

The Magazine for ACS Student Members  
November/December 2010

# in Chemistry

## Careers



## What's On Your Plate?



**ACS**  
Chemistry for Life™

**Award-Winning Chapters, p. 5**

**What Happens Where Chemistry Meets the Law, p. 19**

**Read This Before You Write Your Personal Statement, p. 22**

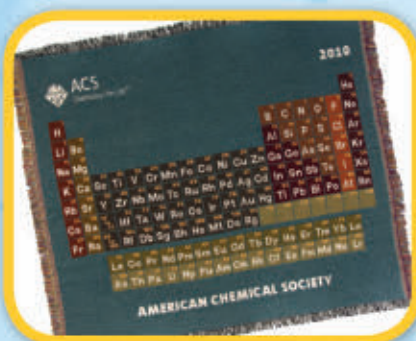


# Student Member-Get-A-Member End-of-Year Special



Need help bringing in new ACS members for your chapter? Why not recruit through the Member-Get-A-Member Campaign?

For every new, paid member you sign up, you get a **Periodic Table of the Elements Blanket Throw FREE!**



Also, from now until December 31<sup>st</sup>, we are offering the nominee you recruit an **ACS Backpack FREE** with their paid membership!

Visit <http://undergrad.ACS.org> to start recruiting today!



[undergrad.ACS.org](http://undergrad.ACS.org)

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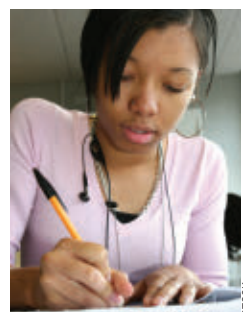
OLD DOMINION UNIVERSITY



SUFFOLK UNIVERSITY



DREAMTIME



ISTOCK

Cover art: Dreamtime Stock Images. Water drops, chemistry glassware, and food. Inset photo: Bhimu Patil, professor and director of the Vegetable and Fruit Improvement Center at Texas A&M University.

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# What You Really Need to Learn from Your Chemistry Studies

BY MICK HURREY



COURTESY OF MICK HURREY

**Y**ou've already taken the first step on your career path by deciding to study chemistry. What that involves in regard to course content has not changed significantly over the last decade. Now, as then, you need to learn physical, organic, inorganic, and analytical chemistry to obtain your degree.

However, the nontechnical skills you need to become a successful chemist have changed dramatically. These are the less obvious skills that you may learn while obtaining a bachelor's and/or advanced degree — and they may prove to be the most valuable part of your education. But the question I pose to you is, will you take the initiative to learn them?

Before I delve any deeper, consider my story. I flunked my first year of undergraduate school with a 0.6 GPA (difficult to do, I can assure you) and was homeless for a couple of months, but I didn't quit. I completed my B.S. in chemistry and then was accepted to the University of North Carolina at Chapel Hill for a Ph.D. in analytical chemistry. After finishing, I accepted a position at Vertex Pharmaceuticals as a lead analyst of the most important drug for the company and head of the physical chemistry program. I'm now part of a larger group of materials scientists, crystallographers, and analytical and physical chemists in charge of solid form development. These accomplishments would not have been possible without strong skills in leadership, analytical thinking, team-building, and communication.

As I've moved through my career, my experiences in ACS, coupled with the skills I learned in school, have been instrumental in the roles that I have been able to take on and succeed at in my career.

So back to my original question. There are two major aspects to every employee. First, there is technical ability, which one gets from understanding one's coursework and doing top-notch research. Second, and equally important, are the skills that allow one to communicate and interact with others in the global chemical enterprise. These include presenting data; applying first principles to solve problems; and being able to work with, lead, and communicate with others.

I implore you to work just as hard to learn these skills while you progress in your academic endeavors. This means that if they are not a part of your curriculum, you should seek out the resources and opportunities you need to acquire them. Some majors offer courses in critical thinking, but what you learn in studying chemistry is how to think, work with others, and solve real-world problems, and no class will teach you that. **ic**

**MICK HURREY** is Chair of the national Younger Chemists Committee and a Councilor and Program Chair of the Division of Business Development and Management. He is employed as a scientist in pharmaceutical development at Vertex Pharmaceuticals.

BY ROBIN LINDSEY

Have questions about ACS student chapters or other programs at ACS? If so, please e-mail Robin Lindsey at [undergrad@acs.org](mailto:undergrad@acs.org) — she'll find your answer!

**Q What are ACS Student Leadership Awards, and how can I apply for one?**

**A** The ACS Undergraduate Programs Office will offer 15 awards to ACS student members to cover travel, accommodation, and registration expenses for the 2011 ACS Leadership Institute, to be held January 21-23, 2011, in Fort Worth, TX. Applicants must submit a completed application form, cover letter, résumé, and letter of reference to [undergrad@acs.org](mailto:undergrad@acs.org) by October 26, 2010. For more information, go to [www.acs.org/undergrad](http://www.acs.org/undergrad).

**Q How can our ACS student chapter win a Student Chapter Award?**

**A** All student chapters that submit an annual chapter report by the deadline and have at least six paid ACS student members on their rosters can be considered for awards. Nominations for ACS Student Chapter Awards are based on exceptional activities, programs, and initiatives described in the chapter reports. The Society Committee on Education conducts the review process, weighing chapter reports along with the type of institution (two-year versus four-year), location, available resources, size of chapter, and other considerations.

**Q How we can obtain an official ACS logo for information tables, events, advertisements, and so on?**

**A** The ACS logo is a registered trademark of the society, and its use is under the control of the ACS. Branding materials provided by ACS are intended for promoting ACS programs, products, or services. Please go to [www.acs.org/branding](http://www.acs.org/branding) to download the logo and guidelines on its use. If you have any other questions, please contact us.

**Q We recently attended an ACS national meeting and noticed some students presenting successful student chapter posters at Sci-Mix. We'd like to do the same, but do we need to be an award-winning chapter first?**

**A** Any ACS student chapter can present a poster at Sci-Mix at an ACS national meeting. Posters must be submitted by the abstract deadline through the Program and Abstract Creation System (PACS; go to [abstracts.acs.org](http://abstracts.acs.org)). After your faculty advisor has reviewed your abstract, submit it under the "Successful Student Chapters" session in the ACS Division of Chemical Education. If you have a question about your abstract, you can contact us. **ic**



**ROBIN LINDSEY** is Lead Program Associate in the ACS Undergraduate Programs Office.



*Share what's going on in your chapter! If your chapter would like to be featured in the ACS Student Chapter Spotlight, please contact Audley Burke at 800-227-5558, ext. 4565, or a\_burke@acs.org.*

COMPILED BY AUDLEY S.V. BURKE

## Barry University Miami Shores, FL

**Chapter president:** Jake Stefancin  
**Number of chapter members:** 30  
**Number of ACS student members:** 10-14  
**Institution environment/composition:** Small, private, urban, 4-year, minority-serving institution  
**Chapter website:** <http://www.barry.edu/physicalsciences/students/chemistryclub.htm>

**Q** How do you ensure a smooth officer transition from year to year?

**A** We elect new officers at the end of the spring semester from students who have been active in the chapter during the year. Before the beginning of the fall semester, the faculty advisor and new officers meet to plan activities, and they present the list of activities to chapter members at the semester kick-off lunch the first week of classes.

**Q** How have you "Put a Human Face on Chemistry"?

**A** We adopted a school located next to our campus and visit two 5th-grade classes 3-4 times per semester to do Kids & Chemistry hands-on activities. Since we have been going to this elementary school, the 5th graders have improved from 14% to 46% at or above the median on the Florida Comprehensive Assessment Test. We also present chemistry magic shows/demos to about 1000 3rd graders at 8-10 elementary schools during the academic year.

**Q** How did you celebrate National Chemistry Week? Chemists Celebrate Earth Day?

**A** Every year for NCW our chapter hosts a chemistry info/display table 3-4 hours each day in the

science building lobby. We hand out free copies of the NCW "Celebrating Chemistry" newspaper, fuzzy Millie Moles, NCW stickers, and "Proud to be a Chemist" wallet periodic table cards, and sell chemistry T-shirts and bumper stickers. We also present chemistry hands-on



**A** A beginning-of-semester pizza luncheon is our best means of recruitment. We introduce the officers, and the faculty advisor tells students about what's going on in the student chapter. We use word of mouth and an e-mail distribution list for announcing specific events and activities.



COURTESY OF BARRY UNIVERSITY

demos and Kids & Chemistry activities in conjunction with the South Florida ACS Section's NCW celebration at a local science museum or mall.

**Q** Is your chapter active in the recruiting efforts of prospective students to your university?

**A** Chapter members volunteer to help with the annual Barry Science Olympiad competition for high school chemistry and physics students. The students receive a tour of our department labs.

**Q** What is your most successful recruiting event/method?

**Faculty advisor**  
**George Fisher, 17 years**

**Q** Why/how did you become a faculty advisor?

**A** I volunteered because of my desire to give students more opportunities to become involved in ACS, and to promote chemistry among students in the Barry University community.

**Q** What is your role as a faculty advisor?

**A** My role is to serve as a mentor and to give direction and suggestions to officers and members but let them take charge.

**Q** What challenges have you faced in your position?

**A** One challenge that always seems to arise is fostering involvement among the members who are not officers and encouraging the officers to delegate responsibility.

**Q** What has been the most rewarding aspect of your service as a faculty advisor?

**A** It's exciting to help foster that sense of community among young chemists and encourage them to become leaders in their community. It's rewarding to see shy freshmen develop into confident seniors who are eager to serve the chemical community.

**Q** What advice can you offer those new to the advisor position?

**A** You need lots of patience, perseverance, and good interpersonal skills when working with chapter officers. Be a good mentor and leader but not a dictator; let students take ownership of the chapter.

**Not a Member?  
 Join ACS today!**



[undergrad.ACS.org](http://undergrad.ACS.org)

**Old Dominion University**

Norfolk, VA

Chapter president: Stephanie McElhenie

Number of chapter members: 16

Number of ACS student members: 6

Institution environment/  
composition: Large, public, urban,  
minority-serving, 4-year institution  
Chapter website: <http://orgs.odu.edu/acs/main.shtml>



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favorite — chemistry professor or TA with a plate full of whipped cream. Many of our faculty and TAs participate — the organic chemistry professor is always a huge draw — and we have a ton of fun. After all, who doesn't want to hit a chemistry professor in the face with a pie?

**Faculty advisor****Paula Mazzer, 5 years****Q Why/how did you become a faculty advisor?**

**A** The previous advisor took the position of graduate program director and no longer had time to sponsor the chapter. The students asked me to replace him, and it's been a really fun ride.

**Q What challenges have you faced in your position?**

**A** The most challenging problem is the different levels of activity every year. When we have strong officers, the chapter is dynamic and fun. When we have officers

who leave during the year or don't do their job, it can get difficult.

**Q What has been the most rewarding aspect of your service as a faculty advisor?**

**A** I enjoy seeing and being a part of the innovative ideas/programs these young chemists propose and then helping them turn their ideas into real events.

**Q What advice can you offer those new to the advisor position?**

**A** Be helpful, offer advice, but don't try to steer. The chapter experiences ups and downs every year. For example, last year our chapter's president left midway through the year, which changed our whole officer corps. The temptation to jump in and run the projects for them can often be strong, but the real joy is watching them set the bar high and then reach it on their own. **ic**

**Q Does your chapter have any unique positions?**

**A** Our historian takes the lead in documenting what we do and also tracks down previous members to see where they are now.

**Q How did you celebrate National Chemistry Week?**

**A** We hosted a poster session for undergraduates from all six of the local chemistry departments at institutions in the Hampton Roads area. Also, we have a "Mole Hunt" in the chemistry department for Mole Day, where we make "moles" and hide them. Whoever finds the most moles between 6:02 a.m. and 6:02 p.m. wins a Starbucks gift card, an ACS student member T-shirt, and departmental bragging rights.

**Q What is your most popular or unique chapter activity?**

**A** On Scout Day, we bring in local scout troops and help them earn their chemistry merit badges. We assist them with all of the

activities required to obtain the badges. We also add some of our own favorites, such as the "color changing solution" and "fire lab," to show them how much fun chemistry can be. Check out our favorite "whoosh bottle" demo online at <http://www.soulbabel.com/acs/whoosh/>.

**Q Have you collaborated with any local student chapters?**

**A** We've worked with chapters at Christopher Newport University (CNU) and Norfolk State University when organizing our undergraduate poster session. Also, last year we joined CNU and Mary Washington College in their Titration Tournament. We are planning on hosting our own tournament next spring.

**Q Which of your fund-raisers stands out the most?**

**A** The most FUN fund-raiser that we host is Pie-a-Professor! For two dollars, any student can hit their favorite — or their not-so-

**ATTENTION, STUDENT CHAPTERS****Apply for a National Meeting Travel Grant****Receive \$300 to attend the 241st ACS National Meeting in Anaheim, CA****Applications are due  
January 14, 2011****To learn more, visit  
[www.acs.org/undergrad](http://www.acs.org/undergrad)**



# *Congratulations to This Year's Winners!*

## *2009-2010 Student Chapter Awards*

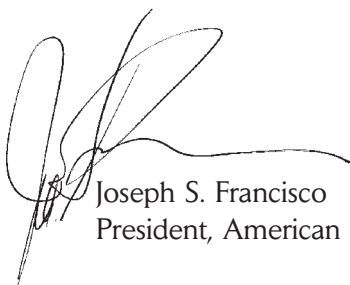
It is a great honor for me to help celebrate the accomplishments of ACS student members. These are accomplishments that are making a difference in your lives and careers as well as in communities across the country and in the chemistry community as a whole. In fact, meeting and talking with ACS student members has been one of the best parts of my year as ACS president.

Your activities are clearly shaping the future of the chemical enterprise! They are also shaping your own future, giving you the experiences and skills you will need to be competitive and successful in a global job marketplace. Some activities are transforming in obvious ways — such as attending an ACS national meeting or conducting undergraduate research. Other activities may also be making a difference, but in more subtle or unanticipated ways.

Life is a series of opportunities that develop an individual's character and life decisions. As a teenager, I never envisioned I would become a scientist, much less an ACS president! Many more opportunities await me — and even more await all of you! Individually and collectively, each of us has the power to make a difference in our own lives and the lives of others. Together, we are shaping and preparing for the future landscape.

Thank you for all you have done. Your allegiance, dedication, and camaraderie have made this year remarkable! ACS simply would not be the same without you. Here's wishing you all the very best for a safe, happy, and healthy holiday season.

Looking forward to seeing you in 2011!



Joseph S. Francisco  
President, American Chemical Society







The ACS Committee on Education has selected the following student chapters to receive special recognition for the programs and activities described in their 2009-2010 annual reports. They will be honored at the 241st ACS National Meeting in Anaheim, CA, on Sunday, March 27, 2011. Listed below are the *winning institutions*, **chapter presidents and co-presidents**, and faculty advisors.



## Outstanding

*Augustana College, Sioux Falls, SD*  
**Nicholas Bleeker and Kevin Zogg**  
Jetty Duffy-Matzner

*Barry University, Miami Shores, FL*  
**Cristina Marrero and John Stefancin**  
George Fisher

*California State University, Fresno*  
**Steven Chabolla and Lisa Crabtree**  
Melissa Golden and Joy Goto

*Carroll University, Waukesha, WI*  
**Cassandra Kjonaas and Kayla Gutsmedl**  
Michael Schuder

*Central Michigan University, Mount Pleasant*  
**Ashley Morgan and Jason Mann**  
Sharyl Majorski

*Delta State University, Cleveland, MS*  
**Kristie Price and Kelly Antici**  
Alline Somlai and Lacey Fitts

*Drury University, Springfield, MO*  
**Erica Wunderlich**  
Scott Petrich

*Eastern Oregon University, La Grande*  
**Cherry Davis and David Pixton**  
Anna Cavinato

*The Evergreen State College, Olympia, WA*  
**Isha Kuhns and Kate Reimer**  
Darshi Bopegedera

*Florida International University-Biscayne Bay Campus, Miami*  
**Priscilla Torres and Christopher Sequera**  
Mayra Exposito and Milagros Delgado

*Georgia College & State University, Milledgeville*  
**Emily Williams, David Wilson, and Dean Harper**  
Catrena Lisse

*Henderson State University, Arkadelphia, AR*  
**Katie Ausburn and Jaclyn Taylor**  
Janice O'Donnell

*Northern Kentucky University, Highland Heights*  
**Anthony Haskamp and Sviatlana Karasiova**  
Patrick Hare and Heather Bullen

*Saint Louis Community College at Florissant Valley, MO*  
**Michael E. Jansen and Michael Ponder**  
Donna Friedman

*San Jose State University, CA*  
**Victoria Chemistruck and Jeffrey Hughes**  
Lionel Cheruzel

*Seton Hill University, Greensburg, PA*  
**Michael Washington and Holli Gonder**  
Susan Youchum and Demetra Czegán

*South Texas College, McAllen*  
**Jose Mendez and Celica Perez**  
Ludivina Avila

*Tarleton State University, Stephenville, TX*  
**Eric Poindexter and Clifford Terrel**  
Peter Bell and Rueben Walter

*Texarkana College, TX*  
**Ethan McBride and Eli Hunt**  
Patricia Harman and Mike Buttram

*Truman State University, Kirksville, MO*  
**Jessica Kobby and Annie Froeschner**  
Barbara Kramer

*Union University, Jackson, TN*  
**Jill Frank and Joey Easterling**  
Charles Baldwin and Randy Johnston

*University of Arizona, Tucson*  
**Brett Stoll and James Roberts**  
John Pollard

*University of Detroit Mercy, MI*  
**Joseph Furgal and Danielle Garshott**  
Matthew Mio and David Bartley

*University of Houston, TX*  
**Kim Ngo and Antonio Pontifes**  
Simon Bott

*University of Mary Hardin-Baylor, Belton, TX*  
**Shannon Woodruff and Ashli Lawson**  
Darrell Watson

*University of Michigan-Flint*  
**Danielle Borgerding, Anita Baxter, and Saed Issac**  
Jessica Tischler and Monique Wilhelm

*University of Pittsburgh, PA*  
**Michael Leone and Karthik Dwarki**  
George Bandik

*University of Pittsburgh at Titusville, PA*  
**Joshua M. Konieczny, Sharon Scott, and Christopher Heasley**  
Ping Furlan and Jon Serra

*University of Puerto Rico-Aguadilla*  
**José Acevedo Rodríguez and Edgar Pérez Matías**  
Brenda Ramos-Santana and Sonia Rivera

*University of Puerto Rico at Arecibo*  
**Jackeline Nieves and Ivy Velez**  
Maiella Ramos and Vanessa Montalvo

*University of Puerto Rico-Mayagüez Campus*  
**Jorge Benejam and Orlando Vazquez**  
Nilka Rivera





*University of Puerto Rico-Río Piedras Campus*  
**Yishara Chandler and Zulmarie Perez Horta**  
Ingrid Montes

*University of St. Thomas, Houston, TX*  
**Megan Nunes and David Doctor**  
Thomas Malloy and Elmer Ledesma

*University of Tennessee at Martin*  
**Kayla Poindexter and Punam Patel**  
Shakti Airee

*The University of Texas at Dallas, Richardson*  
**Elizabeth Schmiedel**  
John Sibert

*Xavier University of Louisiana, New Orleans*  
**Marian Gray and Julian McKnight**  
Michael Adams and Janet Privett

*California State University-Dominguez Hills, Carson*  
**Geoffrey Kanake**  
Sofia Papatheodorou

*Cameron University, Lawton, OK*  
**Tajariat Ahmed and Adam Martin**  
Elizabeth Ann Nalley

*Canisius College, Buffalo, NY*  
**Ryan Campagna**  
Phillip Sheridan

*Central Washington University, Ellensburg, WA*  
**Rosa Rabinovitz and Jennifer Groves**  
Timothy Sorey and Dion Rivera

*Claflin University, Orangeburg, SC*  
**Jennifer Ozonma and Denita Pleasant**  
Angela Peters

*College of Mount Saint Vincent, Bronx, NY*  
**Ana Uruena and Astrid Estevez**  
Pamela Kerrigan

*East Los Angeles College, Monterey Park, CA*  
**Joseph Giacinto and Laura Gallegos**  
Veronica Jaramillo and Armando Rivera Figueroa

*Elizabethtown College, PA*  
**Nicholas Wetzel and Matthew Myers**  
Kristi Kneas

*Ferris State University, Big Rapids, MI*  
**Brett Hixson**  
Pasquale Di Raddo

*Florida Southern College, Lakeland*  
**Jennifer Bruno and Michael Politis**  
Carmen Gauthier

*Francis Marion University, Florence, SC*  
**Crystal Robinson and Yana Sivolobova**  
Jennifer Kelley and Thomas Anderson

*Georgia State University, Atlanta*  
**Mehta Bhavik**  
Jyotsna Thota

*Hendrix College, Conway, AR*  
**Zachary Waldrip**  
Liz Gron

*Hiram College, OH*  
**Brian Yeager and Claire McCarthy**  
Carol Shreiner

*Hope College, Holland, MI*  
**Jennifer Bruinius and Timothy Shannon**  
Jeffrey Johnson

*Illinois Valley Community College, Oglesby*  
**Mohamed Aburomi and Andrew Pypno**  
Richard Ault

*Indiana University of Pennsylvania, PA*  
**Maura Barrett and Jonathan Henninger**  
Nathan McElroy

*Iona College, New Rochelle, NY*  
**Paul Sanstead and Nick Florio**  
Sunghee Lee

*James Madison University, Harrisonburg, VA*  
**Megan Bumann and Adam Colbert**  
Victoria Mariani and Kathryn Layman

*Lander University, Greenwood, SC*  
**Stephanie Adams and Aislyn Todd**  
K. Brodhacker and David Gardner

*Manchester College, North Manchester, IN*  
**Elizabeth Mishler and Zachary Blatz**  
Susan Klein and Jeffrey Osborne

*Minnesota State University, Moorhead*  
**Andrew Haak and Joelle Rolfs**  
Asoka Marasinghe

*Monmouth College, IL*  
**Sarah Zero and Sara Wenzel**  
Laura Moore and Audra Sostarecz

*Morehead State University, KY*  
**Brittany Gray, Matthew Boggs, and Kyle Sargent**  
Mark Blankenbuehler



*Alvernia University, Reading, PA*  
**Stephanie Sarti and Lauren Kurek**  
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*Anne Arundel Community College, Arnold, MD*  
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*Aquinas College, Grand Rapids, MI*  
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*Ball State University, Muncie, IN*  
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Curtis Zaleski and Thomas Frielle

*Simmons College, Boston, MA*  
**Katelyn Thomas and Cassandra  
Cacoq**  
Cheryl Lavoie

*South Dakota School of Mines & Technology,  
Rapid City*  
**Channing Thompson**  
Justin Meyer

*Spelman College, Atlanta, GA*  
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Kimberly Jackson and Nripendra Bose

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and Taylor Hepp**  
Christopher Daley

*University of Southern Indiana, Evansville*  
**Sunny Huang and Nicholas Earls**  
Mark Krahling and Kenneth Walsh

*University of Toledo, OH*  
**Keith Royer and Shannon Kraemer**  
Edith Kippenhan

*Utah State University, Logan*  
**Christina Hansen and David Clark**  
Lisa Berreau

*Utica College, NY*  
**Ahmeda Hrustanovic and Marietta  
Guzda**  
Michelle Boucher

*Waynesburg University, PA*  
**Miranda Thornton and Logan  
Bashline**  
Evonne Baldauff and Robert La Count

*West Virginia State University, Institute*  
**Rachael Workman and  
Kathleen Poole**  
Michael Fultz and Thomas Guetzloff

*Western Kentucky University, Bowling Green*  
**Carrie Jo Pruitt and Johnathan  
Brantley**  
Lester Pesterfield

*Western Washington University, Bellingham*  
**Amanda Noell Bader and Jennifer  
Novotney**  
Elizabeth Raymond and Steven Emory

*Westminster College, Salt Lake City, UT*  
**Sarah Martin and Ashley Davis**  
Paul Hooker and Robyn Hyde

*Wilkes University, Wilkes-Barre, PA*  
**Natalie Harvey and Caela Bernecker**  
Donald Mencer and Adriana Dinescu



## Honorable Mention

*Allegheny College, Meadville, PA*  
**Gregory Merz and Geoffrey Lim**  
Shaun Murphree

*Angelo State University, San Angelo, TX*  
**Kaci Pruser and Shane Anderson**  
Kevin Boudreaux and Edith Osborne

*Arkansas State University, Jonesboro*  
**Shannon Hutson and Gregory Lance**  
Ellis Benjamin

*Armstrong Atlantic State University, Savannah, GA*  
**Mark Bradle and Erica Cooper**  
Eric Werner and Clifford Padgett

*Bradley University, Peoria, IL*  
**Catherine Duncan and Branden Kennedy**  
Dean Campbell

*Brigham Young University, Provo, UT*  
**Aaron Pulsipher**  
Daniel Austin

*Brigham Young University-Idaho, Rexburg*  
**Michael Pack and Hammond Thornton**  
David Collins

*California State Polytechnic University-Pomona*  
**Katie Trousil and Bryan Sullivan**  
Laurie Starkey

*California State University-Sacramento*  
**Jason Fell and Nicola Clayton**  
Cynthia Kellen-Yuen and Benjamin Gherman

*Campbell University, Buies Creek, NC*  
**Meredith Greene and Rachel Sharpton**  
William Coker

*Carlow University, Pittsburgh, PA*  
**Amanda Clark and Heather Hulton**  
David Gallaher and Monique Shumaker

*Carthage College, Kenosha, WI*  
**Kenion Blakeman and Katelyn Hartstern**  
Clifton Stephenson

*Catawba College, Salisbury, NC*  
**Nathaniel Griffin and Jessica Bound**  
Mark Sabo

*Christian Brothers University, Memphis, TN*  
**Erik Scott and Ting Wong**  
Dennis Merat

*Clarion University of Pennsylvania*  
**Matthew Barger and ReGina Lannigan**  
Amanda Lockwood and Joyce Overly

*Clemson University, SC*  
**Jared Stritzinger and Sara Comer**  
Dennis Taylor

*College of Saint Elizabeth, Morristown, NJ*  
**Tobi Ajala and Bo Chu**  
Marian José Smith

*The College of Wooster, OH*  
**Gretchen Lockhart and Mary Kate Lockhart**  
Paul Bonvallet

*Colorado School of Mines, Golden*  
**Shelby Hollmaier**  
Ryan Richards

*Colorado State University, Fort Collins*  
**Tucker Dunivan and Morgan Coffey**  
Nancy Levinger and Amy Prieto

*Drexel University, Philadelphia, PA*  
**Collin Murphy and Shannon Oseback**  
Daniel King

*Duquesne University, Pittsburgh, PA*  
**Matthew Taylor, Ashley Biernesser, and Sean Noonan**  
Jeffrey Evanseck

*Eastern Illinois University, Charleston*  
**Christine Sink and Lisa Piazza**  
Edward Treadwell and Svetlana Mitrovski

*Emory University, Atlanta, GA*  
**Anthony Oddo and Peter Zhao**  
Tracy Morkin and Douglas Mulford

*Fort Valley State University, GA*  
**Tawanna Hines**  
Robin Bright

*Frostburg State University, MD*  
**Kirsten Logsdon and Melissa Dudley**  
Don Weser and Peggy Biser

*Georgetown College, KY*  
**Luthen Hutcherson and Kyla M. Tolliver**  
Meghan Knapp

*Georgia Southern University, Statesboro*  
**Kathryn Lanier**  
Michele Davis McGibony

*Grand Valley State University, Allendale, MI*  
**Kirk Wyatt and Jody Wycech**  
Rachel Powers and Matthew Hart

*Hartwick College, Oneonta, NY*  
**Catherine Weigel and Kathleen Watson**  
Susan Young

*Hofstra University, Hempstead, NY*  
**Stephanie Pollut and Nichole Yanno**  
Ronald D'Amelia and Nanette Wachter

*Huntingdon College, Montgomery, AL*  
**David Jordan**  
Maureen Kendrick-Murphy

*Idaho State University, Pocatello*  
**Edon Vitaku and Roy Mathew Malamakal**  
Joshua Pak and Byron Bennett

*Illinois State University, Normal*  
**Staci Engle and Sarah Schauff**  
Marjorie Jones

*Illinois Wesleyan University, Bloomington*  
**James Carolan and Scott W. Krabbe**  
Melinda Baur and Brian Brennan

*Inter American University of Puerto Rico-Metropolitan Campus, San Juan*  
**Melissa Davila-Morris and Raiza Guadalupe**  
Agnes Dubey

*Inter American University of Puerto Rico-San Germán*  
**Eric Alicea and Juan Quiñones**  
Angela Gonzalez



*Jacksonville State University, AL*  
**Stephen Fordham**  
Alfred Nichols and Nixon Mwebi

*Keene State College, NH*  
**Molly Croteau and Susanna Ayers**  
Denise Junge

*Kennesaw State University, GA*  
**Judith Heitz and Maria Quiroz**  
Christopher Dockery and Scott Lewis

*Lake Forest College, IL*  
**Ali Vetter and Julian McLain**  
Elizabeth Fischer and Dawn Wiser

*Lebanon Valley College, Annville, PA*  
**Kimberly Manbeck and Charles Schmidt**  
Marc Harris

*Lock Haven University of Pennsylvania*  
**Joshua Gilbert and Ashlee Gerardi**  
Kevin Range

*Louisiana State University and A&M College, Baton Rouge*  
**Vicki Immethun**  
Carol Taylor

*Loyola Marymount University, Los Angeles, CA*  
**Marlon Maducdoc**  
Nicole Bouvier-Brown and Lambert Doezenia

*Loyola University, New Orleans, LA*  
**Dana Walkenhorst and Andrew Scott**  
Kurt Birdwhistell

*Metropolitan State College of Denver, CO*  
**Nick Nelson and Walter Vizcaino**  
Susan Schelble

*Middle Tennessee State University, Murfreesboro*  
**Andy Standley and Isaiah Choy**  
Gary White and Andrienne Friedli

*Millersville University, PA*  
**Michael Novak and Andrew Dixon**  
Lyman Rickard and Laura J. Anna

*Millikin University, Decatur, IL*  
**Heather Schoonover and Jessica Lindemann**  
George Bennett

*Missouri University of Science and Technology, Rolla*  
**Patrick Stanley, Meghan Ray, and Kathy Burau**  
Thomas Schuman and Terry Bone

*Niagara University, NY*  
**Megan McGahan and Paolo Grenga**  
Ronny Priefer

*North Dakota State University, Fargo*  
**Andrew Sand and Jarrett Failing**  
Seth Rasmussen

*Northern Illinois University, DeKalb*  
**Bryn Wilke**  
David Ballantine

*Ohio Northern University, Ada*  
**Ada Jena Jeffries and Jennifer O'Connor**  
Tevye Celius

*Olivet College, MI*  
**Benjamin Hitchcock, Erica Sperry, and Mathew Jenca**  
Susanne Lewis

*Ouachita Baptist University, Arkadelphia, AR*  
**John Gomez**  
Martin Perry

*Penn State Erie, The Behrend College, PA*  
**Kurt Maloney and Samantha Kristufek**  
Alan Jircitano

*Pepperdine University, Malibu, CA*  
**Courtney Roberts and Alexandra Evans**  
Joseph Fritsch

*Point Loma Nazarene University, San Diego, CA*  
**Julianne Thomsen and Jacob Thorpe**  
Sara Choung

*Pontifical Catholic University of Puerto Rico, Ponce*  
**Karylsa Torres and Jennifer Claudio**  
Carmen Collazo

*Purdue University, West Lafayette, IN*  
**Kristina Thorsell and Carl Gulbranson, Jr.**  
Beatriz Cisneros

*Radford University, VA*  
**Cory Foster and Nesvie-Ann Polintan**  
Cindy Burkhardt and Joseph Wirgau

*Rensselaer Polytechnic Institute, Troy, NY*  
**Christopher Marotta and Karen LaGasse**  
James Moore

*Rhodes College, Memphis, TN*  
**Nita Yogesh and Elizabeth Parkinson**  
Mauricio Cafiero

*Rider University, Lawrenceville, NJ*  
**Daniel Graham and Lauren Musumeci**  
Bruce Burnham

*Roger Williams University, Bristol, RI*  
**Charles Hall and Brian DiMarco**  
Stephen O'Shea

*Sacred Heart University, Fairfield, CT*  
**Kelly Considine and Nathan Gelinas**  
Linda Farber

*Saginaw Valley State University, University Center, MI*  
**Christopher Alvey and Margot London**  
David Karpovich

*Saint Vincent College, Latrobe, PA*  
**John Patrick and Gabriel DiCostanzo**  
Jason Vohs

*Salem College, Winston-Salem, NC*  
**Hannah Ainsworth and Suruchi Shrestha**  
Nita Eskew

*Salem State University, MA*  
**Dakota Hamill and Emily Rowland**  
Ronald Mactaylor

*Samford University, Birmingham, AL*  
**Danielle Brown and Laura Dzegan**  
Brian Gregory and Denise Gregory

*Savannah State University, GA*  
**Kelvin Frazier and Darkesha Peters**  
Jannie Baker and Hua Zhao





*Southeast Missouri State University,  
Cape Girardeau*

**Stephanie Maltzman and Claudette Gilman**

Rachel Theall

*Southeastern Oklahoma State University,  
Durant*

**Ashley Lewis and Amanda Adcock**  
Nancy Paiva and Gordon Eggleton

*Southern Illinois University-Edwardsville*

**Kimber Barret and Molly Oster**  
Cristina De Meo and Susan Wiediger

*Southern Methodist University, Dallas, TX*

**Sara Gingrich and Young Lim**  
Brent Sumerlin

*Southern Oregon University, Ashland*

**Kelley McNallan and Corey McQueen**  
Douglas Chapman

*Southwest Minnesota State University,  
Marshall*

**Robin Hull and Samantha Hoyhtya**  
Noelle Beyer and Frank Schindler

*Spring Arbor University, MI*

**Brittany Coyle**  
Bruce Baldwin

*St. Cloud State University, MN*

**Carina Crookston and Sarah Wegwerth**  
Sarah Chapman Petitto

*St. Edward's University, Austin, TX*

**Adriana Pavia and Morgan Baima**  
John Lewis and Donald Wharry

*Texas State University-San Marcos*

**Lydia Montano and Michael Beebower**  
Benjamin Martin

*Texas Tech University, Lubbock*

**Nyssa Martinez and Malik Al-Afyouni**  
Khiem Tran and Christopher Bradley

*Transylvania University, Lexington, KY*

**Garrett Bernard and Rebecca Pasco**  
Eva Csuhai

*University of Alabama at Birmingham*

**Andrew Buie and Jordan Fernandez**  
Jacqueline Nikles

*University of Arkansas at Little Rock*

**Amy Alexander and Shariq Ali**  
Jerome Darsey

*University of California-San Diego, La Jolla*

**Jeffrey Sung and Elena Coupal**  
Judy Kim and Stacey Brydges

*University of Central Missouri, Warrensburg*

**Brandy Caulwell and Fabrin Fenton**  
Renee Cole and Innocent Pumure

*University of Colorado at Colorado Springs*

**Adam Howell and Thomas Gonzales**  
David Weiss

*University of Kentucky, Lexington*

**Carly Joehl and Bethany Lega**  
Marc Knecht

*University of Louisiana at Lafayette*

**Max Crisler and Sydney Sovine**  
August Gallo

*University of Missouri-Saint Louis*

**James Braun and Mary Keithly**  
Michael Nichols

*University of Portland, OR*

**Mark Epstein and Paul Cooley**  
Angela Hoffman

*University of Southern Maine, Portland*

**Melanie Miville and Eda Gjika**  
Lucille Benedict and James Ford

*University of Texas at Tyler*

**Jason Myrick and Jaison Joshua**  
Jason Smee and Tanya Shtoyko

*University of Texas of the Permian Basin,  
Odessa*

**Sarah Acker and Jason Bracken**  
Christine Hahn

*University of the Sciences in Philadelphia, PA*

**Brady Walter and Brendan O'Brien**  
Catherine Bentzley

*University of Utah, Salt Lake City*

**Marcus Tofanelli and Erik Hasenoehrl**  
Anita Orendt and Holly Sebahar

*University of Wisconsin-Whitewater*

**Kyle Butzine**  
Hephzibah Kumpaty

*Valdosta State University, GA*

**Frederique Dunham, Katrice White-Cooper, and Britney Lane**  
Donna Gosnell and Linda Delagarza

*Washburn University, Topeka, KS*

**David Reed and Diana Crain**  
Shaun Schmidt

*Washington and Jefferson College,  
Washington, PA*

**Ashley Smith and Zac Brown**  
Nobunaka Matsuno and Mark Harris

*Washington College, Chestertown, MD*

**Lauren Kasecamp and Sarah Macht**  
Aaron Amick and Anne Marteel Parrish

*Washington State University, Pullman*

**Holly Hudspeth and Jennifer Ratfield**  
Jeremy Lessmann and Guy Patrick Meier

*Westminster College, New Wilmington, PA*

**Nathan Barefoot and Christina Hamill**  
Sarah Kennedy

*West Virginia University, Morgantown*

**Phillip Pifer and Brianna Vecchio**  
Harry Finklea

*West Virginia Wesleyan College, Buckhannon*

**Casey Burroughs and Kimberly Larch**  
Edward Wovchko and Timothy Troyer

*Winston-Salem State University, NC*

**Sade Rhodes and Bradley Williams**  
Kenneth Brown and Sayo Fakayode

*York College of Pennsylvania*

**Kyle Howard and Lauren Kaminsky**  
Kathleen Halligan

*Youngstown State University, OH*

**Kristin Johnson and Elizabeth Shelar**  
Nina Stourman



## 2009-2010 Green Chemistry Student Chapters

Student involvement in applying green chemistry principles and practices is essential to the integration of environmentally benign technologies in academia and industry. The ACS Green Chemistry Institute® distributes a Green Chemistry Award to ACS student chapters who have engaged in at least three green chemistry activities during the academic year. Listed below are the 2009-2010 Green Chemistry Award recipients by institution.

Angelo State University, San Angelo, TX  
Augustana College, Sioux Falls, SD  
Bellevue College, WA  
California State University, Dominguez Hills  
California State University, Fresno  
Central Michigan University, Mount Pleasant  
Clemson University, SC  
Eastern Oregon University, La Grande  
Ferris State University, Big Rapids, MI  
Florida International University-Biscayne Bay Campus, Miami  
Georgia College & State University, Milledgeville  
Grand Valley State University, Allendale, MI  
Hendrix College, Conway, AR  
Idaho State University, Pocatello  
Illinois Wesleyan University, Bloomington  
Inter American University of Puerto Rico-Metropolitan Campus, San Juan

Millikin University, Decatur, IL  
Pacific Lutheran University, Tacoma, WA  
Penn State Erie, The Behrend College, PA  
Pepperdine University, Malibu, CA  
Saint Francis University, Loretto, PA  
Salt Lake Community College, UT  
Seton Hill University, Greensburg, PA  
South Texas College, McAllen  
Stern College for Women-Yeshiva University, New York, NY  
Suffolk University, Boston, MA  
Tarleton State University, Stephenville, TX  
Texarkana College, TX  
Truman State University, Kirksville, MO  
Union University, Jackson, TN  
University of Arizona, Tucson  
University of Colorado Denver  
University of Houston, TX  
University of Kentucky, Lexington  
University of Mary Hardin-Baylor, Belton, TX

University of Pittsburgh, PA  
University of Pittsburgh at Titusville, PA  
University of Puerto Rico-Aguadilla  
University of Puerto Rico at Arecibo  
University of Puerto Rico-Humacao  
University of Puerto Rico-Mayagüez Campus  
University of Puerto Rico-Río Piedras Campus  
University of San Diego, CA  
University of Tennessee at Martin  
The University of Toledo, OH  
University of West Florida, Pensacola  
Utah State University, Logan  
Valdosta State University, GA  
Virginia Polytechnic Institute and State University, Blacksburg  
West Virginia State University, Institute  
Western Kentucky University, Bowling Green  
Western Washington University, Bellingham





## 2010-2011 Innovative Activities Grants

For the 2010-2011 academic year, the ACS Society Committee on Education has selected the following six IAG proposals to receive funding. Listed below are the *chapters*, **student project directors**, faculty advisors, **project titles**, and project goals.

*Ball State University*

**Katy Hosbein**, Jason Ribblett

**Surviving General Chemistry**

To help students taking CHEM 111 and 112

*New Mexico Institute of Mining and Technology*

**Estela Magallanes**, Michael Heagy

**Five Fun and Educational Chemistry**

**Experiments for Local High School**

**Chemistry Classes**

To introduce chemistry labs to high school chemistry classes

*Southeastern Oklahoma State University*

**Rebekah Ritchie**, Nancy Paiva

**Helping Rural Students Prepare for**

**College Science Majors**

To motivate local minority students to prepare for science majors

*Stern College for Women-Yeshiva University*

**Avigail Soloveichik**, Donald Estes

**Chemistry and Color**

To explain the applicability of color in chemistry

*University of Arkansas at Little Rock*

**Amy Alexander**, Jerome Darsey

**Safety Takes Center Stage**

To reinforce good safety techniques by remaking the chemistry safety video

*Washington State University*

**Jennifer Ratfield**, Guy Patrick Meier

**Primary and Secondary School**

**Demonstrations**

To develop pre-packaged demonstration kits

## 2010-2011 Community Interaction Grants

For the 2010-2011 academic year, the following 13 CIG project proposals have been awarded to provide pre-college minority students with enriched hands-on science activities, while giving ACS student members an opportunity to enhance their skills as future teachers and mentors. Listed below are the *chapters*, **student project directors**, faculty advisors, **project titles**, and project goals.

*Barry University*

**Jake Stefancin**, George Fisher

**Science Outreach to Minority-Serving**

**Elementary Schools**

To explain science to students by performing chemistry demonstrations

*California State University, Fresno*

**Steven Chabolla**, Melissa Golden

**Synergistic Bonding**

To gain a deeper appreciation for science and the community we serve

*Florida Southern College*

**Michael Politis**, Carmen Gauthier

**Wahneta Elementary School Reusable**

**Science Experiment Kits**

To develop science kits to spark students' interest in science

*Iona College*

**Paul Sanstead**, Sunghee Lee

**National Lab Day**

To inspire children to take an interest in chemistry and related sciences

*Northwestern University*

**Alyssa Stockdale**, Nate Davidson,

**Sravva Tumuluru**, Shelby Hatch

**ScOPE Community Outreach Project**

To help youth gain access to chemistry projects and encourage their participation in the sciences

*Providence College*

**Michael Ross**, Kathleen Cornely

**Chemistry Activities at the After-School**

**Program at St. Patrick's Academy**

To engage students in a scientific way that is both fun and interesting

*Stern Women for College-Yeshiva University*

**Avigail Soloveichik**, Donald Estes

**Coloring the World in Chemistry**

To enlighten elementary school students about the impact chemistry has on color

*Union University*

**Allison Gooch**, Faris Bakeer, Charles

Baldwin

**Warming Up to Atmospheric Chemistry**

To inform young students about global warming as it relates to atmospheric chemistry

*University of San Diego*

**Shannen Cravens**, Phillip Guichet,

Christopher Daley

**The Bayside Kids Science Workshop**

To provide an opportunity for early-age exposure to science education

*Washington State University*

**Jennifer Ratfield**, Guy Patrick Meier,

**Nespelem Green Chemistry Day**

To get kids excited about science, green chemistry, and community involvement

*Waynesburg University*

**Miranda Thornton**, Evonne Baldauff

**Cool Chemistry**

To reach out to young girls and show them exciting aspects of science

*West Virginia State University*

**Rachael Workman**, Robert Morris,

Michael Fultz

**Teaching Chemistry to Disadvantaged**

**Youth in Central West Virginia**

To increase elementary school students' interest in science

*Xavier University of Louisiana*

**Kendrea Pleasant**, Porsha Showers,

Michael Adams

**Learning Science Matters**

To teach, empower, and instill science awareness in minority students in grades K-12

# Photo Chemistry



***Capturing the energy and enthusiasm  
of ACS student members...  
showcasing the activities, events,  
and accomplishments of  
their chapters.***

COMPILED BY LORI BETSOCK



City University of New York College of Staten Island chapter members hosting a fund-raising bake sale.

CITY UNIVERSITY OF NEW YORK COLLEGE OF STATEN ISLAND



The University of the Sciences in Philadelphia (PA) chapter members posing with Albert Einstein on a field trip to Washington, DC.

THE UNIVERSITY OF THE SCIENCES IN PHILADELPHIA



James Madison University (Harrisonburg, VA) chapter members posing by the periodic table wall chart.

JAMES MADISON UNIVERSITY



University of Texas at Dallas chapter members capturing the Spirit Award during Halloween homecoming festivities.

UNIVERSITY OF TEXAS AT DALLAS



University of Puerto Rico-Mayagüez Campus chapter members celebrating Earth Day.

UNIVERSITY OF PUERTO RICO-MAYAGÜEZ CAMPUS



Metropolitan State College of Denver (CO) chapter members making slime at the university's signature outreach event, STEMalooza.

METROPOLITAN STATE COLLEGE OF DENVER



## Be Candid! Get Your Chapter Photo in inChemistry Magazine!

Send us your photos of ACS student members engaged in chapter activities to feature in an upcoming issue of *inChemistry*. We're looking for high-resolution pictures that show members involved in club activities – action shots, funny photos, or interesting images that tell a story about your chapter and who you are. E-mail your photos to [I\\_betsock@acs.org](mailto:I_betsock@acs.org).



A Suffolk University (Boston, MA) chapter member helping elementary school students at the Sustainable Green Crayon production.



A Northern Kentucky University (Highland Heights) chapter member selling cotton candy during a fundraiser at the Bank of Kentucky Center.



A chapter member at The Evergreen State College (Olympia, WA) running the "Cola and Mentos Extravaganza" at the Science Carnival.



University of Colorado at Boulder chapter members making liquid nitrogen ice cream.

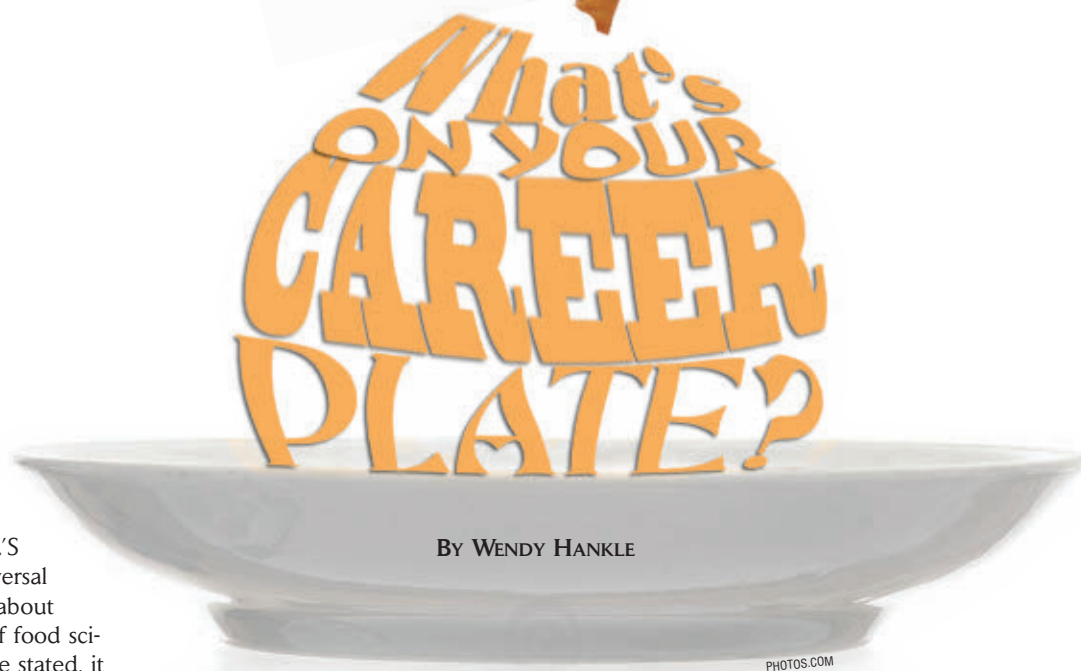


Salem College (Winston-Salem, NC) chapter members celebrating Element Spirit Day.



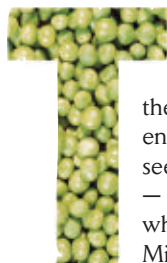
Point Loma Nazarene University (San Diego, CA) chapter members decorating Periodic Table of Cupcakes at a chapter party.





BY WENDY HANKLE

PHOTOS.COM



HERE'S a universal truth about the field of food science. Once stated, it seems pretty obvious — and it's a big reason why researchers like Michael Tunick enjoy their job.

"Everybody eats," says Tunick, a research scientist in the U.S. Department of Agriculture's (USDA's) Dairy and Functional Foods Research Unit. "Everybody can identify with things that we do. So it's quite fulfilling when you can explain your work to people, and everyone basically understands what you're talking about."

Tunick's current research with USDA mostly revolves around dairy products. But in his years with the organization, he's worked on projects ranging from leather tannery waste to measuring the properties of pea starch in order to create a high-protein snack.

Tunick started his tenure with USDA more than three decades ago, as part of a co-op experience while he was working on his bachelor's degree in chemistry at **Drexel University**. Once he became a staff member at USDA, he was encouraged to further his education. But instead of taking a few biochemistry classes, he decided to pursue a doctorate in physical analytical chemistry from **Temple University**, which he received in 1985.



Michael Tunick

PEGGY GREB/USDA

## Explore Some Tempting Choices in Food Science

### Where the dough Is

Kristin Alongi is at the opposite end of the career spectrum from Tunick. She's just begun her career in the industry with a position as a food technologist within the bakery division at Rich Products Corporation, in Buffalo, NY. As part of her job, Alongi formulates muffins, cookies, breads, and pizza dough. She is also involved in new-product development, recipe scale-up, quality improvement, food safety, and researching the different chemical, physical, and biological aspects of food.

Alongi earned a bachelor's degree in chemistry from **Hamilton College** and finished up her master's degree in food science and technology at **Cornell University**, in Ithaca, NY, last spring. As an undergraduate, Alongi says, she had little coursework or internship experience in food science, and so she felt that going to graduate school before entering the workforce would be her best course of action.

"I learned about the science involved in product development — everything from the chemical interactions between ingredi-



Kristin Alongi

STEVE SATORI



John Finley

COURTESY OF LOUISIANA STATE UNIVERSITY

ents to the factors impacting shelf life," Alongi says of her education at Cornell. "Those experiences gave me the underlying knowledge essential for my job.

"I also wanted to learn more about the industry because I wasn't sure which part of the field I wanted to go into," she adds.

## What it takes to succeed

Alongi's predicament is a familiar one. Food science, as a field of study and employment, is a wide-open discipline. "Food science," explains John Finley, who is the head of the Department of Food Science at **Louisiana State University (LSU)**, "is a field that requires a breadth of knowledge rather than a depth.

Food scientists have to know a lot. They've got to be engineers. They've got to be micro-chemists. They've got to be biologists. Food scientists must understand all the aspects of the ingredients work with."

Food scientists got to be chemists. biologists. understand the ingredients work with."

Finley's been at

LSU for three years. Prior to this position, he worked in the food industry for a quarter of a century, using his skills at such industry giants as Nabisco, Kraft Foods, and Monsanto. He earned his bachelor's degree in chemistry from **Le Moyne College**, in Syracuse, NY, and his doctorate from Cornell. Though he does have administrative responsibilities in his current position, Finley still keeps his hand in research.

"Chronic inflammation is primarily one of the outcomes of obesity, and we're focused on things that will reduce, or delay the onset of, obesity," he says of his research. "There's a critical need, and there's some fascinating chemistry involved — everything from synthesizing low-calorie ingredients to understanding gene expression in the body by consuming things in fruits and vegetables that theoretically prevent disease."

The interdisciplinary, applied approach of the field of food science also guides the work of Gavin Sacks, who teaches enology — wine science — in Cornell's Department of Food Science. Sacks earned a bachelor's in chemistry from the **University of Virginia** and a master's and doctorate in chemistry from Cornell.



Gavin Sacks

JOE OGDONICK



Bhimu Patil

COURTESY OF TEXAS A&amp;M UNIVERSITY

## Quick Facts on Agricultural and Food Science Careers

- Faster than average job growth is expected as agricultural and food scientists develop new products using biotechnology and work to limit the negative environmental impact of agriculture.
- A bachelor's degree in agricultural science is sufficient for most jobs in product development; a master's or Ph.D. is generally required for research positions.
- Opportunities among all agricultural and food sciences are expected to be good over the next decade, particularly in food science and technology.
- Median annual wages for food scientists and technologists were \$59,520 in May 2008. The middle 50% earned between \$43,600 and \$81,340. The lowest 10% earned less than \$34,260, and the highest 10% earned more than \$105,340.

Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, 2010-11 Edition, <http://www.bls.gov/oco/cg/>



"One of the challenges for people with a chemistry background when they move into food science is that chemists want to have mechanistic explanations," Sacks says. "But with food science, you're dealing with a natural material as a starting point that can vary from season to season."

## The impact of food chemistry

For some chemists working in the food science industry, the motivation for their research goes beyond an interest in bench work. The consumption of nutritious food is a big part of the foundation of human health — and careers in food science can have a profound impact on the well-being of entire populations.

Bhimu Patil is the director of **Texas A&M University's** Vegetable and Fruit Improvement Center and a professor at the school. The center conducts

research related to food for health, and Patil has headed up the organization for five years.

"Through the collaborative work of scientists, we can gain knowledge about how to prevent certain diseases by eating more fruits and vegetables," Patil says. "Most of us already know that we need to eat more of these foods, but generally, we are not told how it works."

Patil's background is in horticulture. He earned his doctorate at Texas A&M and had post doctoral experiences looking into pre- and post-harvest effects on health-promoting compounds. When he began exploring flavonoid levels in onions, he started to understand how they help in preventing cancer. From this stemmed his interest in working on the isolation of different bioactive compounds in fruits and vegetables. "Just trying to quantify the bioactive compounds may not be enough," Patil says. "We need to understand the levels of all the compounds."

But using chemistry to explore the health benefits within foods is only one side of the equation.

"I think you can apply chemistry in a lot of different ways," LSU's Finley says. "There's all the analytical stuff,



## Love Food AND Chemistry? How to Grow a Career in the Food and/or Flavor Industries

Click, Watch, and Learn with this Free On-Demand ACS Webinar!

Tune in to find out how you can combine your passion for food and chemistry into a career, including:

- The types of positions available to chemists
- Where to obtain training
- How to develop professional skills and create a professional network
- And much more...

The webinar speaker is Carolyn Fisher, Regulatory Manager at McCormick as well as author, instructor, and food flavors aficionado. For more information or to register, go to: <http://acswebinars.org/fisher>



## Begin Developing a Professional Network


Join the ACS Division of Agricultural and Food Chemistry (AGFD) to meet others interested in the chemistry of agricultural and food products. Areas of focus include agriculture; food composition, quality, safety, and flavor; nutrition; biochemistry; natural products; pharmaceuticals; chemical raw materials and feedstocks; bioenergy; sustainability; and more. For more information, go to <http://agfd.sites.acs.org>.

using biotechnology chemistry techniques to understand which genes are being expressed in the body when you eat. It's either going to upregulate or downregulate a chain, and we're at the point where we can track that."

## Getting in the mix

For students interested in pursuing careers in food science, Patil underscores the interdisciplinary nature of the field. "Try to explore your possibilities," he says. "Don't focus on one thing or pigeonhole yourself."

For Alongi, shadowing helped her narrow her professional interests. "There are many different avenues involving food science, and sometimes finding out about them is half the battle," she says. "The food industry is very small, so networking is key."

"I never took a food science course as an undergraduate or graduate student," USDA researcher Tunick adds. "I wound up in this field because that's the way my career went. Don't be surprised if you end up doing something you didn't expect to do." 



**WENDY HANKLE** is a freelance writer and communications professional who lives in Ithaca, NY.



# Where Chemistry Meets the LAW

## A Career Option That Blends Two Distinct Disciplines

BY ERIC STEWART

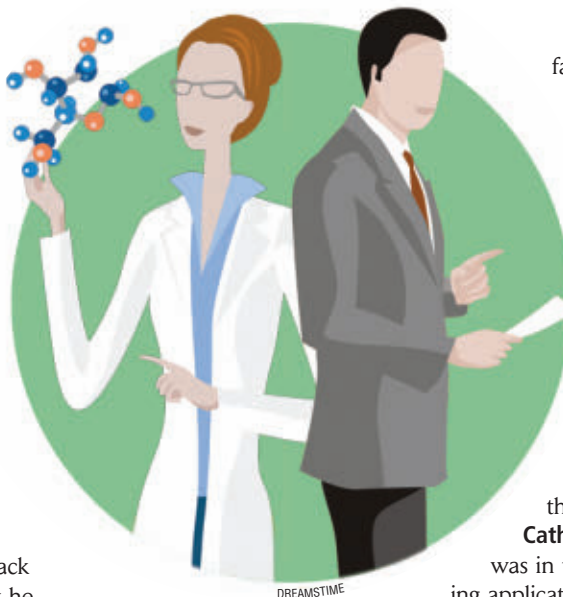
**I**F YOU'VE EVER WONDERED about pursuing a career that combines chemistry and the law, you'll want to hear about the career path taken by Robert Koch.

Koch (pronounced "cook") has had a long and rewarding career as a patent attorney — with a path that started with a brief stint as a patent examiner at the U.S. Patent and Trademark Office (USPTO), followed by more than three decades as an attorney helping clients obtain new patents and protect existing ones. His career path has also taken him from Detroit to Washington DC to Munich — and back again to Washington, DC. In fact, today he works on two continents, traveling to Germany every month to meet with clients.

### A love of chemistry

When Koch was an undergraduate studying professional chemistry at the **University of Detroit (UD)**, he recalls, "I loved chemistry and enjoyed working in the lab. I thought lab work was the be-all and end-all career for me." While attending UD, he also worked as a chemist at a local paint company, and it fascinated him that the company owned several patents.

After he graduated, the company tried to get him to stay on as a group leader. "When I asked about my career potential there, they told me the next promotion would be to a research director but that their youngest person in that position was 30 years old. Being a rash young man," he recalls with a laugh, "that seemed like forever. They saw the disappointment on my



face and suggested that maybe I should consider going to law school instead, which would open up a lot more opportunities." It was the first time he'd ever considered law school — and it wasn't very long afterward that he took his LSAT and applied for law school.

Around that time, Koch also happened to interview with the USPTO at a university job fair. He was offered a position, and moved to the Washington, DC, area in 1969. Soon he was working as a patent examiner (see sidebar) during the day and attending law school at the **Catholic University of America** at night. "I was in the Polymer Arts unit, and was reviewing applications from many of the big foreign firms, such as Hoechst, Bayer, BASF, and others, that were doing the most exciting work in polymers at the time."

### European experience

After two years, Koch left USPTO and worked as an independent contractor for local patent law firms while he finished his law degree. Whenever he could, he tried to learn from the attorneys he worked with about their chemical company clients in Europe. One of the attorneys he met had worked at the Max Planck Institute for Intellectual Property, Competition and Tax Law, one of the world's most respected think tanks, and he introduced Koch to the director of the institute. Eventually, Koch accepted a position there, working in the division that oversaw and consulted on intellectual property law.

It was an exciting time to be in Europe, Koch recalls, because countries were just then negotiating a landmark international

agreement, the European Patent Convention, that addressed intellectual property law. "When the convention went into force in 1978, I was in a great position, because I knew not only all about the agreement itself but also all the key people involved. In fact, the contacts and friendships I made while at the institute endure today and have driven the focus of my entire career." He worked at the institute for a couple of years, took various classes, became fluent in German, and eventually returned to the U.S.

## Starting out with patent prosecution

Back in the U.S., Koch joined a small patent law firm and, with his unique set of knowledge and experience, succeeded in organizing a lucrative new department for the firm that served a variety of international clients on patent issues.

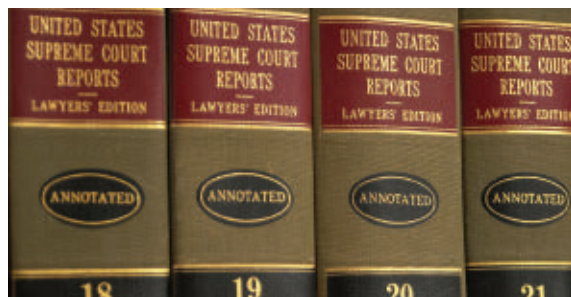
For several years, Koch worked on patent prosecution for clients — that is, helping them obtain patents for their intellectual property. Koch recalls that his prior experience as a patent examiner was helpful in understanding the best way to work with USPTO to serve his clients.

For example, he learned that a key to success in prosecuting patents was to meet in person with the patent examiner who

After several years with the small patent law firm, Koch and some colleagues split off to form a new firm, and he later split off again to form his own firm. He next joined a larger law firm and then, about eight years ago, joined Milbank, Tweed, Hadley & McCloy LLP, the global law firm where he works today.

## Success as a patent litigator

Koch still represents clients in patent matters, but primarily on the litigation side, which involves defending their intellectual property rights from other companies that are impinging on them. He also supervises a team that prosecutes patents, and spends a lot of time traveling to Europe, and Germany in particular,



PHOTOS.COM

**"[Being a patent attorney] is absolutely the best job in the world, because I get to learn — in depth — about all kinds of areas of science from experts in the field. It's like going to school and getting paid for it."**

*—Robert Koch*



Robert Koch

COURTESY OF ROBERT KOCH

was reviewing his client's application. Roughly 90 percent of patent applications are turned down in their first review, Koch observes, for a variety of reasons. Once a claim is rejected, the attorney has a certain time period in which to respond, either by making changes to the claim or by responding to the examiner's specific issues. "I knew some attorneys who would respond to a rejected application by sitting in their office and writing a brief, and others who would speak with examiners by phone. But in my experience, the most effective way, by far, was to ask for a face-to-face interview, where I could really learn about the issues we had to address to move forward."

to meet with clients. As a member of the German Bar, Koch can practice U.S. patent law in Germany (but not German law), and today he often represents German companies in the U.S. regarding their intellectual property issues. In addition, he spends a significant amount of his time training and mentoring younger employees.

Koch views his career as a series of calculated steps that didn't lead to exactly where he had in mind when he started. "I never took a very scientific approach to my career, which is kind of odd," he observes, "since I'm basically a scientist at heart." But the ultimate effect was that each phase of his career laid the groundwork for his success in the next. For example, he notes, "You can't really understand how to litigate a patent unless you understand the process at USPTO, and what went on in its prosecution. There are nuances that come up all the time that can make or break a case."



## Patent examiners: Recognizing original ideas

**P**atent examiners at the U.S. Patent and Trademark Office (USPTO) review applications for everything from chemical compounds to processes, machines, and manufactured items.

Amanda Barrow, a former ACS student member who began her career as a patent examiner (PE) at USPTO in September 2008, says she gets a great deal of satisfaction from her work: "It's rewarding to be on the cutting edge of technology. I get excited for the inventors who are coming up with new ideas, especially in the area of fuel cells, where I did research myself." Because she's been able to meet production standards at USPTO, Barrow has been promoted twice in two years.



Amanda Barrow

STEPHAN ESSEX

Sharon Gibson, director of USPTO's Technology Center 1700, says USPTO has aggressive plans for hiring new PEs. Depending on its budget, USPTO plans to hire a total of 2,000 new PEs by December 2013, including recent graduates with degrees in chemistry and chemical engineering. Entry-level PEs are being recruited and hired at the GS-7 or GS-9 level (with starting salaries ranging from about \$51,900 to \$60,700), based on their experience and other qualifications.

"USPTO is a great place to start your career," says Barrow, "because it opens the door to so many opportunities — especially if you are interested in becoming a patent attorney or working within the agency as an attorney."

Learn more about PE careers at USPTO at [usptocareers.gov](http://usptocareers.gov).

Asked what he likes best about his job, Koch says it's the intellectual challenge and continuous learning. "It's absolutely the best job in the world," he says, "because I get to learn — in depth — about all kinds of areas of science from experts in the field. It's like going to school and getting paid for it."

### Keep your options open

Because of the central role that chemistry and other areas of science and technology play in so many industries, a vast career field has evolved to ensure that inventors' intellectual property is protected.

As a graduate with an interest in chemistry, you could find a variety of interesting and satisfying career options in this field — either as a patent examiner determining which innovations deserve patent protection or as a patent attorney representing clients on a variety of patent issues. **IC**



**ERIC STEWART** is a freelance writer and editor who lives in Arlington, VA.





# Personal Statement Pointers

BY HOLLY C. GAEDE

**W**RITING A PERSONAL STATEMENT can be the most daunting part of preparing a graduate school application. Your grades and GRE scores are just numbers, but the personal statement is, well, personal. The whole purpose of this statement is to reveal something about you.

Your aim should be to reveal not only that you are well-prepared for graduate school in general but also that you are particularly suited to the program for which you are applying. So, while you can have a common essay framework that you use for all your applications, you must tailor your applications for each school. Because of the customization that's required, preparing a good statement takes some research, which in turn takes time. Begin working on your essays early in the fall semester of your senior year so you can meet the graduate school application deadlines without pulling all-nighters that interfere with your grades.

Most graduate school programs ask for a statement that describes your research experience and career goals in one to two pages. In your essay, then, you need to talk a little bit about your past and a little bit about your future. However, don't make the mistake of beginning your essay with a statement along the lines of "I have been interested in chemistry ever since I was a little kid" or "Being a chemist has always been a dream of mine." Such trite approaches don't provide any useful information to the reviewing committee, and believe me, they have read it before. Include only extraordinary pre-college science experiences. For instance, you should definitely write about participation in the U.S. National Chemistry Olympiad or the Intel

Science Talent Search. However, having a great high school AP chemistry teacher isn't all that unusual (thank goodness!) and says more about the teacher than it does about you.

## Describe your research experience

Discuss your research experience. Most admissions committees want to see that you understand the nature of research. While coursework can provide you with basic laboratory skills, it rarely gives you a good idea about the (sometimes frustrating) pace of research. No program wants to admit a student who is going to quit the first time an experiment doesn't work. For this reason, undergraduate research is practically a prerequisite for graduate school. Fortunately, undergraduate research can take place in several different settings, including at your home institution, at a summer Research Experience for Undergraduates (REU), or through an industrial internship. Some students are

even lucky enough to have experienced more than one of these options. In any case, talk about the overarching goals of the project(s) and what you specifically contributed. Point out uncommon skills that you acquired through your research (e.g., software, methods, instruments, or reactions that most undergraduates wouldn't have practiced).

Address how this experience influenced your desire to attend graduate school. If appropriate, comment on any obstacles or difficulties you surmounted to show that you have the perseverance necessary to succeed in graduate school. If you have presented your research in a formal setting or expect to have it published, provide the appropriate references. Publications and presentations show the committee that you can communicate your science

**Don't make the mistake of beginning your essay with a statement along the lines of "I have been interested in chemistry ever since I was a little kid" or "Being a chemist has always been a dream of mine."**

and that you can bring projects to completion.

If for some reason you haven't had an undergraduate research experience, you will have to convince the committee that your other experiences have sufficiently prepared you for graduate school. Possible approaches include writing about any projects you may have completed within the context of an instructional laboratory. Alternatively, you may be able to discuss what you learned from attending research seminars or conferences. There really is no substitute for research experience, so try your best to get some before you begin your application.

## Discuss your career goals

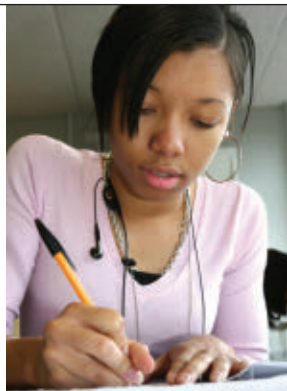
Talk about your career goals. You may not have firm career plans yet, but if you are already set on an academic or industrial career, explain how you came to that decision. More importantly, you need to explain why you think this program will prepare you best for that career path. Make sure your goals align with the education the institution provides. For example, if you are convinced that you want to become a professor at a research-intensive university, it doesn't make much sense to apply to a school that sends all of their graduates to industrial careers, or vice versa. Doing so will show the admissions committee that you haven't done your homework — not a great argument for admission to a research program! If you are uncertain about your career goals and would like to keep your options open, say so. Explain why you think this institution and their curriculum will enable you to do so.

Tell the admissions committee what type of chemistry you'd like to study. If you want to study, say, bioinorganic chemistry, explain how that interest developed. Is it because you really loved both inorganic and biochemistry courses, and see this field as the perfect marriage of your interests? Is it because you've done research or an internship in the area? Have you taken a special course in the area? Show the committee that you have given some serious thought to this question. However, don't be worried that you are painting yourself into a corner. Admissions committees understand that your interests are evolving and that, even as you apply for graduate school, you still have a semester of your undergraduate curriculum left to explore. Many students indicate one interest area (or more) in an application but ultimately decide to pursue another specialty when they begin graduate school the following fall.

## Explain program fit

Once you have explained what you want to study, you need to explain why you want to study it there.

Obviously, this section of your essay also requires customization. You are wasting the admissions committee's time (and your own) if your interest lies in bioinorganic



**Once you have explained what you want to study, you need to explain why you want to study it there.**

chemistry but you apply to an institution that doesn't have a single bioinorganic chemist on the faculty. Aim to list two or three faculty members whom you'd like to work for, and highlight the aspects of their research that appeal to you. Don't go overboard, though; you don't need to rewrite their research brochure. (The admissions committee should be quite familiar with their own faculty members' research interests!) Of course, your research interests should support your career goals. When your stated goal is to work in a pharmaceutical company, the admissions committee will be puzzled if you express interest in working for a gas-phase physical chemist.

Relevant extracurricular activities can be briefly mentioned, especially if used to illustrate a specific point. For example, if you completed an honors thesis as a varsity athlete, you know something about time management! Teaching or tutoring experience may show the committee that you'll be able to handle the first-year teaching assignment.

Leadership in the ACS student chapter will show that you have an interest in chemistry that extends outside the classroom or laboratory. Involvement in other activities may show the committee that you are a well-rounded person with interests outside of science.

## Proofread, proofread, proofread

Once you have written your statement, you should proofread it carefully. Essays with grammatical, spelling, or typographical errors will reflect poorly on you. Statements that mistakenly refer to schools other than the one to which you are applying are especially embarrassing and may convince the committee that you lack attention to detail. Particularly if you are not a native English speaker, ask someone else to read your statement. While confusing or muddled statements may not sink your chances for admission, they certainly won't improve them! Your college or university writing center may be able to help you improve your application essay.

Preparing a thoughtful personal statement can be a useful exercise that helps you clarify your goals and narrow your graduate school choices. Remember, the personal statement is just one piece of the application puzzle. Once you are admitted, you'll have the chance to visit the campus so the faculty can meet you in person. At that point, the admissions committee has already decided that you are a good fit for their program, and you will have the chance to decide whether you agree! **ic**



**HOLLY C. GAEDE** is the undergraduate advisor and a senior lecturer in the Department of Chemistry at Texas A&M University in College Station, TX.

Call for Applications

# SCI SCHOLARS

## Summer Industrial Internship Program for Undergraduates

Summer 2011

The Society of Chemical Industry (SCI) is pleased to offer the **SCI Scholars Program**, which is designed to introduce exceptional chemistry and chemical engineering students to careers in chemical industry. Selected students will become SCI Scholars and participate in one of many prestigious 10-week industrial internships during the summer of 2011.



### BENEFITS:

- Industrial experience
- Generous award—the stipend is in the \$6,000–9,500 range for the 10-week internship
- Certificate and \$1000 travel award to participate in a scientific meeting
- SCI Scholars will nominate a high school chemistry teacher for recognition and a \$1000 award

### REQUIREMENTS:

- Current sophomore or junior
- Chemistry or chemical engineering major
- Minimum GPA of 3.5
- U.S. citizen or permanent resident

SCI Scholars will be selected based upon the strength of their application, statement of interest, and letters of recommendation.

To see detailed information and apply, visit [www.acs.org/sci](http://www.acs.org/sci)



**Deadline for submission is December 1, 2010**





# ACS Webinars — The FREE Place to Click, Watch, and Learn

Explore trends in chemistry with  
subject matter experts and global  
thought leaders

BY SAMUEL TOBA

**I**MAGINE THIS SCENARIO: YOU have just slogged through four years of undergraduate chemistry courses, or several years of graduate study, and your big graduation day is close in sight. You feel excited to be finished with school (at least, for the time being) and to be entering the workforce to make some money. As you prepare to enter a competitive job market, you're a little worried, but hopeful that things will work out.

However, there are still those unanswered questions... How will you know whether to start off your career at a start-up, small business, or large corporation? If you want to pursue an international career, how do you find opportunities to work abroad? And, when you finally receive a job offer, how do you best negotiate for salary and network with other chemical professionals?

Sound familiar? Thankfully, there is help! ACS webinars address these and other topics to help emerging scientific professionals like you become more knowledgeable about current trends in the field of chemistry and the career options that are available.

## Free weekly online sessions

ACS webinars are free weekly online events connecting ACS members and scientific professionals with subject matter experts and global thought leaders in chemical sciences, management, and business. Each webinar is a live event, 60 minutes in length, comprising a short presentation on a relevant professional issue followed by Q&A with the speaker. Topics addressed in the series include:

- Your Career Matters!
- Chemistry and the Economy
- Professional Growth and Development
- Green Chemistry and Sustainability

## How to get started

The webinars are held on Thursdays from 2 to 3 p.m. EST; you can view and register for upcoming events at <http://acswebinars.org/events> or get information by e-mailing [acswebinars@acs.org](mailto:acswebinars@acs.org). A computer with online access or a telephone is all the equipment you need to watch an ACS webinar. Just go to the weblink, enter the registration code you


receive in advance with your confirmation, and you're in!

## On-demand insight

If you are unable to join a particular webinar when it originally takes place, don't worry! All sessions are recorded and available for on-demand viewing at your convenience ([www.acswebinars.org/archives](http://www.acswebinars.org/archives)). You could assemble a group of chapter members to watch a webinar together at any time, or listen from the comfort and convenience of your dorm room or apartment.

Since the webinars are just one hour in length, it's easy to fit them into your busy schedule. There are dozens of topics to choose among, including careers in public policy and communications, effective technical writing, green chemistry, and how chemistry is keeping your food safe.

You can also join the ACS Webinars group on LinkedIn, where you can network, discuss the issues, and receive clarification on your follow-up questions from our subject matter experts (search LinkedIn groups for keyword "ACS Webinars").

We hope you'll join us soon for an upcoming webinar. If you have any questions, please contact at [s\\_toba@acs.org](mailto:s_toba@acs.org) or at 800-227-5558, ext. 4447. 

## Available Anytime! On-Demand Archived ACS Webinars

**October 7, 2010** – "Careers in Intellectual Property," with Robert Koch, Milbank, Tweed, Hadley & McCloy LLP

**September 9, 2010** – "How Scientific Skills Are Used in Advising the Movie Industry – Facts and Fiction," with Barry Byrne, University of Florida

**August 26, 2010** – "Tapping into the Chemistry of Beer and Brewing," with Charles Blamforth, Department of Food Science and Technology, the University of California, Davis

**August 19, 2010** – "Propel Your Career – Networking Tips and Strategies," with Cheryl Martin, Executive in Residence, Kleiner Perkins Caufield & Byers



SAMUEL TOBA is on the staff of the ACS Division of Membership and Scientific Advancement.



## A Student's Perspective on the 240th ACS National Meeting in Boston

BY RACHEL HURLEY

**A**T THE 240<sup>TH</sup> ACS National Meeting in Boston, MA, the eye-catching message above could be seen throughout the Boston Convention and Exhibition Center (BCEC). The slogan aptly depicted the undergraduate program, as students invaded Boston from near and far to experience the chemistry, networking, and history that the meeting and the city had to offer.

Boston greeted us with the power of a nor'easter the morning of August 22, the first day of the Undergraduate Program. Strong winds and heavy rain made the ACS hotel trolleys a popular form of transportation, enabling the chemists to attend the morning's events.

As we gathered for a breakfast, we began to discover just how diverse we were. The majority of students were attending their first meeting, while others were attending their third or fourth meeting as an undergraduate. Additionally, we represented a variety of majors



ACS student chapter members from Arkansas State University posing with ACS president Joe Francisco.

and all class levels. Some students came to present their research, while others came to network with well-known chemists. Regardless of their primary goals, the undergraduate programming provided everyone with a variety of opportunities and experiences.

### Getting to Grad School

With full stomachs and handfuls of ACS pens, brochures, and bumper stickers,

headed to the "Graduate School Reality Check" which featured a panel of chemists with a variety of personal experiences and immense knowledge to share with students interested in graduate school. We heard about traditional Ph.D. programs in chemistry and received tips on applying for graduate programs and choosing a research mentor. We also discovered the benefits of the professional science master's program (PSM),

which focuses on professional courses and a specific science topic. The ACS staff introduced DGRweb, a powerful online tool that, among other things, can assist undergraduate students in researching graduate school programs. The presentations were followed by a Q&A session. The undergraduate students asked a variety of questions, from the necessity of undergraduate research, to international student opportunities and the life of a graduate student.

Additional opportunities to explore graduate school came during the "Networking Social with Graduate School Recruiters" and "Graduate School Recruiting Breakfast." At these events, students conversed with representatives from 37 graduate schools located around the country, enjoyed a delicious buffet, and waited for the results of the gift card drawings. Overall, we had several opportunities to collect valuable information about completing graduate school applications, learning the keys

to selecting a research lab, and discovering what life in graduate school is like.

### A Focus on Food

Just before lunchtime, the technical portion of the program began with a very timely session on the chemistry of food (an exciting topic for many undergraduate students!). Three speakers covered topics from value adding agriculture products to the chemistry of cheese. We learned about the increasing emphasis on food science, a truly interdisciplinary focus covering the production, processing, and distribution of food. All three speakers demonstrated the importance of chemists within the food industry. One speaker had even worked with a variety of recipes for the Oreo cookie!

The speakers joined us for a complementary pizza lunch before taking part in "Careers in Chemistry: What It's Like in the Real World ... and How Do I Get the Job?" The five panelists represented a breadth of career experiences in academia and industry, including work with a start up company, teaching in high school, service with "Teach for America," and work in functional genomics. Emphasizing the importance of following one's passion, the speakers shared the many possibilities that come from holding a chemistry degree — and gaining strong undergraduate experiences!

### Learning to Lead

With the importance of undergraduate professional

development in our minds, we attended the "Leadership Training Workshop – Leading through Extraordinary Experiences and Networking: The Secret of Professional Success." Networking is a key skill for young chemists; you never know when you are going to meet someone who will play a crucial role in your life. In fact, we learned that over two-thirds of available jobs in today's economy are "hidden," making networking of utmost importance. A terrific learning opportunity,

**"We saw first-hand the importance of capturing audience's attention without giving the impression that "magic" is involved."**

the seminar emphasized the importance of leadership — accepting ideas from others and sharing with them the group's overall goal. We even had the chance to practice networking with one another!

The hands-on opportunities continued with "Award Winning Outreach Programs: National Chemistry Week Ideas." From snow with diaper contents to making candles from apples and almonds, we saw first hand the importance of capturing our audience's attention without giving the impression that "magic" is involved. Using specific demonstrations, key scientific concepts such as making appropriate observa-

tions can be incorporated, providing an exciting and educational experience.

### Dendrimers and Nanotechnology

Donald Tomalia, the distinguished professor/research scientist at **Central Michigan University** and the Eminent Scientist speaker, presented his work with dendrimers — precise nanoscale molecules with dendritic architecture — and the emerging framework for the field of nanotechnology. He demonstrated the importance of pursuing your ideas, even in the face of



ACS student chapter members from Kutztown University at an NCW workshop.

controversy, and provided an excellent overview of the future in nanomedicine. Tomalia was a wonderful speaker, and also took the opportunity to network with us following his presentation.

### Primed to Present

Following Tomalia's lecture on nanotechnology, another exciting portion of the undergraduate programming began. The "Undergraduate Research Poster Session" was attended by students, faculty, and a large number of meeting attendees.

With the focus on undergraduate research, presenters had the opportuni-

ty to share results and discuss techniques and experiences. Additionally, the posters highlighted research performed in facilities all around the world!

As the national meeting came to a close, it was clear that the undergraduate programming was a huge success! Students benefited from the opportunity to network with many well-known scientists and share ideas with other students from across the country. We also discussed graduate school options with recruiters and learned the key points in applying to and

selecting a graduate school. While the weather did not allow for extensive tourism, the programming provided opportunity to expand our knowledge in food chemistry, nanotechnology, and explore the rich history of Boston.

If you missed the excitement of Boston, be sure to make plans for the next national meeting in Anaheim, CA. Don't miss this opportunity to experience the speakers, food, demos, and fun that the ACS national meetings have to offer! **HC**

**RACHEL HURLEY** is a senior Chemistry and Biology major at Augustana College in Sioux Falls, SD, and plans to obtain an MD/PhD in Pharmacology.



COURTESY OF KUTZTOWN UNIVERSITY



**EXPERIENCE THE CHEMISTRY!**

# **241<sup>st</sup> ACS National Meeting** **Undergraduate Program**

## **SUNDAY** **MARCH 27, 2011**

**Undergraduate Hospitality Center**  
8:00 A.M. – 5:00 P.M.

**Making the Most of Your First ACS National Meeting**  
8:00 – 8:45 A.M.

**Technical Symposium: 20 years of Undergraduate Programming**  
9:00 – 10:30 A.M.

**Careers in Chemistry—“Environmental Concerns/Alternative Careers”**  
9:00 – 10:30 A.M.

**Networking Social with Graduate School Recruiters**  
10:30 A.M. – 12 NOON

**Chem Demo Exchange**  
10:30 A.M. – 12 NOON

**Graduate School Reality Check**  
1:30 – 3:00 P.M.

**Making Demos Matter**  
3:30 – 5:00 P.M.

**Student Chapter Awards Ceremony**  
7:00 – 8:30 P.M.

**Undergraduate Social**  
8:30 – 11:30 P.M.

## **MONDAY** **MARCH 28, 2011** **WORLD WATER DAY**

**Undergraduate Hospitality Center**  
8:00 A.M. – 5:00 P.M.

**Graduate School Recruiting Breakfast**  
8:00 – 10:00 A.M.

**Outreach Workshop: NCW ideas**  
9:45 – 11:15 A.M.

**Technical Symposium: Chemistry of the Gulf Coast Oil Spill**  
9:45 – 11:15 A.M.

**Undergraduate Research Poster Session**  
12 NOON – 3:00 P.M.

**Eminent Scientist Lecture: “A Little Light Relief”**  
*Presented by David Phillips, President, Royal Society of Chemistry*  
3:30 – 4:30 P.M.

**Networking Session with Industrial Chemists**  
4:30 – 6:00 P.M.

**Sci-Mix/ Successful Student Chapters Poster Session**  
8:00 – 10:00 P.M.



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# ANAHEIM, CA MARCH 27-31, 2011

## Explore Graduate School Opportunities

The graduate school events provide a great opportunity to network with graduate students and recruiters from a diverse variety of graduate programs and to learn about meeting the challenges of graduate school. These events also provide great networking opportunities and refreshments.

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**If your school would like to include a notice in an upcoming issue of *inChemistry*, contact Lori Betsock, (800) 227-5558, ext. 6188 or e-mail [l\\_betsock@acs.org](mailto:l_betsock@acs.org)**

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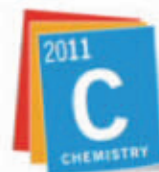
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