification of Substrate Chemical Groups Important for Ghrelin O-Acyltransferase Activity.
- Susan Flynn (Hougland) Quantitative Investigation of Factors Impacting Protein Farnesyltransferase activity with the Cell.
- Jonathan Gooch (Zubieta) Investigation of Electrostatic Assembly of Gold Nanoparticles Mediated by Giant Polyoxomolybdate Clusters.
- Alan Goos (Ruhlandt) Heavy Main-Group Metal Coordination Chemistry: A Study of Metal Size, Co-ligand, and Secondary Interactions.
- Kelly Henry (Doyle and Zubieta) Synthetic, Structural, and Mechanistic Investigations of Vitamin B12 Conjugates of the Anorectic Peptide PYY3-36.
- Lauren Kaminsky (Clark) J. Synthesis and Characterization of Novel Metal-Citrate Complexes.
- Patrick Lutz (Maye) Design and Fabrication of Multicomponent Heterostructured Nanoparticles.
- Somak Majumder (Maye) Nanoparticle Biofunctionalization for Self-Assembly and Energy Transfer Applications.
- Caitlin Miller (Borer) Optimizing Acyclic Identification of Aptamers.
- Christopher Petrelli (Spencer) Designing Core/Alloy Nanoparticles by Manipulation of Interfacial Oxidation and Atomic Diffusion.
- Cara Rufo (Korendovych) The Self-Assembly of Peptides to Create Catalysts.
- Gauri S. Shetye (Luk) Discovering the Biological Activities of Maltose Derivatives for Controlling Bacterial Multicellular Behaviors.
- Nischal Singh (Luk) Development of Improved Methodologies Toward the Formation of C-C and C-N Bonds.
- Davon Slaton (Maye) Designing Core/Alloy Nanoparticles by Manipulation of Interfacial Oxidation and Atomic Diffusion.

WHERE ARE THEY NOW?

- Paul DeBurgomaster (Ph.D., Zubieta group) has become a permanent staff scientist at Los Alamos National Laboratory.
- Kelly Henry graduated in May 2015 and is now a postdoctoral fellow in the lab of Professor Jason Lewis at Memorial Sloan Kettering Cancer Center, New York City.
- Tayo Ikontun (Ph.D., Doyle group, 2009) is a research scientist at Amgen in Los Angeles.
- Nabil Khan ’15, who did research in the Kahan group 2012-2015, is pursuing a master’s degree in chemical engineering at Columbia University.
- Pei Ma (Ph.D., Spencer group) is working for AstraZeneca Pharmaceuticals in Boston in quantitative clinical pharmacology.
- Christopher Petrelli (Ph.D., Spencer group) works for Medtronic in Colorado.
- Sharon A. Rivera (Ph.D., Hudson group) left with an NSF international fellowship in Australia and did neutron scattering there and in Europe. She is a professor at Highline College, Des Moines, Washington, where she is a director of the MESA program.
- Gauri Shetye (Ph.D., Luk group, 2015) is a postdoctoral scientist at the Infectious Disease Research Institute, Seattle.
- Casey Simons (Ph.D., Spencer group) has recently started a position with the University of Southern Mississippi.
- Nischal Singh (Ph.D., Luk group, 2015) is a senior scientist, analytical development innovation and development, at Fresenius Kabi USA.
- Nerissa Viola (Ph.D., Doyle group, 2009) is a tenure-track assistant professor at the Karmanos Cancer Center in Detroit.
NEW FACULTY: JOHN FRANCK AND WEIWEI ZHENG

Weiwei Zheng completed postdoctoral research in 2015 with Khalid Salaita at Emory University in the area of materials chemistry. He received a Ph.D. in inorganic chemistry from Florida State University under the direction of Geoffrey F. Strouse in 2011. Zheng's research is highly interdisciplinary and lies at the intersection of inorganic chemistry, solid state chemistry, materials science, and nanotechnology. The Zheng group focuses on designing, synthesizing, and characterizing novel functional inorganic nanomaterials for emerging applications in renewable energy and 3-D assembly.

Zheng likes playing table tennis and practicing brush calligraphy. He is the faculty advisor of the SU Table Tennis Club.

John Franck received his undergraduate degree at Northwestern University and went on to complete a Ph.D. at University of California, Berkeley, under Professor Alexander Pines, where he studied physical chemistry and spectroscopy, and magnetic resonance. He continued his research as a California NanoSystems Institute Elings postdoctoral fellow with Professor Songi Han at the University of California, Santa Barbara, and then as a research associate at the nationally funded ACERT center for Electron Spin Resonance at Cornell University with Professor Jack Freed.

The Franck lab will develop the capability to answer new types of questions about the role of water molecules at interfaces and integrate existing site-specific methods that can map out the nuclear density and protein tertiary structure, even in disordered systems.

A native of the Chicago area, Franck enjoys the outdoors, as well as dubiously applying his chemistry experience in the kitchen.

NEW MEDICINAL CHEMISTRY MAJOR

The Chemistry Department now offers a chemistry B.S. degree (medicinal chemistry track) that incorporates the principles of chemistry and the biological sciences to help students develop an understanding of the design, synthesis, evaluation, and optimization of pharmaceutically relevant small molecules and biologics. This program provides a strong background for employment as a B.S.-level medicinal chemist in industry, government laboratories, and other venues. A strong foundation in medicinal chemistry may also be used to facilitate entrance to graduate school in related areas, including professional schools in the health sciences or medical school. More details may be found on the Department of Chemistry website: www.che.syr.edu/.

THE PRINS LECTURESHIP SERIES

On March 21, the department hosted the Prins Lectureship for 2016 with Professor Stephen J. Lippard, Arthur Amos Noyes Professor at MIT. Lippard is well known for his pioneering research in bioinorganic chemistry, including the interactions of metal compounds with DNA, preparation of synthetic analogues for metalloproteins, and structural and mechanistic studies of methane monoxygenase. He is a member of the National Academy of Sciences, the National Institute of Medicine, and the American Academy of Arts and Sciences. He is the recipient of numerous awards and honorary degrees, including the National Medal of Science, the Priestly Medal, the Linus Pauling Medal, the Nichols Medal, the F.A. Cotton Medal for Chemical Research, and the Bader Award in Bioinorganic Chemistry.

Lippard had the room-capacity audience spellbound for 70 minutes, describing the structural chemistry, mechanisms of action, and future prospects for third row transition metal complexes in the treatment of cancer.

The lectureship is named in honor of Willem Prins, professor of physical chemistry who died July 20, 1974, as the result of a boating accident. The lectureship has been made possible by the generosity of the Prins family, which has provided an endowment to support the series. Previous speakers include such notables as Ei-ichi Negishi (Nobel Laureate), Harold Scheraga (Nichols Medalist), Joseph Francisco (National Academy of Scientists, American Association for the Advancement of Science, Guggenheim Fellow), and Elsa Reichmanis (Perkin Medalist, American Chemical Society president).

The department was honored by the presence of a Prins daughter, Dr. Nienke Dosa, Upstate Medical College Foundation Professor of Child Health Policy and Burton Blatt Senior Fellow.

ARI CHAKRABORTY FEATURED IN NSF DISCOVERIES

Professor Ari Chakraborty was featured in NSF Discoveries (nsf.gov/discoveries/disc_summ.jsp?cntn_id=135014&org=NSF) for his research on the chemical and physical conditions under which nanoparticles can be tuned to emit light, which allows the capturing of pictures of the nanoparticles for medicinal imaging applications. This permits pinpointing, for example, the areas where there are cancerous cells in the body, these regions showing up as bright spots in the photograph. The research is being conducted under an NSF Faculty Early Career Development (CAREER) award.

GARY BONO MO DEMONSTRATES

Lab supervisor Gary Bonomo enjoys various STEM outreach demonstrations and activities.

In October, he partnered with teachers Sally Mitchell and Wendy Davis and presented the slime activity for the Halloween Spooktacular at East Syracuse-Minoa High School.

In January, Gary assisted with the Astronomy Station at the Maker Hall at Nottingham High School. Maker Hall Adventures encourage children and adults to explore hands-on learning beyond the classroom. Laxmikant Pathade ‘15, a Ph.D. student, volunteered.

In March, he prepared materials and judged the forensics event at the New York State Science Olympiad at Le Moyne College, assisted by Professor Mike Sponsler and Wendy Davis.

In April, he participated in Dia de Ciencias at SU, an event designed to create interest in STEM fields for the students at Delaware Elementary School and Seymour Elementary School. His activity is “Making a Slimy Toy: Fun with Polymers.” Gary says he finds inspiring the next generation of scientists to be a rewarding experience.
FACULTY NEWS AND ACHIEVEMENTS

ROBERT DOYLE NAMED MEREDITH PROFESSOR

Professor Robert P. Doyle has been awarded a Meredith Professorship to acknowledge his teaching accomplishments. He joins Professor James T. Spencer as the department’s Meredith Professors. The Laura J. and L. Douglas Meredith Professorships were created in 1995 by Chancellor Kenneth A. Shaw and funded by a substantial bequest from the estate of Dr. L. Douglas Meredith, a 1926 graduate of the College of Arts and Sciences. The award recognizes excellence in teaching, encourages faculty members to look upon the many dimensions of teaching as manifold opportunities for constant improvement, and emphasizes the great importance the University places upon teaching.

NAPPI FAMILY RESEARCH AWARDS

This was the inaugural year for a new awards program, the Nappi Family Research Awards, named for Sam Nappi, founder and chairman of Alliance Energy Group LLC and Harmony Entertainment. Alliance Energy specializes in producing energy in a safe, reliable, and efficient manner while simultaneously maintaining a high level of environmental stewardship. In September, Syracuse University and Upstate Medical University announced the launch of the Driving Inspiration and Innovation through Collaboration pilot grant program funded by the Nappi family. The program is designed to pool the diverse research and clinical strengths of faculty from both institutions to stimulate collaborative research activity focused on pressing biomedical and health care needs. Each team must include two or more researchers or clinicians representing both campuses. Pilot grants of up to $100,000 in direct costs for up to two years’ duration will be awarded. Winning teams will use the funding to support activities and preliminary data-gathering that will enhance their position to win large federal or other externally sponsored grants earmarked for biomedical and health care-related research.

Three of the six awards included chemistry faculty: Stewart Loh (biochemistry and molecular biology, Upstate) and Carlos Castaneda (biology and chemistry, Syracuse University), “New inhibitors of p53/MDM2 binding to treat cancer;” Ivan Korendovych (chemistry, SU) and Andrzej Krol (radiology, Upstate), “Novel probe for noninvasive detection of hepatocellular carcinoma by Positron Emission Tomography;” William Kerr (microbiology and immunology; biochemistry and molecular biology; pediatrics, Upstate) and John Chisholm (chemistry, SU), “Exploring SHIPi to combat obesity and metabolic syndrome.”

Chisholm and Kerr’s research is based on compelling evidence that inhibition of the enzyme SHIP (abbreviated SHIPi) leads to a loss of body fat and better control of blood sugar in mice. Investigations into finding better inhibitors of the enzyme are proposed as the focus of the Nappi Research award. This work may lead to new treatments for obesity and associated conditions, as obese individuals have greatly increased chances of developing of cardiovascular disease (heart attack, strokes), diabetes, cancer, and even dementia. The preliminary data generated will be used to pursue further funding from the NIH.

Castaneda and Loh have teamed up to work on designing inhibitors of a critical protein-protein interaction (p53:Mdm2) that is common in nearly all cancers. p53 has tumor-suppressing activity, but Mdm2 targets p53 for destruction via ubiquitination, a post-translational modification of proteins. They hypothesize that disrupting this interaction would increase p53’s tumor-fighting abilities in cancer cells. The two laboratories are working together to characterize all interaction sites between p53 and Mdm2 using mass spectrometry. Using their expertise in p53 biology (Loh) and ubiquitination mechanisms (Castaneda), the two labs will design peptide inhibitors of the p53:Mdm2 interaction and test these inhibitors via ubiquitination assays and NMR binding experiments. The outcomes of these experiments will facilitate development of a new generation of inhibitors for this p53:Mdm2 interaction.

ARI CHAKRABORTY’S WORK FEATURED IN ACS JOURNAL

Research performed in the research groups of Ari Chakraborty, in the Department of Chemistry, and Shikha Nangia, in the Department of Biomedical and Chemical Engineering, resulted in the development of a novel multilevel computational approach for investigating quantum dot-protein interactions. This method combines the strengths of quantum mechanics, molecular mechanics, classical molecular dynamics, and Monte Carlo techniques. Because of this work, it is now possible to perform computer simulation of protein-quantum dot complexes that were previously considered to be beyond the scope of computational investigations. Their paper, Optical Signature of Formation of Protein Corona in the Firefly Luciferase-CdSe Quantum Dot Complex, was featured on the cover of the ACS Journal of Chemical Theory and Computation.

KARIN RUHLANDT NAMED DEAN OF THE COLLEGE

Karin Ruhlandt was named dean of the College of Arts and Sciences in January 2015.

DOYLE GROUP AND THERAPEUTICS

The Doyle group in collaboration with Chloe Zubieta (the daughter of Jon Zubieta) has published a paper (Cover Article) in ChemMedChem that has been highlighted in Angewandte Chemie (DOI: 10.1002/ cmdc.201500494). For the first time, the structure of the human protein saposin B (sapB) has been determined with a bound substrate, namely chloroquine (CQ).

Saposin B is a critical protein, the absence of which leads to metachromatic leukodystrophy.

Shikha Nangia, in the Department of Biomedical and Chemical Engineering, resulted in the development of a novel multilevel computational approach for investigating quantum dot-protein interactions. This method combines the strengths of quantum mechanics, molecular mechanics, classical molecular dynamics, and Monte Carlo techniques. Because of this work, it is now possible to perform computer simulation of protein-quantum dot complexes that were previously considered to be beyond the scope of computational investigations. Their paper, Optical Signature of Formation of Protein Corona in the Firefly Luciferase-CdSe Quantum Dot Complex, was featured on the cover of the ACS Journal of Chemical Theory and Computation.

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Saposin B is a critical protein, the absence of which leads to metachromatic leukodystrophy.
PROFESSOR TARA KAHAN
RECIPIENT OF NSF CAREER AWARD

Professor Tara Kahan has been awarded an NSF Career Grant to study environmental chemistry at ice surfaces.

SYRACUSE CHEMISTS AWARDED GRANTS FOR INTERDISCIPLINARY RESEARCH

Professors Yan-Yeung Luk and John Chisholm have received major grant awards from the National Science Foundation and the National Institutes of Health. Luk is studying the chemical biology of mammalian cells and bacteria, while Chisholm is exploring synthetic approaches to pyrrolindoline natural products. They are working at the nexus of biological, physical, and organic chemistry, developing new methodologies and techniques in chemical analysis.

PACIFICHEM SYMPOSIUM

Karin Ruhlandt organized the s-block symposium at Pacifichem in Honolulu (together with Phil Andrews, Monash University) in December 2015.

PROFESSOR JON ZUBIETA

Jon Zubieta was a visiting professor of chemistry at the CNRS, Universite, Grenoble Alpes, France, working with his daughter Chloe, who is a research director for the CEA, DSV, INRA, IRTSV, Laboratoire de Physiologie Cellulaire and Vegetale in Grenoble. He was able to realize a long-standing ambition to perform protein crystallography and to work on a synchrotron beamline. He spent several overnight stints with his son-in-law Max, who runs a beamline for the European Molecular Biology Laboratory in Grenoble.

PROFESSOR JAMES HOUGLAND AWARDED ADA GRANT

James Hougland has received a Junior Faculty Development Award of $414,000 from the American Diabetes Association to develop a new therapeutic for type II diabetes. Hougland is investigating the hormone ghrelin, which is involved in the balance between energy intake (food calories) and energy use. Since high levels of ghrelin make insulin less effective at stimulating glucose movement from blood to body tissues, limiting ghrelin signaling could help diabetic patients to regulate blood sugar by making insulin more effective.

PROFESSOR MAT MAYE DEMONSTRATES HIGH-EFFICIENCY ENERGY TRANSFER BETWEEN QUANTUM RODS AND LUCIFERASE

In collaboration with Connecticut College, Mat Maye has reported energy transfer between a nanomaterial semiconductor quantum rod and a biomaterial, the enzyme luciferase. The composite material produces bioluminescence with light emission from the nanomaterial. Maye refers to this as “using biology for non-biological applications.” The research is supported by the Air Force Office of Scientific Research.

PROFESSOR CARLOS CASTANEDA AWARDED ORAU GRANT

Professor Carlos Castaneda is one of 35 Ralph E. Powe Junior Faculty Awardees. The awards recognize the quality and promise of the research of junior faculty.

FACULTY PATENTS

Robert P. Doyle: Improved Enzymatic Treatment of Macular Degeneration (SU 100859)
Methods and Systems for Zinc Delivery Using Intrinsic Factor or Haptocorrin (SU 100739)
Intrinsic Factor Binding of a Vitamin B12 Conjugate for Enhanced Peptide Stability against Protease Digestion (SU 100822)

Robert P. Doyle and R.L. Bonaccorso: Coagonists of Glucagon-Like Peptide 1 Receptor and Neuropeptide Y2 Receptor (SU 100846)

Bruce S. Hudson and Jack Melton: Method and Apparatus for Separation of Pharmaceutical Materials on the Basis of Their Density (US 9089850)

WELCOME NEW STUDENTS

The department welcomes:

Row 1 (front- left to right): Elan Hofman, Sudhat Ashok, Cody Webb, Tongyin Zheng, Bhashar Joshi

Row 2 (back- left to right): Amanda Blaker, Felicia Burns, Sara Dampf, Arizza Ibanez, Megha Jayachandran, Liz Clifford

Not pictured: Kyle Blaha, Tasha Davis
2016 DEPARTMENT OF CHEMISTRY AWARDS

Birge Award for Exceptional Performance in Biochemistry Research
Tyler Smith

Clayton Spencer Award for Exceptional Performance in Undergraduate Research—Sponsored by Alpha Chi Sigma
Josh Woods

CRC Handbook Award for Exceptional Performance in Honors Chemistry
Maizy Ludden, Adam Panella-Eichler

Department Award for Exceptional Performance in Analytical Chemistry
Albanie Hendrickson-Stives

Department Award for Exceptional Performance in Biochemistry
Alex Sternisha, Charles Ryan

Department Award for Exceptional Performance in Inorganic Chemistry
Tyler Smith, Alex Sternisha, Caroline Viret

Department Award for Overall Excellence in Chemistry
Alec Beaton

Distinction in Chemistry
Sarah Mehdi

Gershon Vincow Award for Excellence in General Chemistry
Weicong Dai, Dan Hansmeier, Samuel Palmiere, Michael Bates

George Wiley Award for Exceptional Performance in Organic Chemistry
Michael Aiduk

Willem Prins Award for Exceptional Performance in Physical Chemistry
Albanie Hendrickson-Stives

RESEARCH EXPERIENCE FOR UNDERGRADUATES

Twenty-six students from across the country and from the University of Graz in Austria were on campus in summer 2015 doing research in the chemistry laboratories. Next year's program dates will be June 1 to Aug. 8. Pictured below are:

Row 1 (front): Jeovanna Rios, Casey Cabrinha, Tanja Rappitsch, Brian Dixon
Row 2: Emily Morton, Hayley Glicker, Melanie Fellner, Garrick Centola, Katelyn Leets, Robinson Neira De Souza, Kim La (high school student)
Row 3: Kristina Arauz, Colin Reynolds, Breanna Tomiczek, Katharina Hieber, Angelina Eder, Ben Derby, Brian Wilson, Mathias Hobisch
Row 4: Madalynn Marshall, Nicholas Armada, Abigail Bartlett, Bernhard Berg, Rafael Rathner, Johannes Repelnig

Not pictured: Cara Roskoff
Transitions

John and Anne Baldwin Move to Pennsylvania

Professor John E. Baldwin and his wife, the lovely Anne, moved to Pennsylvania in December 2015, ending their 32-year relationship with the department. During that time, John carried out complex experiments revealing how simple reactions occur, served as chairman for six years, and provided insight and leadership that steered the department for three decades. His biography is inspirational. After earning a B.A. degree at Dartmouth College in 1959, Baldwin began Ph.D. studies in chemistry and physics at the California Institute of Technology under the tutelage of a giant of organic chemistry, John D. Roberts. John completed a Ph.D. in just three years and, at 24, accepted a faculty position at the University of Illinois, Urbana. He moved quickly up the ranks and achieved tenure in his fifth year. After his time at the University of Illinois (1962-1968), John spent 16 years at the University of Oregon, including five years as dean of the university’s College of Arts and Sciences. He moved to Syracuse University in 1984, where he ascended to Distinguished Professor and was named William R. Kendall Jr. Professor of Science. Additional honors and awards include a Daniel Webster National Fellowship, the Charles Lathrop Parsons Scholar Fellowship, NSF Predoctoral Fellowships, an Alfred P. Sloan Fellowship, and a Senior U.S. Scientist Award of the Alexander von Humboldt Foundation, which supported a research leave in 1974-75 in Hamburg and Munich, Germany. In 2010, John received the American Chemical Society’s James Flack Norris Award for contributions to physical organic chemistry. The department joins in thanking John for his many years of service, for his scholarly contributions, and for his outstanding collegiality. We wish John and Anne a long and most joyful future.

Long-Serving Administrative Assistant Cathy Voorhees Retires

Cathy Voorhees, administrative assistant to the department chair, retired in August 2015 after 16 years, during which she ably worked with four chairs (John Baldwin, Jon Zubieta, Karin Ruhiandt, and James Keilmerten). Cathy carried out her many duties with gusto and aplomb. She has a wonderful sense of humor that allowed her to survive the inherent chaos of the job and the added burdens of easily distracted chairs like Zubieta. Cathy is happy to spend time with the family, including a new grandchild, and to take on volunteer work. She seems to be busier than ever. The department as a whole thanks her for her years of service and wishes her great contentment in retirement.

Chemistry Office News

April LePage, the new administrative assistant, has made a seamless transition into this demanding position that presented the usual and unprecedented challenges this year. Other new members of the office staff are Allison Piccioni, financial coordinator, and Beth Molloy, undergraduate coordinator. Jodi Randall is now the graduate coordinator, and Deb Maley remains the administrative specialist and continues to keep the department and college from coming into conflict. The staff has done a wonderful job this year, as the department continues to run smoothly and efficiently.