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thank you
for making a
difference!

for alumni and friends of Chemistry & Biochemistry 

a word from the

dept. chair



Dear Alumni and Other Friends Happy Holidays! We can't believe that it is time once again to update you on recent developments in CBC. The Department has been very busy since our 2010 newsletter. In the spring, we completed our first Academic Program Review since becoming a merged Department and the combined external and internal review panel deemed the merger to be a success. We also hired three new faculty in the past year—Assistant Professor **Pascale Charest**, a biochemist coming from a postdoctoral position at UCSD; Assistant Professor **John Jewett**, a bioorganic chemist coming to us from a postdoctoral position at UC Berkeley; and Professor **Steve Schwartz**, a physical chemist/biophysicist coming to us from the Albert Einstein College of Medicine. We also lost some faculty, with **Mark Smith** moving to the University of Houston to become Dean, **Elizabeth Vierling** moving to UMass Amherst, and **Don Bourque** and **John Little** retiring. We are in the initial planning stages for a major Old Chemistry renovation and are excited about the opportunities this opens up for rearranging the Department, to provide higher quality space to more of our units. We would like to end by inviting you to a very special event, a scientific symposium and a golf tournament in honor of the late Professor **Michael Cusanovich**. As you know, Mike contributed to UA in many ways but in the Department he was an outstanding teacher, mentor, and researcher. We hope that you will register to attend this special event in March 2012, providing you with an opportunity to also visit Tucson and catch up with old friends.

Vicki Wysocki, CBC Department Chair

Scott Saavedra, CBC Department Co-Chair

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University of Arizona UAN Chapter Will Host BECUR 2012

The third undergraduate research conference, entitled BECUR (Biochemistry, Engineering, and Chemistry Undergraduate Research), will be held on Saturday, February 25, 2012 at the BIO5 and Medical Research Building. This conference, organized and run by CBC's Undergraduate Affiliate Network (UAN) Chapter of the American Society for Biochemistry and Molecular Biology (ASBMB), provides undergraduates from a number of different departments the opportunity to present the results of their research efforts in poster sessions as well as in oral presentations to a large and diverse audience. We are very pleased to announce that Stanford School of Medicine professor Daniel Herschlag, one of the world's foremost authorities on the mechanisms of phosphate hydrolysis and phosphoryl transfer, will be our Keynote Speaker. For more information about BECUR, as well as how abstracts can be submitted, please visit [our BECUR webpage](#).

upcoming events

calendar

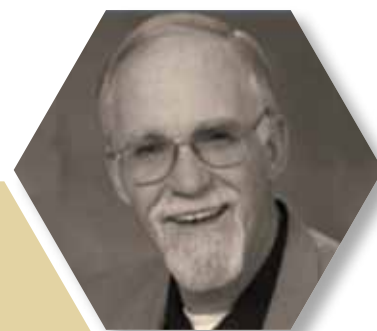
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One Day for Science and One Day for Golf...in Honor of Michael

Cusanovich On Friday, March 2, 2012 CBC will host a SCIENCE SYMPOSIUM at the DoubleTree Hotel at Reid Park. Events include breakfast (7:30am); national and international speakers from science and biofuel industries (9:00am–4:00pm); lunch and poster session (12:30–2:00pm); and social hours, silent auction, and dinner (4:30–9:00pm).

On Saturday, March 3, join us for a GOLF TOURNAMENT at Randolph Golf Course. Registration starts 6:30am with a Shotgun start at 8:00. Following the tournament, we'll have a fun afternoon of raffles, social activities, lunch and awards.

Proceeds from this event will benefit The Mike Cusanovich CBC Scholarship Fund. Visit [our website](#) for more information.



faculty

news

Congratulations to Prof. Victor Hruby, the recipient of “The Murray Goodman Scientific Excellence & Mentorship Award” at the 22nd American Peptide Symposium.



The Goodman Award recognizes an individual who has demonstrated career-long research excellence in the field of peptide science. In addition, the awardee would have been responsible for significant mentorship and training of students, post-doctoral fellows, and/or other co-workers. The Awards Committee may also take into account any important contributions to the peptide science community made by the candidate, for example through leadership in the American Peptide Society and/or its journals. Learn more [here](#).

Armstrong is principal investigator for a U.S. Department of Energy grant that established an Energy Frontier Research Center for Interface Science at UA. In addition to being director of the center, Armstrong is a Professor of Chemistry and Optical Sciences and Biochemistry.



Associate Professor Jón T. Njarðarson, Associate Professor of Chemistry, recently launched an educational website (Chemistry By Design) that harnesses the powerful graphical language of organic chemistry. The website has a built-in continuously growing database of chemical sequences that visitors can treat like virtual flashcards with a built in quiz mode. Professor Njarðarson has created free app versions of his site, which are available for Android and Apple devices. [Check it out!](#)



Bonner Denton and Ann Walker named ACS Fellows The American Chemical Society bestowed this honor upon Professors Denton and Walker and 211 other distinguished scientists who have demonstrated outstanding accomplishments in



chemistry and made important contributions to ACS, the world's largest scientific society. The 2011 Fellows were recognized at an induction ceremony on August 29, 2011 during the Society's 242nd National Meeting & Exposition in Denver. Read more [here](#).

Dr. Gordon Tollin, Regents Professor Emeritus Department of Chemistry and Biochemistry, is #16 on the list of “most prolific authors” in [Biochemistry magazine](#).



Neal R. Armstrong was recognized for his lab's investigation of chemical compounds which improve the efficiency of thin-film photovoltaic surfaces that are “earth abundant, inexpensive, nontoxic and recyclable” at UA's annual Innovation Day where technology innovations are showcased.

Denton and Sperline Receive a 2011 R&D 100 Award Bonner Denton and Roger Sperline of the Denton Research Group are recipients of a 2011 R&D Award. Their Array Detection Technology for Mass Spectrometry (ADT-MS) was selected and given Award ID Number AI282.



Drs. Denton and Sperline collaborated with personnel from

Pacific Northwest National Laboratory (the primary developer), Indiana University, Imagerlabs and SPECTRO Analytical Instruments GmbH to develop the technology. Read the story [here](#).

Congratulations to Dennis Lichtenberger and Lucy Ziurys who were named 2012 Galileo Circle Fellows! This is one of the highest honors bestowed upon faculty in the College of Science.



Welcome our new faculty!

Pascale G. Charest | Asst. Professor | Biochemistry

"I received my PhD in Biochemistry in 2005 from the Université de Montréal where I did my thesis work on G Protein-Coupled Receptor signaling in the laboratory of Dr. Michel Bouvier; and I did a post-doctoral fellowship in the laboratory of Dr. Rick Firtel at UCSD from 2005 to 2011, where I studied the role and regulation of Ras proteins in eukaryotic chemotaxis. At UA, I will pursue the study of the molecular mechanisms controlling eukaryotic chemotaxis using a combination of genetic, proteomic, cell biological and biochemical approaches."



Steve Schwartz | Professor | Physical Chemistry

"My work revolves around theoretical studies of reactions in complex systems, especially biological ones. My group works on both application and method development. My interests include camping and hiking with my wife and now grown children, riding my motorcycle, and playing with my dogs."



John C. Jewett | Asst. Professor | Organic Chemistry



"I am originally from Vermont, and I received my undergraduate degree across the Connecticut river at Dartmouth College. After that I went to the University of Chicago where I obtained my PhD in chemistry working in the laboratory of Dr. Viresh Rawal developing the total syntheses of several members of the pederin family of natural products. Upon completion of my degree I went to UC Berkeley where I worked in the laboratory of Dr. Carolyn Bertozzi. While there, I developed new bioorthogonal reagents that took advantage of strain promoted cycloadditions to be used in the context of studying a biological problem. At CBC, my group is focusing on developing new chemical tools to be used for the study of dengue virus (the causative agent in dengue fever in all of its forms) in an area I am calling chemical virology."



Promotions! **Oliver Monti** was recently promoted to Associate Professor. **Indraneel Ghosh**, **Dominic McGrath**, and **Andrei Sanov** were recently promoted to Professor. Congratulations!

In Memoriam Robert Dean "Bob" Feltham

was born on November 18, 1932 in Roswell, New Mexico. Dr. Feltham studied at the University of New Mexico. He graduated with a PhD in Chemistry from UC Berkeley. Years later, he and his family moved to Tucson, Arizona where he was a



Professor of Chemistry at the University of Arizona for 31 years. In 2007, Dr. Feltham was diagnosed with Alzheimer's and had to be admitted to a memory care facility. He died in his sleep on July 17, 2011 in Phoenix, Arizona. He will be remembered as an intelligent, easy-going father, friend, and colleague.

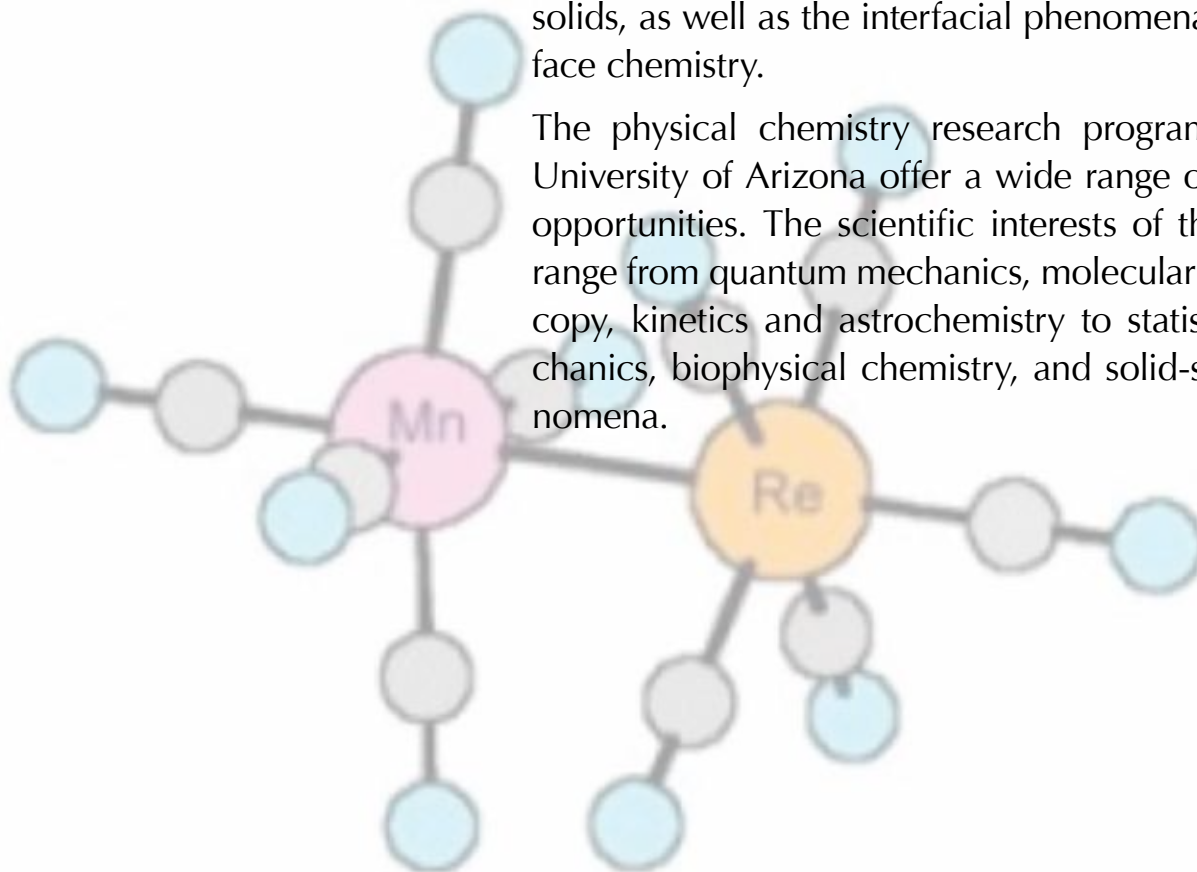
physical chemistry

research

r e p o r t

Physical chemistry is a broad field of science that encompasses the study of atomic, molecular and supra-molecular (bulk) phenomena. Physical chemistry applies the fundamental principles of modern physics to the experimentally observable behaviors of individual molecules, gases, plasmas, liquids, and solids, as well as the interfacial phenomena and surface chemistry.

The physical chemistry research programs at the University of Arizona offer a wide range of exciting opportunities. The scientific interests of the faculty range from quantum mechanics, molecular spectroscopy, kinetics and astrochemistry to statistical mechanics, biophysical chemistry, and solid-state phenomena.



by
Prof. Andrei Sanov



SANOV GROUP Chemical bonding is controlled by electrons and it is their movements that determine the molecular structures, potential energy landscapes, and the outcomes of chemical reactions. The physical chemists at Arizona use both experimental and theoretical approaches to study the electronic structures of molecules. On the experimental side, the Sanov group employs a quantum photographic technique to look at electrons ejected from negative ions by visible or UV laser pulses. Photoelectron imaging spectroscopy provides snapshots of the bonding structures that hold molecules together and all substances in the Universe. The group's research focuses on exotic anions and often elusive neutral species, such as radicals and reactive intermediates in both ground and excited transient states. Through the evolving snapshots of electron rearrangements in these systems, time-resolved photoelectron imaging unravels the fundamental driving force of chemistry—the electronic structure transformations—on the natural timescale of atomic motions.

ADAMOWICZ GROUP The interpretation of atomic and molecular spectra and the assignment of bonding structures relies on modern quantum theory. The research in the Adamowicz group focuses on the development and application of theoretical quantum-chemical methods for accurate determination of the stationary and dynamic states of molecular systems. The methodological development includes theory formulation, computational implementation and application calculations. The group exploits the unique opportunities presented by the recent progress in computational capabilities to apply new state-of-the-art theoretical techniques to larger polyatomic molecules, leading to more reliable predictions of their properties and structures.



PAGEL GROUP At the other end of the electromagnetic spectrum, nuclear magnetic resonance (NMR) is the most widely used spectroscopic method in chemistry and biochemistry. Applications range from organic synthesis to protein structure elucidation in solution and fibrils or membranes, and to magnetic resonance imaging (MRI) of human subjects. There are many researchers at the

UA that are involved in a variety of NMR and MRI studies, with several groups in the Department of Chemistry and Biochemistry. Among the physical chemists, the Pagel laboratory develops chemical agents that change the contrast of biomedical images. These contrast agents are designed to respond to molecular biomarkers of biological processes and pathologies.



BROWN GROUP The Brown group is more fundamentally engaged in several interrelated areas, including the development and application of NMR methods to liquid-crystalline materials and biomolecular systems. In the area of biophysics, this research group is conducting structural studies of membrane proteins and membrane lipids. One major emphasis involves developing solid-state NMR techniques and relaxation theory for the study of molecular solids and liquid crystals, while applications of molecular spectroscopy to membrane proteins include proteins involved in neuroscience and so-called G protein-coupled receptors, which are the largest protein family in the human genome.

KUKOLICH GROUP Detailed 3-D geometric structures of molecules can be derived from rotational (microwave) spectroscopy. The high-resolution spectra also give information on quadrupole coupling and other interactions, which provide details of the electron distributions in the molecules. Pulsed-beam, Fourier-transform microwave spectrometers in the Kukolich laboratory provide the required sensitivity and resolution to make these measurements on a wide variety of molecules, including new structural measurements on larger and less stable molecules and complexes.



Physical chemistry at the University of Arizona spans a broad spectrum of modern areas of the experimental and theoretical physical sciences, uncovering the molecular structure and microscopic dynamics of matter and the environment.

ZIURYS GROUP Microwave spectroscopy is also an important tool in astrochemistry. More than 130 different chemical species have been detected in interstellar space, primarily in giant gas clouds throughout our Galaxy, and in gas envelopes surrounding old stars. Despite the extreme



conditions chemistry flourishes in these environments, producing a wide range of compounds, including many reactive radicals and molecular ions. Ziurys' group studies the chemistry occurring in the vast regions of space via an interdisciplinary approach that involves high resolution molecular spectroscopy in the laboratory, radio astronomical observations, and chemical modeling. Using these techniques, the group discovers which chemical compounds exist in interstellar sources, how they are formed, and how their existence impacts the origins of solar systems and planets, and ultimately life.

CORRALES GROUP While the molecular spectroscopic techniques illuminate the properties of individual molecules, statistical mechanics is another important area of physical chemistry that allows the prediction of bulk properties of materials based on microscopic molecular models. Emphasis in Corrales' materials chemistry group is on revealing the atomic and molecular mechanisms that control materials structure and response to a variety of processes, so as to gain a fundamental understanding of the factors that govern chemical processes in liquids, materials, and their interfaces. The objective is to provide theoretical insight into the complex interfacial structures as a means to guide the synthesis and characterization of processes and properties involving the condensed state.



MONTI GROUP Bulk systems are intrinsically complex environments. In particular, interfaces typically have high defect densities and complex structure. The experimental studies of such systems require sophisticated state-of-the-art methodology. Research in the Monti group is focused on obtaining a detailed understanding of interfacial processes in organic electronic devices such as organic photovoltaic cells. Their function is largely controlled by interfacial processes such as excitation dissociation, polaron formation, geminate recombination and carrier transport. This is compounded by the bulk heterojunction architecture, currently the most efficient architecture for organic solar cells, with structure on the micron to nanometer length-scale. Monti's group research seeks to elucidate the chemistry and physics of carriers in organic semiconductors at interfaces on the short length- and time-scales present in organic photovoltaic cells. They develop and use novel forms of optical microscopy in combination with ultrafast photoelectron spectroscopy to study the electronic structure and dynamics of organic semiconductors under highly controlled conditions.

Altogether, physical chemistry at the University of Arizona spans a broad spectrum of modern areas of the experimental and theoretical physical sciences, uncovering the molecular structure and microscopic dynamics of matter and the environment. The research interests overlap into several interdisciplinary fields, such as Astrochemistry, Biochemis-



try, Chemical Physics, Quantum Chemistry, Molecular Structure, Chemistry of Materials, and others. In particular, the Chemical Physics Program at The University of Arizona provides an interdisciplinary track for cutting-edge research at the forefront of the interface of Physics and Chemistry. Research in this program is highly collaborative and interdisciplinary in nature and geared towards preparing students for a career in research in fields ranging from biomedical technology to sustainable energy.

(This article includes excerpts of individual faculty research synopses available at cbc.arizona.edu. Please consult the departmental website and the faculty pages for detailed descriptions and additional suggested reading.)



events

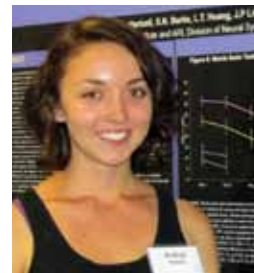
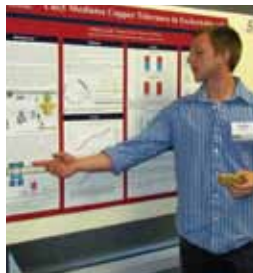
2010-2011

2011 Minority Access to Research Careers (MARC) Poster Session Five UA undergraduates earned Outstanding Awards for their poster presentations at the Annual Biomedical Research Conference for Minority Students (ABRCMS) held in Charlotte, NC. With 15 total UA presentations, one-third of our students winning is particularly outstanding considering that fewer than 11% of the 1300 poster presentations received awards!



The awardees represented 3 majors in three different colleges and were: Jeannie Camarillo (Physiology), **Wana Mathieu** (Biochemistry & Molecular Biophysics), Cynthia Sandoval (Physiology), **Gabrielle Winston-McPherson** (Biochemistry & Molecular Biophysics), Beatrice Abiero (Public Health). The first four students are in the MARC program. In the past five years at this meeting, our MARC trainees have garnered 14 such awards.

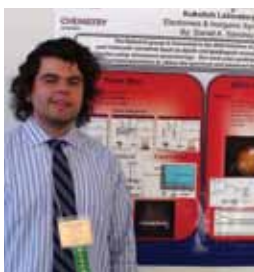
2011 Senior Thesis Poster Session



Salsa Challenge



Undergraduate Poster Session



Frontiers in Science



2011 Chili Cook Off A big thank you goes to everyone who participated in the 2nd Annual CBC Chili Cook Off and helped make it such a success. We had 12 people enter their chili concoctions in the cook off. Over 75 people showed up to help make all the chili and cornbread disappear, and we raised \$370 for the CBC student scholarship funds. Congrats to our excellent chefs!

People's Choice 1st place: **Dallas Matz** (Everything but the Kitchen Sink Chili); 2nd place: **Sean Campbell** (Beef Chipotle Chili); 3rd place: **Ellie Warder** (Grandma's Chili) **Most Traditional Chili Category** 1st place: **Ellie Warder** (Grandma's Chili); 2nd place: **Dallas Matz** (Everything but the Kitchen Sink Chili); 3rd place: **Jennifer Sanchez** (Biohazard Beef Chili) **Best Vegetarian Chili Category** 1st place: **Nadi Anderson** (Chili Carnival); 2nd place: **Mary Griffin** (This Ain't Meaty-ocre Chili); 3rd place: **Anne Blackwell & Elyssia Steinwiter** (Get in My Belly Chili) **Most Original Chili Category** 1st place: **Ellie Warder** (Chuck Wagon Chili); 2nd place: **Cindy Neal** (Thanksgiving Chili); 3rd place: Beverly Travers (Best Ever Chili)



Retirement Celebration



CBC BBQ



postcard

From Biochemistry Senior, Aeen Asghar For the past three months, I have had the honor of working among some of the leading scientists working towards a cure for Type I Diabetes. As the Principal Investigator of the Clinical Islet Transplantation Consortium and the Nordic Network for Islet Transplantation, Dr. Olle Korsgren was responsible for isolation of human islets from the pancreas from all Nordic countries. Located in Uppsala, Sweden at Uppsala University (the oldest university in Scandinavia), Dr. Korsgren's lab is involved in many projects centered on cell transplantation.

BRAVO! gave me one of the best summers of my life by combining scholarship, traveling, and cultural enrichment. Although the project has been delayed and the data could not be gathered before my return, the bridge I have created between Dr. Rilo and Dr. Korsgren's groups will prove beneficial to future collaborations.

BRAVO! How would you like to combine international travel with working with foreign colleagues who share a passion for the same areas of scientific inquiry you do? The Biomedical Research Abroad: Vistas Open (BRAVO!) program provides for travel and living expenses making it possible for students to go abroad who otherwise would not be able to afford an international experience. In this era of globalization it is more important than ever for undergraduates to develop an international perspective. For more information about BRAVO!, or to make a donation to the program, please visit [our webpage](#).



Aspinwall and Agasid visit France France is the most visited country in the world. It has everything you want to see: great cities, gorgeous mountains, glorious beaches, grand monuments, groovy cuisine, and research laboratories. Although not high on most tourists' lists, it is the latter that drew Associate Professor Craig Aspinwall and Graduate Student Mark Agasid to Grenoble, France. There they worked at the Institut de Biologie Structurale with Drs. Michel Vivaudou and Christophe Moreau. Their trip was funded by the American Chemical Society GREET Pilot Program. The GREET program (Global Research Experiences, Exchanges and Training) aims to provide high-impact international research experience and collaboration opportunities to researcher mentor and student mentee teams. The student-mentor research teams establish new international collaborations with a host laboratory and travel to that site for research, training, and an unforgettable educational experience. Research teams are asked to consider how to engage the academic community at their home institution upon their return and consider how to continue their new collaboration with their host laboratory as well. The unique opportunity of working overseas with your mentor is exciting for any graduate student.



Dr. Aspinwall's research develops technologies to measure ligand-receptor binding, the resulting intracellular signaling cascade, and cellular function to correlate all of these events. Successful realization of these ambitious goals requires an interdisciplinary approach which includes biochemistry, analytical chemistry, materials chemistry, and cell biology. He is currently developing a broad spectrum of analytical techniques and chemical sensors, ranging from microcolumn separations to fluorescence spectroscopy to electrochemistry and electrophysiology to ion channel-based chemical sensors that will provide a foundation upon which new biological problems can be solved. While in Grenoble, they worked to integrate their expertise in the preparation of ultrastable, receptor-functionalized artificial membranes and the preparation and characterization of G-Protein coupled receptor-ion channel hybrids to prepare highly stable bilayer membranes that can be used for chemical sensing, pharmaceutical screening, and clinical diagnostic applications.

While in Grenoble Dr. Aspinwall and Mr. Agasid stayed at the guest house at the European Synchrotron Facility. Dr. Aspinwall enjoyed his time in lab, of his time in Grenoble he says that "The time in the lab here and the relationships that have been established have been very memorable and I am anxious to continue our work." The GREET program opened a very important door and made it possible for him to spend time with his new collaborators and to discuss and plan extensively how to proceed. There he and Mr. Agasid were able to learn new techniques and making a new sensor protein that will form the basis for some of their future work. Mr. Agasid said of his time there, "I got very lucky. Lucky that Craig and I were able to come to France thanks to the ACS GREET Fellowship, and experience different European lifestyles. It would be mind-numbing to try and qualitatively describe in words my feelings towards my seven weeks over in another country. But I can say I'm happy." Read more about their trip and experience at [their blog](#).



from Amanda Davis This summer I spent three wonderful months doing research at the University of Queensland in Brisbane, Australia! I was part of the BRAVO! (Biomedical Research Abroad: Vistas Open) program, in which Undergraduate Biology Research Program (UBRP) students apply to work in a foreign research lab.

My work in Dr. Ulrike Kappler's lab focused on two proteins involved in the anaerobic respiration of the human pathogen- *Haemophilus influenzae*. This pathogen is one of the leading causes of middle ear infection in the U.S.

among other diseases. One of my major tasks was developing a system in which these novel proteins could be isolated. I was also looking at the preferred substrate of one of the proteins- DmsABC. This enzyme seemed to be a dimethylsulfoxide (DMSO) reductase by sequence homology to other related bacteria, but DMSO cannot be a possible substrate, as *Haemophilus* is a human pathogen. One possible substrate within the human body is methionine sulfoxide (MetSO). I looked at the rate at which DMSO was reduced by DmsABC as compared to the rate at which it reduced MetSO. I accomplished an enormous amount of molecular biology and learned a great deal about working with a pathogen in my eleven weeks. The science was not the only exciting part of my trip. The beautiful city of Brisbane was built along a quaint river and offered opportunities for theater, night life, and meeting people from all over the world.



from Allena Goren This summer, I had the amazing opportunity of working under Dr. Anabella Ivancich in Saclay, France on nitrophorin 2, a protein found in the kissing bug. Under the BRAVO! program and thanks to the help of my mentor, Dr. F. Ann Walker, I was able to live in Paris, fully funded, for two and a half months while doing research at the Atomic Energy Commission, a large, government run research institute. The research and cultural experiences that I gained while in France have been invaluable to me.



Nitrophorins are heme proteins found in the saliva of the kissing bug. They bind and stabilize nitric oxide in the saliva of the *Rhodnius prolixus*, or kissing bug, and release the nitric oxide when transferred in to the tissue of the victim. The pH dependent mechanism also includes binding histamine. This process dilates the blood vessels and capillaries of the victim while simultaneously decreasing the reaction of the victim, giving the bug time to obtain its blood meal. Recently, this protein has also been identified to have peroxidase activity. Using molecules like hydrogen peroxide or peroxyacetic acid, the protein can deactivate different substrates, such as norepinephrine, a molecule that constricts the blood vessels, preventing the bug from feeding. *R. prolixus* is one of approximately 15,000 species of blood-sucking insects. Two of these species, *Rhodnius prolixus* and *Cimex lectularius*, have been found to have very sophisticated small molecule transport proteins. The study of these transport systems can better help us understand how these bugs are able to feed on the blood of their victims. My project focused on the novel peroxidase function of the nitrophorin protein with different substrates.

I was very lucky to spend my summer in France. I got to experience French culture, travel and learn about the European lifestyle. The laboratory I was working in was very international, with people from France, England, Germany, Argentina and many other places.

Tara L. Archuleta | PhD candidate, Chemical and Physical Biology Program, Vanderbilt University I

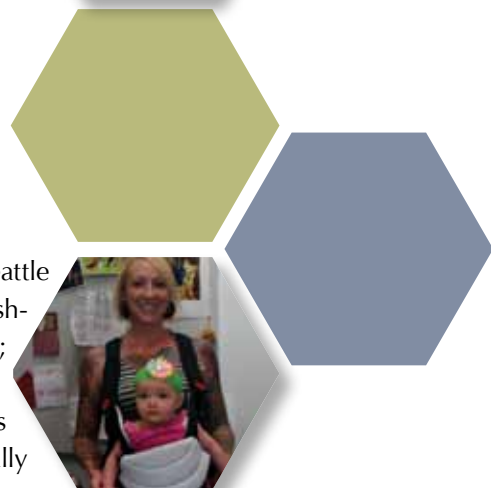
received my B.S. degree in Biochemistry and Molecular Biophysics in 2008 at the University of Arizona. I am currently a PhD candidate at Vanderbilt University in the Chemical and Physical Biology Program. The education I received through the Department was superior in course work and scientific training. Students in the Department are held to a level in which to gain knowledge from upper level chemistry, mathematics, biology, and biochemistry courses. This interdisciplinary approach prepares its students for various carrier aspirations. I also received a great amount of laboratory experience from the Biochemistry Department.

Students are to focus on a senior research thesis for graduation, but we were also encouraged to start exploring undergraduate research in our earlier college years. My early exposure to scientific research and training led to a first author publication as an undergraduate researcher.

Along with the academic aspects of the Department, involvement with the faculty and staff was critical to making my college experience in the Department a high quality experience. The faculty is always available to answer questions that the students have. The staff is a key element that allows the Department to operate smoothly, and they are also there to lend a guiding voice and assistance with administrative questions. All of these tools that the Department has given me has led me to be on a path of academic research.



Dr. Lani T. Lockett | Ph.D. I was born and raised in Hawai'i and moved to Seattle where I earned my Bachelor's degree in Chemistry from The University of Washington. The city was amazing and I feel the education I received was outstanding; however, the weather was never something I was able to get used to. After graduating I decided to move to Tucson because of the sunny, warm weather as well as the University. I learned so much through my Ph.D. work here, not only scientifically but also about myself. The program was rigorous, and at times exhausting, but the accomplishments I achieved were well worth the effort. The faculty I worked with, particularly Dr. Dennis L. Lichtenberger and Dr. F. Ann Walker, were great motivators and I will always value the lessons I learned from them.



Upon graduation I was offered a position as a General Chemistry instructor, which I enthusiastically accepted. I feel so grateful to teach new, upcoming freshman about this subject I have such a passion for. Tucson is an amazing community as is the Chemistry and Biochemistry Department and I am so happy to be given the opportunity to stay here and raise my family. I am thankful not only to be able to live and work in a town I have fallen in love with but to be surrounded by so many supportive people that are also great influences on my daughter, Lily, I lovingly call "my little electron."

celebrating our donors

Carl Marvel Memorial Scholarship Endowment

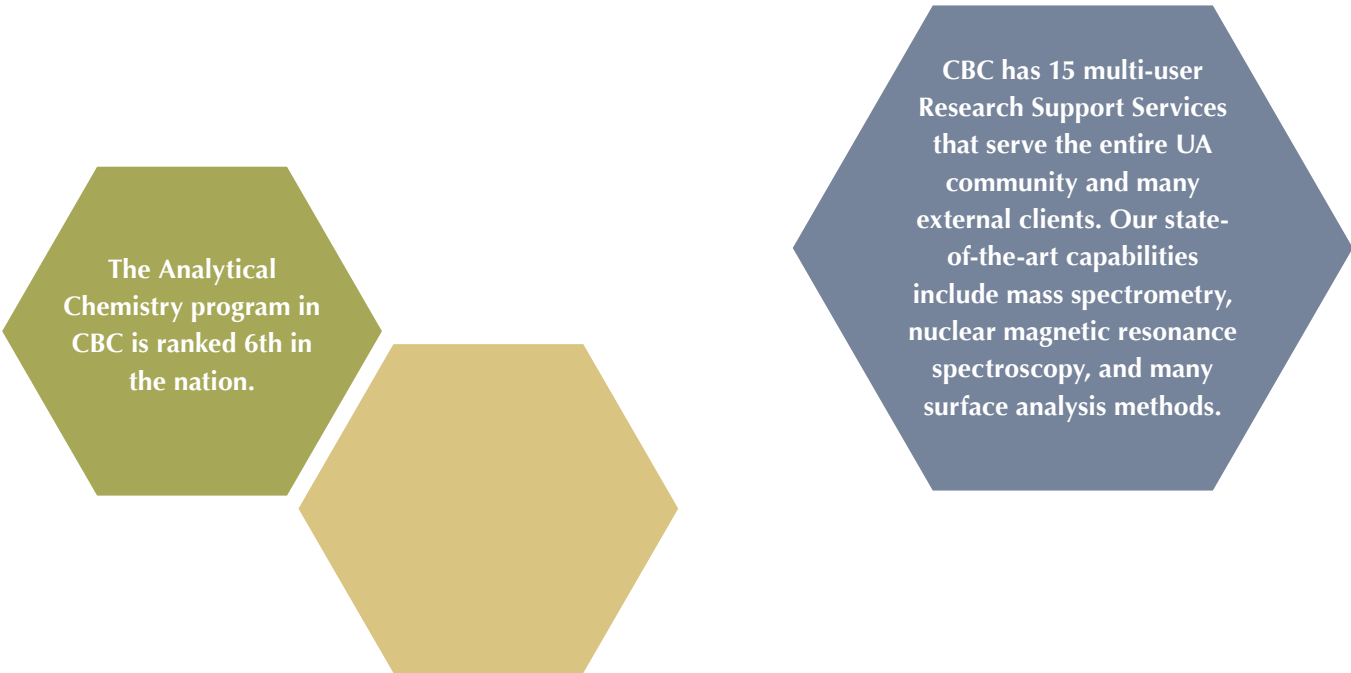
Established May 2003

Source: A gift to the University of Arizona from friends, family, colleagues, and the Southern Arizona Section American Chemical Society, to establish a memorial in recognition of Professor Carl S. Marvel. Over his lifetime, Professor Marvel's many accomplishments have positively impacted all of our lives. In addition to his many scientific accomplishments, his dedication to education is well known.

Background: Carl S. "Speed" Marvel served as a respected faculty member in the Department of Chemistry for twenty-six years. He was a distinguished research scientist of world stature in the area of polymer chemistry and also an inspiring colleague, teacher and mentor. In 2011, the Carl Marvel Memorial Scholarship Endowment was again recognized by the Marvel family with a substantial donation from the estate of Carl S. Marvel. This generous gift will sustain the scholarship endowment for many years to come.

Eligibility: For the outstanding Chemistry graduate student in the Department of Chemistry and Biochemistry.

Selection: Selection is made upon the recommendations from the Department of Chemistry and Biochemistry subject to the approval of the College of Science Scholarship Committee.



The Analytical
Chemistry program in
CBC is ranked 6th in
the nation.

CBC has 15 multi-user
Research Support Services
that serve the entire UA
community and many
external clients. Our state-
of-the-art capabilities
include mass spectrometry,
nuclear magnetic resonance
spectroscopy, and many
surface analysis methods.



The Harry W. Edwards Chemistry Memorial Scholarship Endowment Fund in the College of Science

Established August 2011

Source: The Donor from time to time, by gift, bequest, devise, or other arrangement may make donations of cash, marketable securities or other assets deemed acceptable by the Foundation to the Fund. The Donor or any interested individual, corporation or foundation may make additional gifts to the Fund at any time.

Background: “When I think of all the lessons of graduate study, none is more important than gratitude,” said Harry W. Edwards, a 1962–1966 graduate student in the Department of Chemistry at the University of Arizona. “I am grateful for the opportunity to be a member of Professor Myron Corrin’s research group in surface chemistry, and I am grateful for the opportunity to take classes from outstanding professors such as Corrin, Henry Freiser, and Quintus Fernando. I am grateful for the opportunity to contribute to Professor Reuben Gustavson’s pioneering, closed-circuit-televised general chemistry class, and I am grateful for the opportunity to attend weekly seminars and colloquia presented in the Department by internationally prominent scientists. Most of all, I am grateful for the spirit of personal and scientific integrity which was imparted to me as a part of my experience at Arizona.” After completing his Ph.D. at Arizona, Harry served for 41 years as Professor of Mechanical Engineering at Colorado State University. Retired in 2007, Harry taught graduate and undergraduate courses in thermodynamics, air pollution control, and pollution prevention. His CSU research included effects of lead in the environment, catalytic decomposition of nitric oxide, industrial energy efficiency improvement, and properties of supercritical carbon dioxide. In retirement, Harry serves on the City of Fort Collins Natural Resources Advisory Board and as Vice President of the CSU Society of Senior Scholars. This spirit of gratitude motivated Harry to establish an undergraduate scholarship in the Department of Chemistry and Biochemistry at the University of Arizona. “I can think of no better way to express my gratitude than to offer a helping hand to a chemistry major who might thus be encouraged to pursue graduate study and an academic career.”

Eligibility: Each recipient of the Harry W. Edwards Chemistry Memorial Scholarship shall be a United States citizen, an Arizona resident, and a full-time undergraduate student pursuing a baccalaureate degree in chemistry in the College of Science at the University of Arizona. The award is renewable as long as the recipient maintains 3.0 GPA but for no more than three years. Each recipient must be enrolled in an American Chemistry Society approved program of study in chemistry.

Selection: Recipient shall be selected by the Head of the Department of Chemistry and Biochemistry with the approval of the Dean of the College of Science.

Dr. Victor P. Thalacker Chemistry Graduate Fellowship Endowment Fund

Established September 2009

Source: The Thalacker Family, Stillwater, MN. The Thalacker family continues to contribute to his endowment each year.

Background: The endowed fellowship is being established by the Thalacker Family to recognize the importance of the University of Arizona and the Department of Chemistry on Victor's career success. Victor obtained his PhD in Organic Chemistry, under the direction of Professor Robert B. Bates from the University of Arizona in 1968. He then spent 35 years at 3M Company in a variety of chemistry, engineering, and management positions. Since his retirement, Vic has committed his energies to a variety of community activities including Habitat for Humanity, and the development of safe water supplies for communities in Tanzania. Victor and Connie feel strongly about the value of education and in particular the importance of chemistry in the life of human kind. They wish to encourage, by the establishment of this fellowship, leading students in their pursuit of advanced degrees in chemistry at the University of Arizona. The entire Thalacker Family recognizes the importance of fellowship and community involvement in personal success and would like to encourage the continuation of these ideals in future citizens of the United States.

Eligibility: Eligible students for this fellowship shall be a student in good standing in the PhD program in the Department of Chemistry and Biochemistry at the University of Arizona. The student will have completed their second or third year of graduate studies in either organic or inorganic chemistry or a sub-discipline of either and have been admitted to candidacy for the PhD degree. The student must be either a US citizen or have been granted permanent resident status of the US.

Selection: The selection process will be established and carried out by the Graduate Program Committee with final approval by the Chemistry and Biochemistry Department Head. The selection process will be in accordance with established Department and university procedures.

Dr. Harold McNair Staff Awards

Established 2008

Source: Gift of \$1,000 yearly for 20 years.

Background: In 2008, Dr. McNair was invited to the University to receive an honorary alumni award from the Department of Chemistry. During his visit, he had the opportunity to talk to and interact with Chemistry Staff members and was impressed by the depth, talent, and dedication of the individuals he met. Dr. McNair proposed to give \$1,000 yearly for 20 years as an award to recognize and celebrate staff members. The McNair Staff Award honors staff members who have dedicated service to the Chemistry & Biochemistry Department. Winners are recognized for exceptional performance, making them valued and knowledgeable employees of the Department.

Eligibility: All permanent CBC staff members (Classified and Appointed Personnel) are eligible to receive this prestigious award. This award honors staff members for their dedicated years of service to the Department in the areas of innovation and creativity, communication and collaboration, and service to the Chemistry and Biochemistry Department.

Selection: The recipient shall be selected by a committee of staff members from the Department of Chemistry and Biochemistry with the approval of the Department Chair.



Charles Y. F. Hoyt Undergraduate Scholarship Endowment in Chemistry and Biochemistry

Established May 2011

Source: The Fund is being established by Gene Walker in honor of his uncle, Charles Y. F. Hoyt. The fund will provide financial assistance to undergraduate students in the Department of Chemistry and Biochemistry at the University of Arizona.

Background: Charles Y. F. Hoyt was a dedicated mentor and educator who deeply cared about the future of education. He graduated from high school in Kansas and received his BS degree in Botany from Idaho State University in 1952. He received his Masters Degree from Washington State University, and was employed as an assistant professor at Kansas State in 1954. He left in 1960 as an associate to teach at the Cortez High School in Phoenix, AZ through 1984. His extraordinary contributions to education included various leading positions in the State of Arizona. In October 1985, he was elected President of the Arizona Alliance of Science and Technology while serving as a state, national and life member of the National Science Teachers Association. He played a vital role in the formation of the Arizona Science Olympiad, an organization devoted to improving the quality of science and mathematics education. The Science Olympiad had grown to an organization directed by the Arizona- Nevada Academy of Science with thousands of students. Many of these students graduate with degrees in Biochemistry and subsequently serve society in professional careers. With promotion and help from the University of Arizona, Science Olympiad was a new educational organization for the Elementary level. With such keen interest, Charles Y.F. Hoyt, ACESA Member, President of the New Alliance, held educational, informational and training sessions utilizing University of Arizona personnel. He was greatly impressed and in his own words, "The University of Arizona provides the best." He was an honored recipient of numerous chemical and science field awards of both National and State levels. Mr. Hoyt willingly served the Arizona Alliance for 20 years, without any compensation. In addition, he generously gave funding to Future Farmers, and Science Olympiad, the Mathematics and Science contest in Arizona. He also served as a judge on "Science Fair" for over 20 years. In light of all the above it is very important to him that students have the opportunity to study Biochemistry at the University of Arizona.

Eligibility: The recipients of this scholarship shall be an undergraduate student properly enrolled in the Department of Chemistry and Biochemistry at the University of Arizona. Recipients shall have a minimum cumulative GPA of 2.5 based on a 4.0 scale. In all other respects these funds will be awarded without restriction to race, gender, national origin, age, sexual orientation, or disability.

Selection: Selection of scholarship recipients shall be made by the Chemistry and Biochemistry Department. The award recipient must be enrolled as a full-time student in Chemistry and Biochemistry for the academic year for which the scholarship will be awarded. The scholarship will be awarded annually in the fall semester.

CBC won this year's EduCares Award from UACares. The Dept was selected to receive this award for our efforts in holding the Chili Cookoff to benefit our departmental student scholarship funds. We received a plaque which will be hung on the wall in the BSW main office with the other UACares/United Way Awards we've received.

alumni

n e w s



Sarah Edwards | Class of 2011 | CBC Outstanding Senior, Robert Logan Nugent, UA Senior Award

"The emphasis that the CBC Department places on undergraduate research adds a whole new dimension to undergraduate education. In the classroom, you learn the principles of chemistry and biochemistry. In the research lab, you apply these principles to answer real questions, helping you gain a true understanding of how they work. Regardless of whether you pursue a career in research, medicine, science education, patent law, or any other profession, this hands-on research experience will prepare you to think independently, problem-solve, and understand scientific studies.

In addition to research opportunities offered throughout the CBC Department, CBC classes cover a broad spectrum of biochemical topics taught by professors who are always available outside of class to help you understand class concepts or to discuss topics further. The CBC advising and administrative staff is friendly and will help you navigate your undergraduate career. The Department hosts seminars that expose you to a diverse range of research and holds social events to facilitate interaction between students, faculty, and staff.

My experience in the CBC Department at UA prepared me for graduate school at Stanford University and for a science career beyond."



Micala Rider "Although it's been more than five years since completing my classes for a Degree in Biochemistry at the UA and subsequently joining the US Navy, I recently discovered while preparing to apply for a Master's program that my degree had not gone through due to an error in processing 9 transfer credits. Upon contacting the wonderful Biochem staff, who were not only completely supportive during my studies at the UA, but equally supportive five years later, immediately took the time to do the legwork, since I'm on the other side of the country, and coordinated with degree office to find out what paperwork needed to be completed so I could officially be awarded my degree. They made it happen, and I was extremely grateful.

In addition to the unmatched administrative support, the unforgettable experience of one-on-one faculty mentorship with the late Dr. Michael Cusanovich is immeasurable with all of the unique opportunities within the Department and insights he was always so willing to offer I doubt I could have found a better Biochem mentor anywhere else. Although I am currently not working in the Biochem field there are a surprising number of cross applications for the experience and skill sets I was able to learn and develop while working on projects in both the Hammer Genomics Lab and the BIO5 Proteomics Lab. Having the opportunity to work with such phenomenal faculty on such interesting projects and staff who truly cared about their students definitely helped shape the direction of my studies for the better and prepared me to take on whatever projects happened my way, whether they be in the sciences or life in general."

Jennifer Corrigan | PharmD, Undergraduate Class of 2006, Pharmacy Class of 2010 “When I began as an undergraduate in 2001, I was not sure what my future career path would be so I chose the biochemistry major as it would provide the perfect mix of my interests. An assignment in one of my core biochemistry classes ultimately sparked my interest in pharmacy. As a graduate student at the U of A College of Pharmacy, I found that my undergraduate degree provided an excellent background to the science of pharmacy. I am currently a Critical Care Pharmacy Resident at The Hospital of the University of Pennsylvania. I frequently appreciate the academic and research experience provided to me by my undergraduate degree as I find the knowledge and skills learned contribute to my daily practice.

As with my experience, I know the rigorous coursework of my undergraduate degree was instrumental in allowing my classmates to pursue a variety of career paths. In addition to the academic experience, my role as an undergraduate research assistant in the lab of Dr. Elizabeth Vierling was an integral part of my education. The ample opportunities for research in the Department provide are unique and further contribute to the unparalleled undergraduate experience. Ultimately, the challenging and supportive environment of the Department allowed me to successfully transition into my chosen career.”



Joshua A. Makhoul | M.D. Candidate, Class of 2014 | American Medical Association, University of Arizona Membership Liaison, 2009 Excellence in Undergraduate Research Award, UA Class of 2009, Desert Mountain High School Graduate

The Chemistry and Biochemistry Department at the University of Arizona is outstanding. The requirements and expectations are high, but the achievements gained are well worth the hard work. There are few majors that require a senior thesis at the UA and the Biochemistry program is one of them. This obliges students to begin working in a lab early in their scientific careers. Within the program I met many motivated individuals who had been conducting research as early as their sophomore years in high school; I on the other hand did not get involved until my junior year as an undergraduate. However, I excelled quickly thanks to the encouragement and instruction that I received from the Chemistry and Biochemistry faculty.

The experience I gained in the Olenyuk group led to a publication in the Journal of the American Chemical Society and I was also awarded Excellence in Undergraduate Research for the Department of Chemistry and Biochemistry in the spring of 2009. Such highlights allowed me to secure a position as a pre-doctoral fellow and research technician at the Mayo Clinic in Scottsdale, Arizona in the year following my graduation. During this time I also applied and was accepted to a number of medical schools. I am currently a second year medical student at the University of Arizona and I have continued to conduct my research at the Mayo Clinic when school is not in session. I highly recommend the Chemistry and Biochemistry degree programs to any student who wishes to pursue a career in science or medicine.”

External funding for research and educational programs in CBC over the past 5 years from all sources was \$90M.

Zachary Campbell | Ph.D. in Biochemistry, BS/MS Biochemistry May 2009

“Upon graduating from Tom Baldwin’s group, I managed to escape the searing Arizona climate eventually landing in the Wisconsin tundra. These days I occupy space in the lab of Marv Wickens (UW-Madison) as an NIH postdoctoral fellow. I am having the time of my life working with superbly talented colleagues at the bench and at the chalk board. We recently uncovered a surprising twist in the tale of stem cell maintenance in the reproductive tract and are also developing methods for the analysis of RNA recognition by multiprotein regulatory complexes. Hopefully, either or both of these discoveries will contribute toward our understanding of human health and disease. When this is all over, my hope is to find a job as a professor at a small liberal arts school with good salsa (not flexible on the salsa requirement).”



Looking back on my time spent in Arizona, the emphasis on undergraduate education and training was pervasive. I can recall the array of idiosyncratic techniques I observed the faculty use to get through to students. These ranged from interactive teaching tools (such as electronic polling during lectures) to countless small group discussion sections that would often take place on the weekend. Direct observation and participation in this process profoundly changed my world view. To the faculty and staff of CBC whom work tirelessly at their mission of disseminating the knowledge and practice of science, thank you so very much for your commitment.”

Stephen Lu | 2005 graduate

“During my undergraduate career at the University of Arizona (2001–2005), I had the extreme fortune of working under the guidance of Dr. Michael Wells, and subsequently, Dr. Roger Miesfeld. The training and education I received in the laboratory enhanced classroom learning with practical experience. Having a lab to work in and interacting with a small group of peers on a daily basis gave me a second home on a large campus, where one can sometimes feel lost among the crowd.”

By the time I left the University, I had five years of research under my belt, including an internship at the National Institutes of Health, and a first-author publication in a peer-reviewed journal. Similar credentials are common among University of Arizona graduates, since research opportunities are plenty. They can be rare occurrences at other universities across the nation. Through these experiences, I gained valuable skills and knowledge, and I was able to forge friendships and bonds with colleagues that will last a lifetime.”

More tangibly, the education and training experiences I received from the University of Arizona have allowed me to distinguish myself in the workforce, and to keep myself competitive as I advance my career. Since graduation, I have pursued a career in the field of forensics, and currently work as a Criminalist with the Arizona Department of Public Safety. In the course of my regular duties, I assist law enforcement agencies in the investigation and prosecution of criminal cases by developing DNA profiles from items of evidence and testifying as an expert witness in court. The work ethic and foundation of knowledge I gained from being a biochemistry major has allowed me to expand my duties into performing validations and working with a contract company to audit laboratories across the United States and to provide training to new analysts. This career path has been especially stimulating, as forensic scientists can have exposure to a wide variety of applied scientific fields, such as forensic biology, latent print examination, drug chemistry, firearms analysis, blood alcohol testing, and explosives chemistry. I owe much of my success to the support and training I received from the University of Arizona’s Biochemistry Department, and the unending generosity and patience of my mentors and teachers.”



Katy Lynn Mullens Crowe | B.S. Biochemistry and Molecular Biophysics, 2007 | M.D. The University of Arizona College of Medicine, 2011



"I owe much of my success to The Department of Chemistry and Biochemistry (CBC). When I entered The University of Arizona I knew that I loved science and math and would likely pursue either an MD or PhD. This meant that I needed a solid science background in a well-respected field. I also wanted to feel valued and learn in a supportive environment.

I found exactly what I was looking for in the CBC Department. The professors offered me the highest quality of education. I learned from some the top biochemistry researchers in the country! In addition, the support staff in the CBC Department were always willing to help and a wonderful asset to the students.

The courses I took as an undergrad helped me tremendously in medical school! I learned a work ethic from my undergrad classes that has carried me through medical school and beyond. Where others struggle I can fall back on my tremendous undergraduate training.

I am now an MD in pediatric residency at Phoenix Children's Hospital and am thankful for all that I gained from my time in the CBC Department. **p.s. GO WILDCATS!"**

Erica Hummell | PharmD Candidate, 2012, University of Arizona College of Pharmacy



"I graduated with a bachelor of science degree with a double major in Biochemistry and Molecular Biophysics/Molecular and Cellular Biology from the University of Arizona in May of 2008. I was accepted to the University of Arizona College of Pharmacy to begin in the fall of that same year. The College of Pharmacy at the UA is quite prestigious; it was ranked in the top 5 pharmacy schools of the nation in 2008. I will be completing the program in May of 2012 and graduating with a Doctor of Pharmacy degree.

I strongly credit the Department of Chemistry and Biochemistry with my success. If it were not for the mentorship within the Department, I may not have found that my true passion lies in pharmacy practice. Additionally, the coursework I completed set a robust foundation for my ability to accomplish the especially rigorous coursework within the College of Pharmacy program. I could not be where I am today without the guidance and support offered by the faculty, staff, and students of the Department of Chemistry and Biochemistry. I will always remember the positive impact the Department had on my life."

We have the largest graduate degree program at the UA. Most of our 218 graduate students are pursuing a PhD in Chemistry or Biochemistry.

CBC has 438 and 281 undergraduate majors in Biochemistry and Chemistry, respectively.

staff news



The McNair Staff Award honors staff members who have dedicated service to the Chemistry & Biochemistry Department. Winners are recognized for exceptional performance, making them valued and knowledgeable employees of the Department.

This year's winners were announced at the CBC Commencement Brunch on Thursday, May 13, 2011: Olivia Mendoza and Anne Padias (each with 6+ years of service) and Lori Boyd and Laura Lustro (each with less than 5 years service).

Dr. Harold McNair is a Professor Emeritus of Chemistry at Virginia Tech. He is a pioneer in the development of gas phase and liquid phase chromatography as analytical techniques. He received his BS in Chemistry from the University of Arizona (1955) and his PhD in Chemistry from Purdue University (1959). He has received numerous awards for his work and is widely recognized and celebrated as an outstanding author, teacher, and mentor.



Welcome our new staff!

Long Diep | Accountant, Associate



Kari Duling | Associate Accountant



"I am a native Tucsonan who grew up just blocks from the University of Arizona. I currently work in the business office and oversee the numerous payroll functions that come along with making sure 500+ employees get a paycheck every two weeks! On a personal note, I am pursuing my BS in Accounting and I enjoy doing anything outdoor related. Bring on the mountains, hikes, bikes, and snow!"

Betsy Eigenberg | Administrative Assistant



"As well as working in the Department, I'm also married to a faculty member, Jón Njarðarson.

When I'm *not* working, I like to spend time in nature, creating art or visiting galleries, playing with my dogs and traveling to foreign countries."

Mary Griffin | Administrative Assistant



"While new to academia, I have had the pleasure of working as an administrative professional for over 9 years and feel very fortunate to be the newest member of CBC."

Kriss Pope | Manager, Business & Finance

Keri Reams | Academic Advisor



"My two children and I moved to Tucson to join my husband who was transferred by the Air Force July 2010. I have been working in Higher Education for 10 years, 8 specifically as an advisor. I have found advising is fulfilling because I am able to help people pursue the degree. I am thankful every day that the CBC Department provided me with the opportunity to support the Chemistry students. Go Cats!!"

Jennifer Lian Sia



Jennifer Sia received her Bachelor's Degree in Accounting last May 2010 at the University of Arizona. She then worked at a non-profit Christian agency. A little over a year later, she received a job offer from her Alma Mater. She is now the Administrative Associate of the Graduate Program for the Department. She enjoys the diversity of her new working environment and is excited for new challenges.

Amy Tary, Senior Accountant

Lelanya Yates BIOC Senior Academic Advisor



"I earned my masters degree in Reproductive Physiology from New Mexico State University. My husband works in the Physiology Department at the UA, and we have a 5 month old baby boy. I am enjoying working with our students, staff and faculty as they are highly intelligent and comical at times."

The training program for new Teaching Assistants in CBC is used as a model for other departments on campus.

Five CBC faculty are Regents Professors and four CBC faculty are Galileo Circle Fellows.

commencement

2011

Bachelors—Biochemistry

Atanga Alombah
Briana Anderson, MCB*
Leila Amini, MCB*
Samantha Bomotti, MCB*
Jessie Brown, MCB*
Alberto Bryan
Allison Buhl
Erin Renee Campbell
Tucker Carrocci, MCB*
Shuang Ci, MCB*
Jennifer Collins
Matthew James Cornelison
Erik Cole Dillingham, PHYS*
Jeremy Driscoll, MCB*
Xim In Du, PSIO*
Zachary Simon Dukerich
Sarah K. Edwards, MCB*
Joseph Farmer
Christopher Gay
Sarah Garrett
George Georgiev
Sabri B. Germain-Gomuc
Robert T. Gonzalez, MCB* ENG**
Tara Hill
Travis K. Holmberg
Raeann Jarvis Redford
Beryl Magnolia Jones, MCB, EEB*
Laurel B. Kartchner, SPAN*

Natasha B. Kong MCB*
Mounir A. Koussa, CHEM*
Destiny Lagrand
Wan-ting (Jessica) Lai
Damidie Lare
Andrew Stanley Larsen, MCB*
Yen Shan Lim
Yibu Liu
Greggory Longoni
Rinu T. Manacheril
Justin Mauser
Claudia Meece MCB**
Kimberly Meyers MCB*
Michael R. Mitchell, MCB, MATH*
Alan Moghaddam
Jamie Moy
Amy Nguyen
Claire Nichols, CHEM*
Chioma Uzoamaka Nnamdi-Emetarom
Aleksandra Obradov, MCB*
Scott Carson Ogle
Hershil Parek
Alyssa Peake
Loren Pojunos, CHEM*
Kristen Sanders, CHEM*
Christina Schall
Thomas Shea
Meytal Shtayer, MCB*
Christopher Lee Shultz

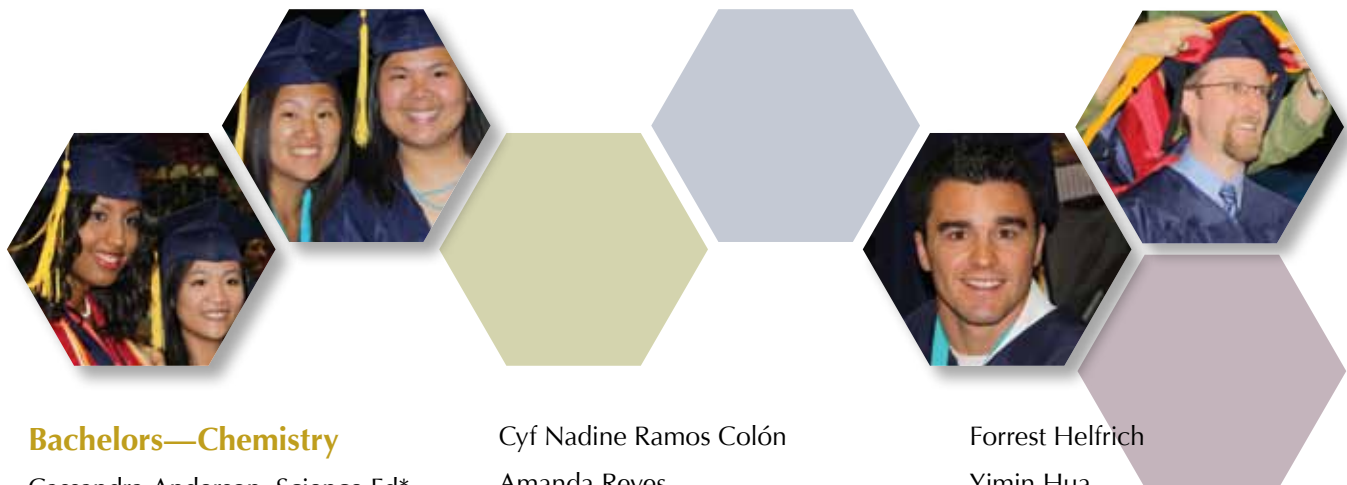
Tiffany Son, MCB*
Weston Stover, STDO*
Derrick Sund, MATH*
Heather Talley, MCB*
Jonathan En Tang
José-Marc Techner, ECON*
Huong Truong, LAS, CHEM*
Andrew Tseng, MCB, ECON*
Wai Man Tsui
Roland Ugho
Mary-Helen Wanat
Gabrielle Winston-McPherson
Shari Wipf, MCB*
Adele Zhou, MCB*

Master of Science— Biochemistry

James Gillard
Paul Fix, General Biology

Doctorate—Biochemistry

Joseph Boyd, BMCB
David Briggs, BMCB
Sam Jayakanthan
Reid McCarty
Alberto Rascon
Christian Roessler



Bachelors—Chemistry

Cassandra Anderson, Science Ed*
 Tyler Anderson
 Cayla Baynes
 Brian Bertino
 Matthew Leland Bertrand
 Kyle Boardman
 Alfonso Camacho
 Alec Coffman
 Douglas Collins
 Kurt James Cox
 Joshua Davis-Salsbury
 Maxfield DiSante
 Elizabeth Enriquez
 Michael Evans
 Ahmed T. Gaber
 John Green
 Jacob M. Greenacre
 Joshua Michael Hightower
 Luis Huizar
 Catherine Lavin
 HaNa Lee
 Du Lee Lee
 Kimberly Mahoney
 Nathan Marsh
 Krista Parry

Cyf Nadine Ramos Colón
 Amanda Reyes
 Marissa Reyes
 Suzanne S. Rich, Science Ed*
 Brett Stoll
 Jonathan Torrez
 James Triphahn
 Dominique Villela

Master of Science— Chemistry

Spencer Anthony
 Lucinda Begay
 Alejandro Blanco-Ocampo
 David T. Harris
 Anthony Marshall
 Zachary Scott

Doctorate—Chemistry

Debashree Basudhar
 Michael Blumenfeld
 Tsuhen Chang
 Karen Christian
 Jason Durivage
 Ashley Gucinski
 Ashley Head
 Benjamin Heitz

Forrest Helfrich
 Yimin Hua
 Colleen Janczak
 Erin Kaleta
 Boyun Kim
 Mayank Mayukh
 LaKeisha McClary
 Thusitha Muhadiramlage
 Francis Murigi
 Kristina Orosz
 Diogenes Placencia
 Robin Pulliam
 Femina Rauf
 Debra Janie Salmon
 Sujan Shekhawat
 Takahiro Sakamoto
 Steven Smith
 Tracey Veres-Schalnat
 Hui Wang
 Nicholas Wiebelhaus
 Christopher Zarzana
 Han Zhang

* double/triple major
 ** double/triple degree

student awards

Undergraduate Awards

CBC Outstanding Senior Spring 2011

Sarah K. Edwards

CBC Excellence in Research Spring 2011

Michael R. Mitchell

College of Science and CBC/Neuroscience Excellence in Research Spring 2011

CBC/Neuroscience Outstanding Senior Spring 2011

Mounir A. Koussa

CBC Outstanding Senior Fall 2010

Robert T. Gonzalez

CBC Outstanding Undergraduate Senior Thesis

Beryl Magnolia Jones

Michael R. Mitchell

Michael A. Wells Memorial Research Scholars

Ersilia Anghel, 2011

Aeen Asghar, 2011

Alice Cai, 2011

Aubri Carman, 2011

Michael Nelson, 2011

Angela Yazzie, 2011

Samantha Bomotti, 2010

Laurel B. Kartchner, 2010

Mounir A. Koussa, 2010

Meytal Shtayer, 2010

Sarah K. Edwards, 2009, 2010

Graduate & Undergraduate Awards

Galileo Circle Scholars

Ersilia Anghel, 2011

Jennifer Bao, 2011

Christan Bell, 2011

Anne Blackwell, 2011

Jessie Brown, 2011

Karen Christian, 2011

Amanda Davis, 2011

Andrea Hartzell, 2011

Andrew Ma, 2011

Nina Martin, 2011

Tiffany Mealman, 2011

Sukeshi Mehta, 2011

Michael R. Mitchell, 2011

Tarik J. Ozumerzifon, 2011

Kristen Sanders, 2011

Meytal Shtayer, 2011

Lindsay Zack, 2011

David Briggs, 2010

Jessie Brown, 2010

Karen Christian, 2010

Alec Coffman, 2010

Kurt James Cox, 2010

Sarah K. Edwards, 2010

Robert T. Gonzalez, 2010

Ashley Gucinski, 2010

Forrest Helfrich, 2010

Mounir A. Koussa, 2010

Justin Mauser, 2010

Andrew Tseng, 2010

Nicholas Wiebelhaus, 2010

Beryl Magnolia Jones, 2009

Huong Truong, 2009

Carl S. Marvel Scholars

Anne Blackwell, 2011

Lindsay Zack, 2011

Erin Kaleta, 2010

David E. O'Brien Graduate Fellow 2011

Logan Ahlstrom

John Hostetter Scholar 2011

Sara Hall

College of Science Graduate Student Awards 2010–2011

Biochemistry Teaching

Sam Jayakanthan

Biochemistry Service

Alayna George Thompson

Biochemistry Research

Ian Borukhovich

Chemistry Teaching

David T. Harris, 2011

Karen Christian, 2010

Chemistry Service

Tsuhen (Michelle) Chang

Chemistry Research

Erin Kaleta

Special Recognition

Barry M. Goldwater Scholar 2011

Ersilia Anghel, 2011

Beryl Magnolia Jones, 2010

Michael R. Mitchell, 2008

Beckman Scholar 2011

Andrew Ma

Ecology & Evolutionary Biology, Outstanding Senior and Excellence in Research Spring 2011
2011 Edmund A. Arbas Memorial Award for Excellence, from Neuroscience

Beryl Magnolia Jones

Honors College Outstanding Senior 2011

Jessie Brown

Robert Logan Nugent Award Recipient—UA Senior Award 2011

Sarah K. Edwards

2011 National Science Foundation (NSF) Graduate Research Fellowship Program (GRFP) Fellows

Sarah K. Edwards &

Michael R. Mitchell

Mathematical Modeling of Biomedical Systems Pre-doctoral Trainee 2011–2012

Logan Ahlstrom

2011–2012 American Chemical Society (ACS) Congressional Fellow

Emily Grumbling

Danny Brower Memorial Scholar 2009

Tucker Carrocci

Gilbert E. Escalante Memorial Scholar 2009, 2010

Mary-Helen Wanat

John Hostetter Scholar 2008

Joseph Boyd

BCP NIH Trainee 2009 & 2010

Biochemistry Outstanding Scholar 2010

Science Foundation Arizona Graduate Fellowship, 2007, 2008

Reid McCarty

ARCS Scholar 2009

John Hostetter Scholar 2007 & 2008

Alberto Rascon

Biochemistry Outstanding Service 2009

Lela E. Booher Scholar 2007

Christian Roessler

Proctor & Gamble Scholar 2010

Ashley Gucinski, 2010

Benjamin Heitz, 2009

2010–2011 Chateaubriand Fellow of the Embassy of France in the US, Office of Science and Technology

David E. O'Brien Graduate Fellow 2009

Ashley Gucinski

BCP NIH Trainee 2009

Wayne L. Cody Scholar 2010

Erin Kaleta

NIAAA/NIH Predoctoral Fellow 2009–2011
Chemistry Outstanding Service 2010

Debra Janie Salmon



CBC Undergraduate Poster Fair 2011

Biological Emerging

1st Place: Matthew Cornelison

2nd Place: Jamie Moy

Honorable Mention:

Shiana Ferng &

Jennifer Bao

Physical Science Emerging

1st Place: Jessica Roberts

2nd Place: Abby Gelb

Honorable Mention:

Spencer Carey

Biological Science Accomplished

1st Place: Andrea Hartzell

2nd Place: Andrew Ma

Honorable Mention:

Aubri Carman &

Meytal Shtayer

Physical Science Accomplished

1st Place: Kurt James Cox

2nd Place: Mounir A. Koussa

Honorable Mention:

Kristen Sanders

Viewer's Choice

Mai Ngo &

Jacqueline Platta

community outreach

Chem Club sponsors HHW "Household Hazardous Waste" is a program that helps local Tucson residents dispose of hazardous waste. It's the first Saturday of every month that our SMAC (Student Members of the American Chemical Society) members give up to go to this event and help local firefighters dispose of hazardous household chemical waste.



HHW



Race for the Cure Volunteers: Logan Ahlstrom (participant), Jennifer Gibbs (participant), Steven Gunawan, Don Kavanagh, Dmitry Khuseynov, Brooke Beam

Chem
Camp



Chemistry Can Be Fun! A series of three weekend events jointly sponsored by the Department and the local section of the American Chemical Society and staffed by the members of the Chem Club along with other staff and students. Autistic students aged 8-15 were first shown some introductory demonstrations and then introduced to our labs where they were guided through actual experiments. They were quite impressed with the silver and gold pennies and the GLOP they were allowed to take home. All agreed, chemistry *can* be fun!



MESA Awards



Chemists can be fun! Staff members Paul Lee and Steve Brown continue to dazzle students of all ages with their demonstration presentations. One event of note was a demonstration competition that paired Steve with Bruce Bayly of the Physics Department. They put on competing demonstrations for a MESA (Mathematics, Engineering, Science Achievement) awards banquet. Steve is convinced he proved Chemistry is more exciting than Physics.

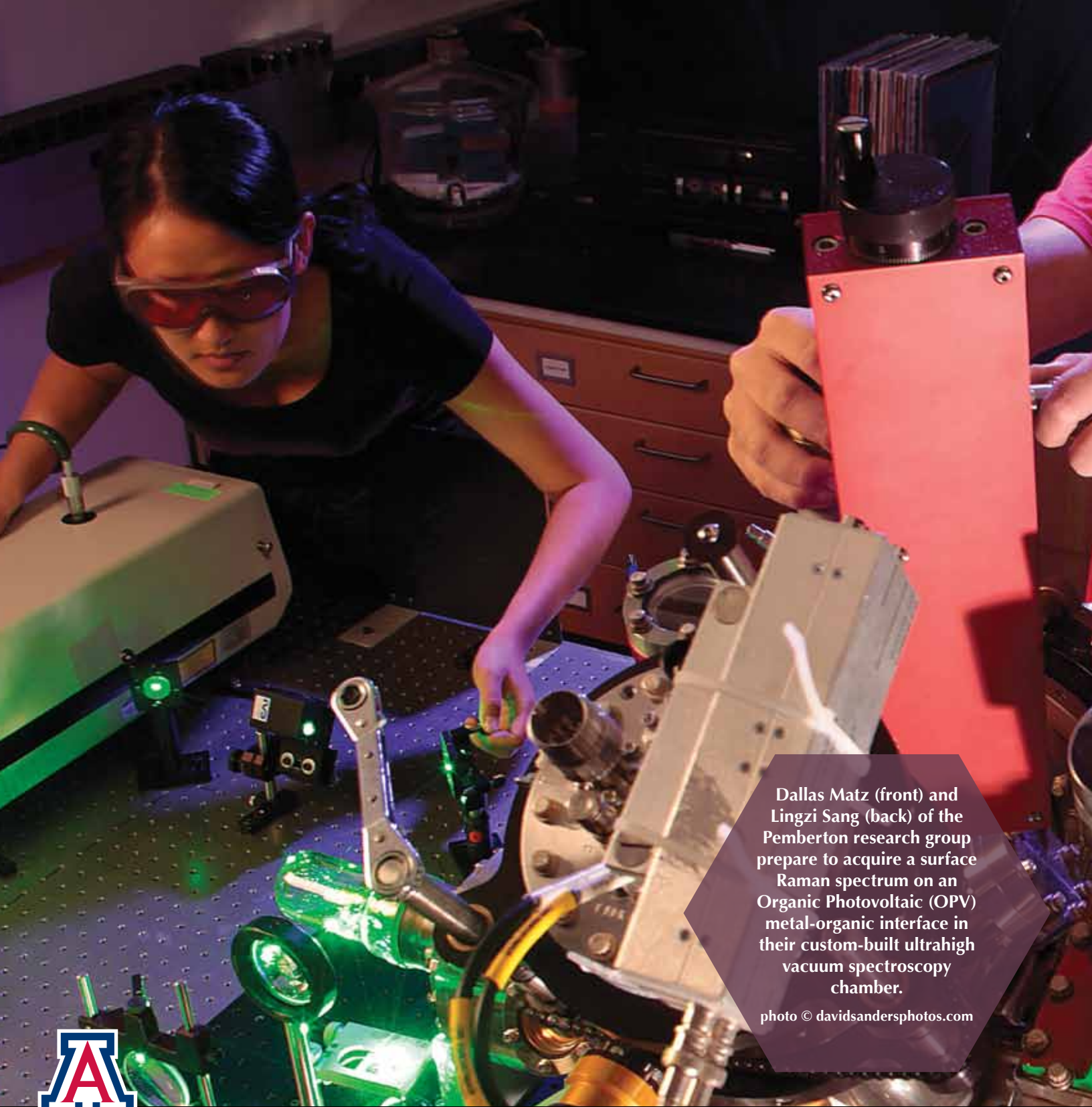
Chem Club Magic Demo Show SMACS (Student Members of the American Chemical Society) continues to fill Chem 111 with audiences of all ages for their numerous demonstration shows held during Parents Weekend.



Scientist



Dye Party



Dallas Matz (front) and Lingzi Sang (back) of the Pemberton research group prepare to acquire a surface Raman spectrum on an Organic Photovoltaic (OPV) metal-organic interface in their custom-built ultrahigh vacuum spectroscopy chamber.

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