

### *Chair's Welcome*

How time flies! This year marks the 50th anniversary of the UCR Chemistry graduate program (the 1<sup>st</sup> at UCR!). We hope that you can join us June 17-19 for a celebration of our golden anniversary. The festivities will begin at 5:00 pm Thursday, June 17 with a reception and poster session by graduate students. The program on Friday, June 18 will feature a day-long symposium of presentations by chemistry alumni at the new Highlander Union Building (HUB), followed by a banquet at the Mission Inn. Saturday, June 19 will include a continental breakfast and individual activities. This celebration will be a wonderful opportunity to renew old acquaintances and make new friends - I hope to see you there. Details can be found at (<http://cnas.ucr.edu/chem50th/>).

We continue to recruit outstanding faculty and

students to our program. The Department currently has 27 Chemistry faculty (6 Distinguished Professors), approximately 120 Ph.D. students (the largest Ph.D. program in the College), 57 postdoctoral scholars, and 140 undergraduate majors.

Based upon a positive extramural program review we are hiring a career lecturer position to further strengthen our General Chemistry program. We have also initiated an "Honors in Chemistry" program in collaboration with the University Honors Program. Even in these challenging financial times the Chemistry department continues to find a seat for every student, and our majors benefit from the availability of intimately sized upper division courses and lower division honors sections.

The Chemistry Department takes advantage of three

modern buildings for chemical teaching and research. An Annex to Pierce Hall, contains 12 research laboratories. Our Organic Chemistry teaching labs moved into the Science Laboratories building in 2003. And, in 2005 all of the research labs from Pierce Hall moved to the 70,000sf Chemical Sciences Building with laboratories for 28 research groups.

The Chemistry Department continues to provide an outstanding environment for graduate and undergraduate studies. We have excellent facilities equipped with state-of-the-art instrumentation, and our faculty are routinely honored with national awards for research and campus awards for excellence in teaching and research.



Please visit our website  
(<http://www.chem.ucr.edu>).

### **50<sup>th</sup> Anniversary Celebration and Symposium: June 17-19, 2010.**

The Chemistry 50th Anniversary Celebration is a "golden" opportunity to recognize the accomplishments of the graduates of the Chemistry program during the 50 years since it was initiated as the 1<sup>st</sup> Graduate Program at UCR. Graduate and undergraduate alumni, current students, and past and current faculty have been invited to campus to share their UCR experiences and current activities.



The event opens with a welcome reception on Thursday, June 17, in the Chemical Sciences Building. A symposium on Friday, June 18, in 302 Highlander Union Building (HUB) is followed by a recognition banquet at the Mission Inn. A choice of activities is available on Saturday morning, June 19 (<http://cnas.ucr.edu/chem50th/>).

## Chemistry Department Highlights for 2009

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*March 2010.* DeVonna Gatlin (center) of the Chem Club helps recruit top scholarship students during CNAS Undergraduate Preview Day.

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*February 2010.* Yadong Yin was selected to receive a 3M Nontenured Faculty Award, which recognizes outstanding new faculty for the quality of their research. The award includes \$15K/year in research grant support.

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December 2009. The National Science Foundation awarded Professor Yadong Yin a CAREER award to support his work on the development of new fabrication methods for magnetically tunable photonic

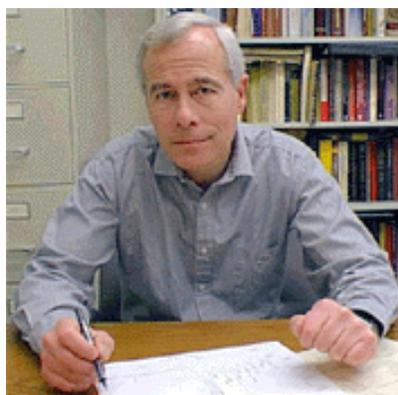
crystal structures and to explore their applications.

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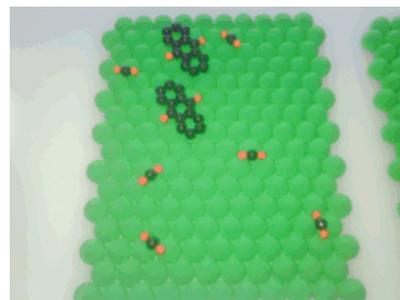
*December 2009.* Eric Chronister (currently serving as Chair) was elected as a Fellow of the American Association for the Advancement of Science. Dr. Chronister was cited for his distinguished contributions to the study of dynamics in molecular solids, particularly ultrafast spectroscopic studies of molecular materials under extreme temperature and pressure conditions.

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*December 2009.* DOE EFRC Grant for Dave Bocian. David Bocian received more than \$1 million as a co-investigator in the Photosynthetic Antenna Research Center (PARC), an Energy Frontier Research Centers of the DOE.

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*November 2009.* The President of Germany, Horst Koehler, opened the Center for New Technologies at the Deutsche Museum in Munich, which includes an exhibit from the Bartels Lab showing his system of Molecule Carriers.

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*November 2009.* In a recent article in Science, the Bertrand group shows the synthesis of abnormal N-heterocyclic carbenes, which previously had been believed to be unstable yet may prove very useful catalysts in pharmaceutical chemistry.

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*September 2009.* Professor Chia-en Chang was awarded the 2010 HP Outstanding

Junior Faculty award from the ACS Division of Computers in Chemistry, presented at the Fall ACS National Meeting and highlighted in the August 24 issue of C&EN.

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July 2009. Congratulations to Professor Francisco Zaera for his selection as an inaugural Fellow of the American Chemical Society in recognition for outstanding contributions to science, the profession, and the society.

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June 2009. Yadong Yin fabricated microscopic polymer beads that change color when exposed to external magnetic fields. Applications include displays, rewritable or reusable papers, and magnetically activated security features.

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May 2009. Professor Yadong Yin was named a 2009 Cottrell Scholar for his proposal entitled "Self-Assembly of Superparamagnetic Colloids to Field-Responsive Photonic Crystals". The honor also included an award of \$100K.

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May 2009. Professor Thomas Morton received the 2009 Chancellor's Award for Faculty Excellence in Undergraduate Research. Dr. Morton has tirelessly mentored undergraduates. Students expressed great appreciation for his mentoring and many commented on the life changing aspect of their experience.

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February 2010. The Chemistry Department Chair presented Science Fair Awards to: Kevin Zhang (Senior Division), "How Do NO<sub>2</sub> Levels Differ at Different High Schools in Riverside?"; Timothy Koo (Junior Division), "Does it Like (Hydrophilic) or Dislike (Hydrophobic) Water?"; and Elsie Herman (Elementary Division), "Cookie Chemistry."

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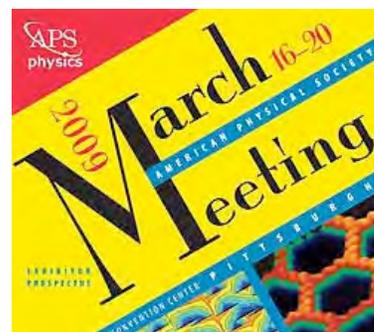


May 2009. Congratulations to Christopher Reed for Selection as the 58<sup>th</sup> annual Faculty Research Lecturer - the highest Academic Senate honor. His lecture is titled "The Strongest Acid". The selection committee highlighted the international acclaim for Dr. Reed's contributions to organic, inorganic, and physical chemistry.

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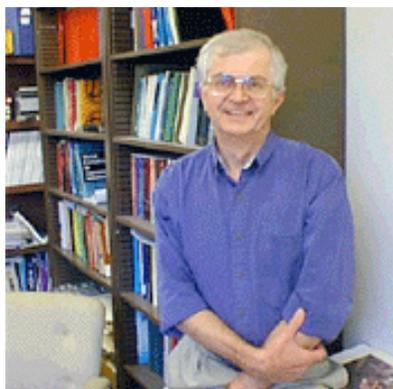
September 2008. Distinguished Professors Chris Reed and Guy Bertrand were both invited to give the two plenary lectures at the International Meeting on Boron Chemistry (XIII), which was attended by 300 chemists from 27 nations.

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March 2009. The research of the Bartels group was highlighted on the cover of the program book of the March meeting of the American Physical Society in Pittsburgh, the largest physics meeting in the United States.

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February 2009. Dallas Rabenstein, Distinguished Professor of Chemistry, was appointed Executive Vice Chancellor and Provost of UCR.

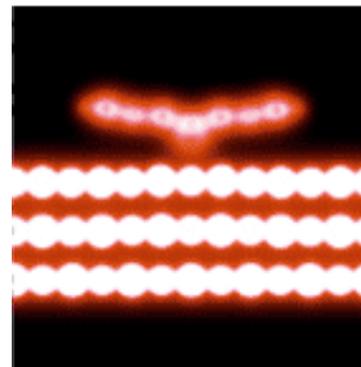


March 2010. The cover art of the Journal of Physical Chemistry Letters, highlighted Dr. Zaera's research. The issue also included an invited "Perspective" entitled "The New Materials Science of Catalysis" This work builds on Dr. Zaera's recent papers in *Nature Materials* and in *PNAS* on the preparation of catalysts to control selectivity for interconversion of cis and trans hydrocarbons.



January 2009. Professor Larive was recognized by the American Association for the

Advancement of Science as a 2008 Fellow. Dr. Larive was cited for her significant contributions in applying NMR diffusion measurements to characterize complex mixtures, polydisperse samples, and ligand-protein interactions.



November 2008. Microscopic Reversibility Imaged Directly. Nature Chemistry highlights experiments of the Bartels group that visualize Tollmans Principle of Microscopic Reversibility for single molecules diffusing in an asymmetric potential.

## Community Outreach 2009



Graduate Student Kelly Theel (center), volunteering at the CoperniKids Science & Engineering Exposition.



Graduate Students Tony Ly and Kim Worsley performing science demonstrations at Highgrove Elementary School Science Assembly.

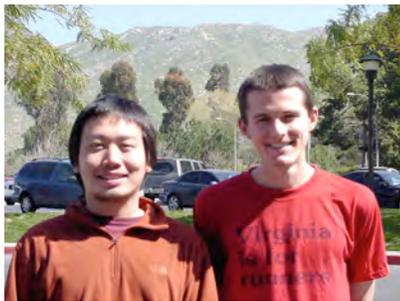


More elementary school demonstrations by Tony and Kim.

## Student Highlights for 2009-10

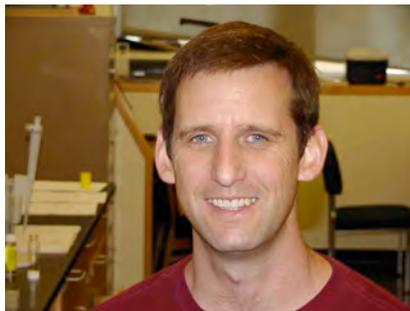
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### Graduate Student Highlight:



*April 2009.* Chemistry graduate students **Matthew Linman** and **Tony Ly** were selected to join 500 young researchers from around the world at the 59th meeting of Nobel Prize winners in Chemistry this summer in Lindau, Germany. The Lindau Nobel Laureate meetings provide a globally recognized forum for the exchange of knowledge between Nobel Laureates and young researchers. Both Tony Ly and Matt Linman were also awarded prestigious ACS Division of Analytical Chemistry summer fellowships for 2009.

### Undergraduate Student Highlights:



*May 2009.* Congratulations to junior Chemistry major **Robert Young** for receipt of the 2009 ACS Undergraduate Award in Analytical Chemistry. Robert received recognition for his outstanding academic performance and for his undergraduate research in analytical chemistry under the direction of Prof. Rabenstein. Robert will join the Chemistry graduate program in Fall 2010 to pursue a Ph.D. in Analytical Chemistry.

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*May 2009.* **Amy Ferreira** received the 2009 Chancellor's Award for Student Excellence in Undergraduate Research. Amy performed research with Dr. Vullev on charge transfer applications in solar energy, and last summer she performed research on methanol fuel cells at the Technical University in Munich. Amy is pursuing a Ph.D. in physical chemistry at UCLA and she has just been inducted into Phi Beta Kappa.

## Alumni Highlights for 2009

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*September 2009.* **Stacie Eldridge** (UCR Ph.D. July 2009) has been appointed Assistant Professor of Chemistry at Riverside Community College.



*June 2009.* Dr. Ki-Young Kwon, (Ph.D. UCR 2006), has been appointed Professor at Gyeongsang National University.



*July 2009.* Bohdan Schatschneider, (UCR Ph.D. 2008), has been appointed Assistant Professor of Chemistry at University of Pennsylvania, Fayette.

# Graduation 2009

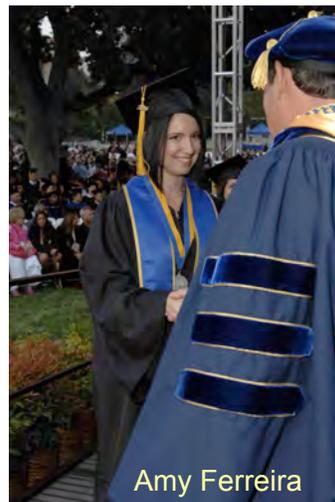
B.S. & B.A. Ceremony June 2009 (30 B.S. & B.A. Degrees Awarded)



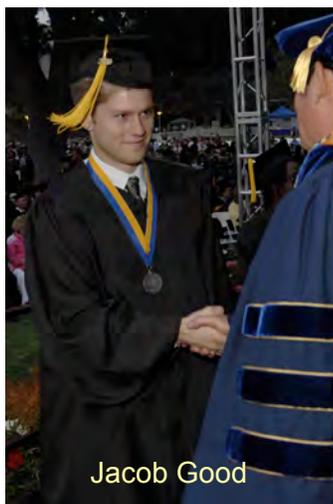
Sandhya Charlu



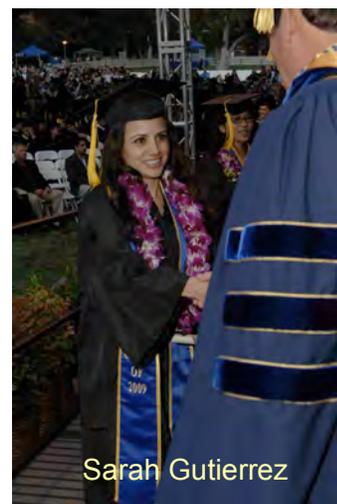
Absalon Diaz



Amy Ferreira



Jacob Good



Sarah Gutierrez



Daranee Yongpradit

Above: a few photos.

Below: list of 2009 degree recipients.

## 2009 BS & BA degrees

Kara M. Brown  
Sandhya S. Charlu  
Eugene Cho  
Min Chol Chong  
Absalon Diaz, Jr.  
Amy S. Ferreira  
Jacob T. Good  
Crismon A. Goude  
Sarah M. Gutierrez  
Moriah A. Jackson,  
Adrian B. Jonan  
Hong Ki Kim  
Steven A. Kirby  
Danny Bui Nguyen

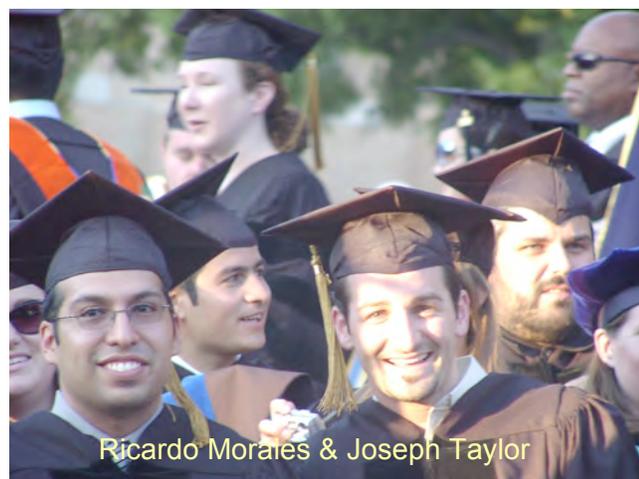
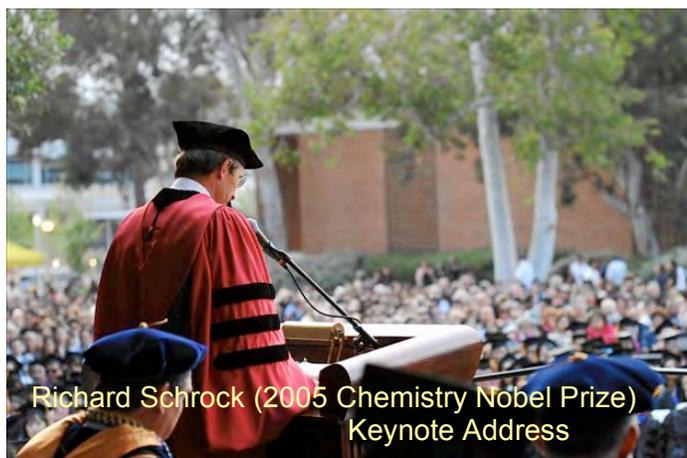
Anh X. Nguyen  
Eugina D. Olivas,  
Tri Minh Pham  
Dmitriy Pastarnak  
Christopher M. Rattray  
Mark D. Reese  
Jacob J. Shaw  
Michael Y. Song  
Nguyen T. Tran  
Thanhnga T. Tran  
Stacy Phuc Tran  
Arpana Vaniya  
Lily Phun Vong  
Daranee Yongpradit

## 2009 PhD degrees

Matt J. Asay  
Lingling Chen  
Yong Bin Lim  
Haiwei Lu  
Khanh T. Nguyen  
Greg Pawin  
Haibo Qiu  
Shohreh Rahbarnia  
Bohdan H. Schatschneider  
Joseph D. Taylor  
Sepideh Yaghmaei

# Graduation 2009

Ph.D. Ceremony June 2009 (12 Chemistry Ph.D. Degrees Awarded)



## New Equipment & Facilities Improvements (2009–10)

This year the Analytical Chemistry Instrumentation Facility (ACIF) added new instrumentation to the comprehensive facilities (<http://acifws1.ucr.edu/acif/>).



An Ultrafast Laser System for Materials Science was acquired through an NSF-CRIF grant submitted by Drs. Chronister and Bardeen.



Three new probes for solid state studies were acquired for the Bruker 600MHz NMR, funded by an NIH grant submitted by Dr. Mueller.



A \$1M X-ray Photoelectron Spectroscopy Instrument funded by an NSF-MRI grant submitted by Dr. Zaera.

## Thank you for your support (chemistry donors 2009)

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Ranjit Abeyguneratne  
Agilent Technologies Inc.  
Edward A. Alozie  
Damian O. Arnaiz  
Bechtel Foundation  
Daniel S. Bernier  
Jeffrey J. Brand  
Calif. HealthCare Foundation  
Charles M. Carlson  
Ming-Fai Chan  
Alice Chen  
Chih-Yuan Chen  
Liub-Chii Y. Chen  
Amy Chin  
Ronald D. Clark  
ConocoPhillips Matching Gift  
Gerald L. Delker  
Kathleen E. Delker  
Absalon Diaz  
Charles P. Dunne  
Maureen E. Dunne  
Stacie L. Eldridge  
Jeffrey L. Evelhoch  
Nancy J. Evelhoch  
James J. Ewing  
Desiree M. Flores  
William P. Freeman  
Harold L. Frye  
Teresa J. Frye  
Angie Garcia  
Mitchell A. Garcia  
Phillip J. Gardner  
Richard A. Gibbs  
Alvin D. Goolsby  
Brian J. Goolsby  
O. H. Griffith  
Robert C. Haddon  
John M. Hughes  
Judith A. Hughes  
Rodney L. Jenks  
Carolyn L. Johlman  
Michael S. Kahr  
Timothy M. Kelley  
Joanne M. Kemp  
Robert M. Kemp  
Robert E. Klem  
Brynja Kohler  
Susan W. Kohler

Ralph Y. Komai  
Werner G. Kuhr  
Hemant Kurani  
Jayshri Kurani  
Cynthia K. Larive  
James A. Larive  
Donald W. Leedy  
Christopher S. Letko  
Donna D. Lim  
William R. Mabey  
Heather L. Mattson-Arnaiz  
Vance E. McClure  
Ida M. Moore  
Rodney R. Moore  
Kieudung V. Nguyen  
Gregory J. Pachiano  
Maria L. Pachiano  
Bev Paulson  
Jim Paulson  
Eric M. Peters  
Dallas L. Rabenstein  
Gloria Rabenstein  
Research Corporation  
Thomas L. Riechel  
Celeste Robinson  
Gerald D. Robinson  
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Richard R. Schrock  
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Lois S. Schultz  
Alan C. Sentman  
Alice Seo  
Eddie T. Seo  
G. S. Srivatsa  
Harry G. Stavros  
Kimiko A. Stavros  
Donald B. Stierle  
Janet A. Takeuchi  
Charles M. Thompson  
Tiancheng International Inc.  
Ngoc H. Tran  
Amy Q. Wang  
Teresa A. Wehner  
David D. Wu  
Jeffrey R. Wyatt  
Zettacore, Inc.  
Stanley M. Ziegler

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The Kohler family has graciously offered to build the **Bryan E. Kohler Endowed Lectureship** to a goal of \$100K. The annual Kohler Lecture has been a highlight of our seminar program and this donation will allow this tradition to continue in perpetuity.

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**The Donald T. Sawyer Award** was established to recognize the accomplishments of an Analytical Chemistry graduate student in their 3rd or 4th year, awarded in 2009 to **Tony Ly**. This annual award pays tribute to Professor emeritus **Donald T. Sawyer**, and is funded by contributions from Sawyer's friends, former students and postdocs, and current faculty. Efforts are underway to raise the \$50,000 needed to endow this award.

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**Announcing the Kuwana – Sawyer Award for Undergraduate Research in Analytical Chemistry.** Eddie (Ph.D. 64) and Alice Seo have established an award recognizing an undergraduate chemistry major for research in analytical chemistry. Funding by the Seo's will allow this award to be made for the next 5 years. This award recognizes former UCR faculty members Ted Kuwana and Donald Sawyer for their efforts mentoring undergraduate research students.