The Magazine for ACS Student Members
November/December 2009

inChemistry

Getting Prepared for Your Career

ACS Chemistry for Life™

inChemistry

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Published for student members by the American Chemical Society Education Division at 1155 Sixteenth Street, NW, Washington, DC 20036.

Canadian GST Reg. No. 127571347

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Volume 19 ■ Number 2
November/December 2009

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MARSHA DOMANN


ROBERT HUGHES

COURTESY OF JOHN CARROLL UNIVERSITY

Cover art courtesy of Robert B. Alcott. Image created with a mixture of compounds on glass. Inset photo: Alexandra Severino teaches chemistry at Union City High School in Union City, NJ. Photo by Elizabeth Woodwell.

Interesting Websites

ACS Careers Website
More than just an online jobs site, the ACS Careers website contains information on salaries and what chemists do, and provides a careers industry forum, career advice, and more. Whether you are looking for your first job or advancing your career to the next level, the ACS Careers website is a valuable resource. **www.acs.org/careers**

Young Germany
If you're thinking about doing study or research abroad in Germany, visit the Young Germany website to learn more about the German lifestyle and culture. The site provides information of particular interest to students and includes a blog written by American students who are studying in Germany. Site visitors can also conduct searches for universities, apartments, hostels, and car rides.
http://young-germany.de

Interesting Articles

Young Industrial Chemists Find the Learning Curve Never Ends
Rachel Petkewich reports on young Ph.D. chemists and their experiences in the private sector. While their academic training prepared them well to ask the right questions, set up experiments, and solve chemistry problems, they still had much to learn to succeed in an industrial career. *Science,* August 7, 2009, pp. 696–697.
www.sciencemag.org/cgi/content/full/325/5941/696

Fifty Standard Interview Questions
Be prepared for the full spectrum of questions that may be asked during an interview by reading this article on collegegrad.com.
http://collegegrad.com/jobsearch/Mastering-the-Interview/Fifty-Standard-Interview-Questions/

Organic Chemistry Far from the Bench
Susan Ainsworth explores why chemists should seek career opportunities to broaden their scientific base beyond what they learned in school and why having a narrow expertise in one area makes it difficult to shift to other areas that might eventually pique your interest. *Chemical & Engineering News,* July 20, 2009, Volume 87, Number 29, pp. 56–59.
http://pubs.acs.org/isubscribe/journals/cen/87/i29/html/8729employment.html

Pursuing a Challenging Career in Chemistry

By Marinda Li Wu


COURTESY OF MARINDA LI WU

What career advice would I offer undergraduate chemistry majors today? As an ACS career consultant, I help chemists at all stages of their careers with their job searches. Students pursuing a career in chemistry in today's job market need to *be prepared and flexible,* because there is little job security, whether you work for industry, government, small business, or even academia.

Be prepared by keeping your résumé up to date. Be ready to give people your "elevator speech" — what your interests are and what you have to offer — in three minutes or less. You may have only the time between two floors in an elevator to get your points across to someone whom you meet at a networking reception.

Networking is an important skill to develop both before and after you have a job. Set a personal goal of meeting at least two new people at every event you attend. Attending events on campus and also in your ACS local section provides valuable networking opportunities.

It is important to *follow your passion.* Be assured that chemistry is still considered a "central science." Chemists will play a critical role in solving the multidisciplinary and global problems of energy, the environment, and shortages of water, food, and natural resources. However, with the downturn in the economy and ideal jobs more scarce than ever, it may become necessary to be more flexible and think "outside the box" to find your next job.

Your chemistry major prepares you to pursue a variety of career options. Consider not only traditional careers in chemistry but also non-traditional careers where you can apply your knowledge of chemistry. People trained in the analytical reasoning of science can compete well in many different arenas, including regulatory affairs, public policy, patent law, business development, marketing and sales, criminology, toxicology, and information management, to name just a few. Pharmaceuticals and biotech were hot areas a few years ago, but now energy research is getting more funding and offers new chemistry career opportunities.

In planning your job search, remember to: 1) consider your personal values and strengths; 2) learn about the job market and current trends; and 3) check out the ACS Careers website at www.acs.org/careers for more information on career advice and valuable resources.

I wish you all the best as you pursue a challenging career in chemistry! IC

Marinda Wu

Marinda Li Wu received her B.S. cum laude with Distinction in Chemistry from the Ohio State University and her Ph.D. in inorganic chemistry from the University of Illinois. She currently serves on the Board of Directors for the American Chemical Society and works on "Science is Fun!" in her spare time.

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

University of Michigan-Flint

Flint, MI

Chapter president: Danielle Borgerding
Number of chapter members: 30
Number of ACS student members: 11
Institution environment/ composition: Small, public, urban, 4-year institution
Chapter website: www.sitemaker.umich.edu/chemclub

Q Do you have any unique officer positions?

A We have a public relations officer and a demonstration coordinator. The public relations officer creates and posts flyers for activities and events, updates the chapter bulletin boards, coordinates logistics of meetings and events, and maintains the chapter website. The demonstration coordinator creates, preps, and performs demonstrations, and trains others to perform them. Having these two positions reduces the workload of our other officers, allowing them to be more successful in accomplishing other tasks.

Q How did you celebrate NCW and Chemists Celebrate Earth Day?

A We volunteered at an NCW event at a local science museum performing various hands-on activities. This event was organized by the Detroit ACS Local Section. Also, in all of our chemistry courses, we got students involved and excited with mystery element quizzes. Students with correct answers were entered into a daily drawing with one student winning a chemistry-related prize. For Earth Day, we held a campus-wide "mole hunt" by hiding "nanomoles" throughout the science building. Students who returned them received prizes and flyers with facts regarding pollution, how to live greener, and locations of local recycling venues.

COURTESY OF UNIVERSITY OF MICHIGAN-FLINT

Q What is your most popular chapter activity?

A Our annual "Battle of the Chemistry Clubs" is our most popular chapter activity. This event is held and planned by different universities each year. Last year, we hosted it and competed against three other universities in fun chemistry competitions. Competitions have included titration races, spectroscopy challenges, calculation relays, dry ice curling, glassware match-up, chemistry jeopardy, etc. Our entire chapter participates, and this is a great way to network with other ACS chapters in the surrounding area.

Q What is the most effective communication tool that your chapter uses?

A There is not one communication tool that is the best; instead we use several tools together to help us promote our activities. We post flyers throughout the campus and send e-mail messages. Chemistry faculty make announcements in their courses to let students know about upcoming meetings, activities, and events. Our website and Facebook pages also help because we can post information about upcoming events.

Q What is your most successful fundraiser to date?

A For our annual lab coat and goggle sale, we collect and clean gently used goggles and lab coats that students left behind in chemistry and biology labs and sell them at reduced rates. We also sell our chapter T-shirts, new lab coats, and anti-fogging goggles.

Faculty Advisor
Jessica Tischler, 7.5 years

Q Why/how did you become a faculty advisor?

A I was a member and officer in my ACS student chapter when I was an undergraduate student. It was a wonderful experience and I wanted my students at UM-Flint to have that experience as well.

Q What challenges have you faced in your position?

A Keeping up with the ever-changing rules that govern chapters on campus has made things interesting over the years. This has been particularly true in regards to fundraising.

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

A Getting to know my students outside the classroom. Over the years, I have really enjoyed getting to know them as people and watching them develop as leaders and scientists.

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

A Find another faculty member to assist you as a co-advisor. It has helped me greatly. We can bounce ideas off of each other, and it gives the students more feedback on their ideas. It also helps us cover all of the chapter events so that at least one faculty member is present.

East Los Angeles College

Monterey Park, CA

Chapter president: Joseph Giacinto III
Number of chapter members: 15
Number of ACS student members: 6
Institution environment/ composition: Large, public, urban, minority serving, 2-year institution

Q How did you celebrate NCW and Chemists Celebrate Earth Day?

A Our chapter hosted an NCW seminar that featured a chemist and a magic show for our college community. For Chemists Celebrate Earth Day, we participated in a large-scale event on campus that attracted approximately 800 middle and high school students, and many more ELAC students. With the support of our ACS local section, we did hands-on demonstrations on water conservation and educated the community about how chemistry is used in water treatment.

Q What methods do you use to retain members from year to year?

A Our chapter is very active in recruiting members. At the Associated Union Club Day, our members set up a table and perform exciting chemistry demonstrations to grab everyone's attention, and we also hand out an informational pamphlet. We also try to have students perform and explain a chemistry demonstration at every chapter meeting. Students enjoy this part of the meeting.

Q What types of activities do you sponsor?

A The chapter sponsors a speaker series that draws large crowds. The talks not only involve dynamic discussions of science, but also speakers who talk about their own educational pathways and the opportunities available to our students in their institutions, such as research and scholarships. We also set up field trips to local colleges and universities, and to local venues or companies that have ongoing research. We try to show students all the possibilities available to them, and all the exciting ways chemistry is being used in companies and organizations, such as Miller Brewing Company, Amgen, and The Getty Conservation Institute.

Q Does your chapter collaborate with other student organizations on campus?

A Our chapter works closely with the Mathematics, Engineering, and Science Achievement (MESA) program at ELAC. MESA connects all the science clubs on campus. We work most closely with the Physics Club and the Society for Hispanic Professional Engineers in organizing and attending field trips together and volunteering at different on- and off-campus events.

Q What innovative methods of communication do you use?

A We widely use e-mail interaction with our members, and texting has shown to be a great tool of communication with our students.

COURTESY OF EAST LOS ANGELES COLLEGE

Faculty Advisors
Veronica Jaramillo and Armando Rivera-Figueroa, 3 years

Q Why did you become faculty advisors?

A We became co-advisors at the inception of our chapter. We believed that the ACS student chapter offered a great vehicle to help our students learn about the different opportunities for science majors. We also felt it was important to build a network for our science majors and other students with similar interests and class loads. Furthermore, we understand that the ACS student chapter is a necessary tool to develop the science leaders of the near future.

Q What challenges have you faced in your position?

A Time is always an issue, but having a co-advisor allows for some leeway and gives the students another person to depend on.

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

A Watching our students blossom into leaders. Our students really have gained confidence running the chapter, meeting with visiting faculty, and speaking about science. In general, it has been a great reward in that we have made science more accessible to our students — most of whom represent the first generation in their families to attend college.

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

We suggest having a co-advisor and allowing your students' interest to guide the chapter's programmatic aspect. ic

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Congratulations to This Year's Winners!

2008-2009 Student Chapter Awards

You are awesome! Thank you for all of your incredible work on behalf of our discipline, our communities, and our Society!

You, the members of the ACS student chapters, are the lifeblood of the American Chemical Society. The Society belongs to you, and I am so proud that you are helping to shape the Society through your exemplary work. By reaching out to the communities in which we live and work, you help put a human face on chemistry. Working with the youth of our communities allows you to reinforce my belief that education is the great equalizer — allowing the disadvantaged of our society, as well as the privileged, to become anything that they choose to be. This will help to ensure that we have a rich pipeline of scientists, engineers, inventors, and explorers who will provide solutions to this planet's greatest challenges: clean water, food, health care, and a plentiful supply of renewable energy for everyone.

My friends, I am proud to be a chemist because I improve people's lives through the transforming power of chemistry. I hope that you, too, are proud of being a part of the greatest discipline on the planet. Share your pride with everyone you meet. Together, let's discover and provide the solutions to the global challenges we face. Thank you again for being a chemistry ambassador.

I wish you a safe, happy, and healthy holiday season!

Thomas H. Lane, Ph.D.
President
American Chemical Society

ISTOCK

The ACS Committee on Education has selected the following student chapters to receive special recognition for the programs and activities described in their 2008-2009 annual reports. They will be honored at the 239th ACS National Meeting in San Francisco, CA on Sunday, March 21, 2010. Listed below are the *winning institutions*, **chapter presidents,** and faculty advisors.

Outstanding

Augustana College, Sioux Falls, SD
Joseph Coppock, Jetty Duffy-Matzner

California State University-Dominguez Hills, Carson
Kimberley Chap,
Sofia Pappatheodorou

Carlow University, Pittsburgh, PA
Bonnie Merchant, David Gallaher and Monique Shumaker

Carroll University, Waukesha, WI
Stacy Gates, Michael Schuder

Central Michigan University, Mount Pleasant
Jason Mann, Sharyl Majorski and Dale LeCaptain

Eastern Oregon University, La Grande
Korth Elliott, Anna Cavinato

Florida International University-Biscayne Bay Campus, North Miami
Ameera Juman, Milagros Delgado and Mayra Exposito

Florida Southern College, Lakeland
Alyssa Huebner, Carmen Gauthier and James Worden

Georgia College and State University, Milledgeville
Evan White, Catrena Lisse

Illinois Valley Community College, Oglesby
Bryan Hybki, Matthew Johll and Larry Ault

Inter American University of Puerto Rico-San Germán
Angel Vega, Angela Gonzalez

Lander University, Greenwood, SC
Ankoma Anderson, Lisa Brodhacker and Ralph Layland

Newberry College, SC
Angela Amick and Barrett Stanley, Christina McCartha

Northeastern University, Boston, MA
Andrea Lebed, Jordan Swift

Northern Kentucky University, Highland Heights
Christopher Miller, Keith Walters and Heather Bullen

Northwestern State University, Natchitoches, LA
Theresa DeVanie, Gillian E. A. Rudd

Spring Hill College, Mobile, AL
Graham Sanborn, Carolyn Simmons and Mark Watry

Texarkana College, TX
Brett Jackson, Patricia Harman and Mike Buttram

Texas State University, San Marcos
Damaso Rosas, Benjamin Martin

Truman State University, Kirksville, MO
Josh Blechle and
Dmitriy Chernookiy, Barbara Kramer

Union University, Jackson, TN
Sarah Conway, Charles Baldwin and Randy Johnston

University of Colorado-Denver
Veronia Guirguis and
Neha Sharma, Mark Anderson

University of Detroit Mercy, MI
Graham Greeland and
Andrew Ward, Matthew Mio and David Bartley

University of Mary Hardin-Baylor, Belton, TX
Shannon Woodruff, Darrell Watson

University of Nebraska at Kearney
Danielle Policarpio, Annette Moser and Haishi Cao

University of Pittsburgh, PA
Brandon Mills, George Bandik

University of Pittsburgh at Titusville, PA
Preeti Bansal, Ping Furlan

University of Puerto Rico-Aguadilla
Doribeth Ruíz Cortés, Sonia Rivera and Brenda Ramos

University of Puerto Rico at Arecibo
Sergio Cardona,
Vanessa Montalvo-Rivera and Emiliano Garcia-Maldonado

University of Puerto Rico at Humacao
Noel Torres, Juan Suarez

University of Puerto Rico-Río Piedras
Emily Robles, Ingrid Montes

University of St. Thomas, Houston, TX
Vania Phuoc, Thomas Malloy, Jr.

University of Texas at Dallas, Richardson
Khoan Vu, John Sibert

Waynesburg University, PA
John Paiani, Robert LaCount and Evonne Baldauff

Wilkes University, Wilkes-Barre, PA
Natalie Harvey, Donald Mencer and Henry Castejon

Commendable

Angelo State University, San Angelo, TX
Caitlin Cozby, Kevin Boudreaux

Aquinas College, Grand Rapids, MI
Molly Soper, Li-Heng Chen and Elizabeth Jensen

Armstrong Atlantic State University, Savannah, GA
Mark Bradle, Brent Feske and Clifford Padgett

Ball State University, Muncie, IN
Svetlana Pekovic, Jason Ribblett

Barry University, Miami Shores, FL
Rafaela Nita, George Fisher

Bradley University, Peoria, IL
Margaret Hammar, Dean Campbell

Bucknell University, Lewisburg, PA
Tara Pedersen, Karen Castle

Catawba College, Salisbury, NC
Mary Black, Mark Sabo

Clemson University, SC
Austa Marie Parker, John Kaup

College of Mount Saint Vincent, Riverdale, NY
Thomas Pufahl and Christina Lavelle, Pamela Kerrigan

Drury University, Springfield, MO
Kinjal Majumder, Scott Petrich

Eastern Illinois University, Muncie, IN
Rebecca Grove, Jason Ribblett

The Evergreen State College, Olympia, WA
Julie Holder, Dharshi Bopegedera

Ferris State University, Big Rapids, MI
Robert Maul, Pasquale DiRaddo

Florida International University, Miami
Maria Perez, Konstantinos Kavallieratos and Piero Gardinalli

Georgia Southern University, Statesboro
Lee Trieski, Michele McGibony

Henderson State University, Arkadelphia, AR
Katie Ausburn, Janice O'Donnell

Hendrix College, Conway, AR
Robert Fureigh, David Hales

Hiram College, OH
Leeanne Taylor, Carol Shreiner

Hope College, Holland, MI
Andrew Franks, Jeff Johnson

Indiana State University, Terre Haute
Stephanie Braun, Laurence Rosenhein

Inter American University of Puerto Rico-Metropolitan Campus, San Juan
Melissa Dávila Morris, Agnes Dubey and Izander Rosado

Iona College, New Rochelle, NY
Aileen Hilario, Sunghee Lee and Jerome Levkov

Linfield College, McMinnville, OR
Victor Treadaway, Brian Gilbert

Lock Haven University of Pennsylvania
Albert Lattanzi, Broc Smith

Millikin University, Decatur, IL
Katie Bates, George Bennett

Morgan State University, Baltimore, MD
Oyebola Oladeinde, Louise Hellwig

Muhlenberg College, Allentown, PA
Samantha Burgess, Bruce Anderson

Northeast Texas Community College, Mt. Pleasant
Samantha Johnson, Lawrence Brough and James Archer

Northwestern University, Evanston, IL
Sharan Srinivasan, SonBinh Nguyen

Ohio Northern University, Ada
Joshua Judkins, Tevye Celius

Pontifical Catholic University of Puerto Rico, Ponce
Danais Fontanez, Carmen Collazo

Radford University, VA
Amanda Neighbors, Cindy Burkhardt

Saginaw Valley State University, University Center, MI
Christopher Alvey, David Karpovich

Saint Francis University, Loretto, PA
David Kirby and David Kozak, Nathan Malavolti and Edward Zovinka

Saint Louis University, MO
Abigail Young, Brent Znosko

Santa Clara University, CA
Erikka Fisk and Merve Karabulut, Linda Brunauer

Seton Hill University, Greensburg, PA
Mia Gunawan, Susan Yochum

South Dakota School of Mines & Technology, Rapid City
Bethany Baker, Justin Meyer

South Texas College, McAllen
Julie Gonzales, Ludivina Avila and Joe Studer

Southwestern College, Chula Vista, CA
Mark Gianino, David Brown

Stonehill College, North Easton, MA
Natalie Dogal, Cheryl Schnitzer and Marilena Hall

Suffolk University, Boston, MA
Urjana Porcei, Doris Lewis

Tarleton State University, Stephenville, TX
Cody Anderson, Peter Bell and Howard Nance

Tennessee Technological University, Cookeville
Dan Roubik, Daniel Swartling

Tuskegee University, AL
Lashawndra Lawrence, Barbara Rackley and Albert Russell

Union College, Schenectady, NY
Laura Castellano, Laura MacManus-Spencer and Mary Carroll

University of Arizona, Tucson
Trahern Jones, John Pollard

University of California, San Diego
Chen Zhao, Judy Kim and Stacey Brydges

University of Houston, TX
Andrea Schlather, Simon Bott

University of Illinois at Urbana-Champaign
Jordan Axelson, Jesse Miller and Lauren Denofrio

University of Kentucky, Lexington
Carly Joehl, Stephen Testa

University of Mary Washington, Fredericksburg, VA
Merida Marston, Leanna Giancarlo

University of Michigan-Flint
Danielle Borgerding, Jessica Tischler

University of Northern Colorado, Greeley
Tyler Takeshita, Kimberly Pacheco

University of Saint Thomas, St. Paul, MN
Matthew Turner, J. Thomas Ippolito

University of Southern Maine, Portland
Kristopher Fecteau, Lucille Benedict and James Ford

University of Tennessee at Chattanooga
Will McGee and Jessica Ezell, Gretchen Potts

University of Tennessee at Martin
Kayla Poindexter, Shakti Airee

University of Texas at Tyler
Heather McBride, Donald McClaugherty

University of Wisconsin-Madison
Amanda Turek, Ieva Reich

University of Wisconsin-Whitewater
Kristi Strey, Hephzibah Kumpaty

Utah State University, Logan
Christina Hansen, Lisa Berreau

Utica College, NY
Merida Marston, Leanna Giancarlo

Western Kentucky University, Bowling Green
Carrie Jo Pruitt, Lester Pesterfield

Western Washington University, Bellingham
Amanda Bader and Erin Gleason, Elizabeth Raymond and Steven Emory

Westminster College of Salt Lake City, UT
Tenzing Norgyal, Paul Hooker and Robin Hyde

Xavier University of Louisiana, New Orleans
Trevonne Walford, Michael Adams

Honorable Mention

Adams State College, Alamosa, CO
Nora Lamartine, Christina Miller

Agnes Scott College, Decatur, GA
Melissa Winter, Thomas Venable

Alvernia University, Reading, PA
Stephanie Sarti, Rosemarie Chinni and Kevin Burns

Augustana College, Rock Island, IL
Mohamed Rajput, Mary Ellen Biggin and Sally Burgmeier

Austin Peay State University, Clarksville, TN
Kim Anderson, Carrie Brennan

Bellarmine University, Louisville, KY
Mathew Galante, Patrick Holt

Bellevue College, WA
Robert Tsay, Carole Berg

Belmont University, Nashville, TN
Robert Gibson, Alison Moore and Rachel Rigsby

Brigham Young University, Rexburg, ID
Gillianne Starks, Daniel Austin

California State Polytechnic University-Pomona
Christopher Dettmar, Charles Millner and Laurie Starkey

California State University-Chico
Justin Petrovic, Daniel Edwards

California State University-Fresno
Steven Chabolla, Melissa Golden

Canisius College, Buffalo, NY
Ryan Campagna, Phillip Sheridan

Centenary College of Louisiana, Shreveport
Cara Miccoli, Joshua Lawrence and Mary Garrett

Central Washington University, Ellensburg
Rosa Rabinovitz, Timothy Sorey

Claflin University, Orangeburg, SC
Courtenay Simmons, Angela Peters and Hoosein Nanaie

Clarion University of Pennsylvania
Matthew Barger, Amanda Lockwood

Coe College, Cedar Rapids, IA
Caitlin Johnson, Martin St. Clair

College of Saint Elizabeth, Morristown, NJ
Cassandre Noel, Sister Marian José Smith

The College of Wooster, OH
Allyson Buytendyk, Paul Bonvallet

Colorado School of Mines, Golden
Chia-Chih Chang, Ryan Richards

Delta State University, Cleveland, MS
Austin Childress, Alline Somlai and Charles Smithhart

Drexel University, Philadelphia, PA
Marcela Garcia, Daniel King

Duquesne University, Pittsburgh, PA
Kailey Ruszkowski, Jeff Evanseck and Paul Johnson

East Los Angeles College, Monterey Park, CA
Nancy Jimenez, Veronica Jaramillo and Armando Rivera-Figueroa

Elizabethtown College, PA
Alaina DeToma, Kristi Kneas

Emory University, Atlanta, GA
Thalvinder Sangha and Manvi Anand, Tracey Morkin and Douglas Mulford

Fort Valley State University, GA
Tomia Hines, Robin Bright and James Mack

Francis Marion University, Florence, SC
Katie Lewis, Jennifer Kelley and T. J. Anderson

Frostburg State University, MD
David Morris, Don Weser

Georgia State University, Atlanta
Tania Begum, Jyotsna Thota

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

Hartwick College, Oneonta, NY
Karah Lajeunesse, Susan Young

Hofstra University, Hempstead, NY
Stephanie Pollut, Ronald D'Amelia

Idaho State University, Pocatello
Minh Nguyen, Joshua Pak

Illinois State University, Normal
Kathleen Burke, Marjorie Jones

Illinois Wesleyan University, Bloomington
Matthew Huddle, Melinda Baur and Brian Brennan

Indiana University of Pennsylvania
Olivia McGovern, Nathan McElroy

Keene State College, NH
Joseph Meany, Colin Abernethy and Denise Junge

Kennesaw State University, GA
Quynh Nguyen, Christopher Dockery

Lake Forest College, FL
Emily Pospeich, Elizabeth Fischer and Dawn Wiser

Lebanon Valley College, Annville, PA
Nathaniel Bair, Mark Harris

Lehigh University, Bethlehem, PA
Sara Shah, Keith Schray

Loras College, Dubuque, IA
Dan Branson, David Oostendorp and David Speckard

Louisiana State University and A&M College, Baton Rouge
Elizabeth Lissy, Paul Russo and Carol Taylor

Manchester College, North Manchester, IN
Elizabeth Mishler, Susan Klein and Jeffery Osborne

Manhattan College, Riverdale, NY
Felisha Santory, Jianwei Fan

Middle Tennessee State University, Murfreesboro
Taylor Barnes, Gary White and Andrienne Friedli

Millersville University, PA
Hudson VanOrmer, Lynman Rickard and Laura Anna

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Marji Ploeger, Trenton Vorlicek

Minnesota State University, Moorhead
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Amanda Schlender and Kimberly Earl, Thomas Schuman and Terry Bone

Monmouth College, IL
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Don Curran, Jane Shebert

Niagara University, NY
Megan Baumer, Chris Stoj

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Davida Harrison, Marion Franks and Etta Gravely

North Carolina Central University, Durham
Maian Lopian, John Myers

North Central College, Naperville, IL
Kyle Olson, Paul Brandt

North Dakota State University, Fargo
Danielle Pinnick, Seth Rasmussen

Northern Illinois University, Dekalb
Kasey Klaisner, David Ballantine

Old Dominion University, Norfolk, VA
Brian Briesemeister, Paula Mazzer

Pacific Lutheran University, Tacoma, WA
Eric Gordon, Neal Yakelis and Craig Fryhle

Park University, Parkville, MO
Jennifer Geeo, Donna Howell

Pennsylvania State University, University Park
Leah Giaccotto, Jackie Bortiatynski

Point Loma Nazarene University, San Diego, CA
Kristin Mitrovich, Sara Yu Choung and Gary Smith

Ramapo College of New Jersey, Mahwah
Michael Chiorazzo, Anita Brandolini

Rensselaer Polytechnic Institute, Troy, NY
David Lober, James Moore

Rhodes College, Memphis, TN
Elizabeth Parkinson, Mauricio Cafiero

Rider University, Lawrence, NJ
Dhwani Shelat, Bruce Burnham

Roger Williams University, Bristol, RI
Fuller Jack, Stephen O'Shea

Sacred Heart University, Fairfield, CT
Jocelyn Brickett, Linda Farber

Saint Cloud State University, MN
Anisa Batta, Eric Gato

Saint Vincent College, Latrobe, PA
Jared Rigo and Jeannine King, Jason Vohs

Salem College, Winston-Salem, NC
Rhea Williams, Nita Eskew

Samford University, Birmingham, AL
Samuel Douglas and Barrett Worley, Denise Gregory

San Jose State University, CA
Harrison Simon, Gilles Muller

Savannah State University, GA
Kelvin Frazier, Jannie Baker and Olarongbe Olubajo

Seattle University, WA
Colleen Ottinger, Peter Alaimo

Shippensburg University of Pennsylvania
Amanda Crowder, Curtis Zaleski and Thomas Frielle

Southeast Missouri State University, Cape Girardeau
Amy Joiner, Rachael Theall and James McGill

Southeastern Oklahoma State University, Durant
Echo Adcock, Gordon Eggleton

Southern Illinois University-Edwardsville
Dylan Downs, Susan Wiediger

Southern Oregon University, Ashland
Marshall Goenawan and Joseph May, Paul Brandt

Southwest Minnesota State University, Marshall
Robin Hull, Noelle Beyer and Frank Schindler

Spelman College, Atlanta, GA
Danielle McCarthur, Kimberly Jackson and Nripendra Bose

St. John's University, Queens, NY
Maung-Tin Htoo Kyaw, Neil Jespersen

Stern College for Women-Yeshiva University, New York, NY
Grace Charles and Loriel Solodokin, Chaya Rapp and Evan Mintzer

Temple University, Philadelphia, PA
Nooshin Asadpour, Eric Borguet

Texas Tech University, Lubbock
Sean Lee, Robert Blake

Transylvania University, Lexington, KY
Katharin Shaw, Eva Csuhai and Gerald Seebach

Trinity University, San Antonio, TX
Madonna McManus, Adam Urbach

University of Alabama at Birmingham
Khoa Nguyen, Jacqueline Nikles

University of California-Irvine
Charles Stoianovici, David Van Vranken

University of Central Missouri, Warrensburg
Tim Robbins, Renee Cole

University of Central Oklahoma, Edmond
Heather Tournear, Dallas New and John Ferguson

University of Colorado-Colorado Springs
Roberto Padilla, David Weiss

University of Connecticut, Storrs
Olbelina Ulloa, Tyson Miller

University of Maryland, Baltimore County, Baltimore
Kezia Alexander, Tara Carpenter

University of Minnesota, Morris
Laura Thoma, James Togeas

University of Nevada, Las Vegas
Daniella Sandoval, MaryKay Orgill

University of Oregon, Eugene
Corinne Allen, John Hardwick

University of Puerto Rico at Cayey
Ramon Figueroa Díaz, Elba Reyes

University of Puerto Rico-Mayagüez Campus
Joel Diaz Arana, Sara Delgado and Nilka Rivera

University of San Diego, CA
Will Porterfield, Debbie Tahmassebi

University of Southern Indiana, Evansville
Margaret Schnorbus, Ken Walsh

University of the Sciences in Philadelphia, PA
Hetal Sheladia, Edward Birnbaum and Vanessa Jones

University of Toledo, OH
Keith Royer, Edith Kippenhan

University of Utah, Salt Lake City
Kristofor Olson, Anita Orendt

University of West Florida, Pensacola
Scott Shaw, Michael Huggins and Pamela Vaughan

University of Wisconsin-Eau Claire
Jason Greuel, Kurt Wiegel and Alan Gengenbach

Washburn University, Topeka, KS
Renae Solko, Shaun Schmidt

Washington and Jefferson College, Washington, PA
Jennifer Czekaj, Nobunaka Matsuno and Mark Harris

Washington College, Chestertown, MD
Katelyn Daudelin, Anne Marteel-Parris and James Locker

Wayland Baptist University, Plainview, TX
Zachariah Hawkins and Stephanie Skiles, Joel Boyd

Westminster College, New Wilmington, PA
Christina Hamill, Peter Smith and Perrti Viskari

West Virginia University, Morgantown
Cory Driscoll, Harry Finklea and Jeffrey Carver

Wright State University, Dayton, OH
Tyler Auvil, Kirby Underwood and Daniel Ketcha

Youngstown State University, OH
Kristin Johnson, Nina Stourman

2008-2009 Green Chemistry Student Chapters

Angelo State University
Aquinas College
Augustana College, SD
California State Polytechnic University-Pomona
Carroll University
Central Michigan University
Clemson University
College of Mount Saint Vincent
Emory University
The Evergreen State College
Ferris State University
Florida International University-Biscayne Bay Campus
Florida Southern College
Georgia College and State University
Georgia Southern University
Hendrix College
Idaho State University
Illinois Wesleyan University
Inter American University of Puerto Rico-Metropolitan Campus
Keene State College
Linfield College
Manchester College
Millikin University
Missouri University of Science and Technology
Northwestern University
Park University
Purdue University
Roger Williams University
Saginaw Valley State University
Saint Francis University
Saint Louis University
South Texas College
Suffolk University
Tarleton State University
Texarkana College
Truman State University
Union University
University of Arizona
University of Colorado-Denver
The University of Detroit Mercy
University of Houston
University of Mary Hardin-Baylor
University of Pittsburgh
University of Pittsburgh at Johnstown
University of Pittsburgh at Titusville
University of Puerto Rico-Aguadilla Campus
University of Puerto Rico at Humacao
University of Puerto Rico-Rio Piedras Campus
University of Saint Thomas, MN
University of St. Thomas, TX
University of Tennessee at Martin
University of Toledo
Utah State University
Western Kentucky University
Western Washington University

2009-2010 Innovative Activities Grants

For the 2009-2010 academic year, the ACS Society Committee on Education has selected the following seven IAG proposals to receive funding. Listed below are the *chapters,* **student project directors**, faculty advisors, and ***project titles***.

Ball State University
Breanna Ricketts, Jason Ribblett
Engaging Girls in Science

Rutgers University
Luming Li, John Taylor
Bringing Chemistry to the (Future) Chemists

Samford University
Anthony Bolus, Christina Dixon, Sam Douglas, Denise Gregory
Alkenes for 200, Please: In Jeopardy with Chemistry

University of Texas-El Paso
Alma Miramontes, James Becvar
Chemistry Playground

University of Toledo
Jacob Dietsch, Edith Kippenhan
Homeschoolers Have Chemistry Day at UT

Waynesburg College
Miranda Thornton, Robert LaCount
Helping Area Students Prepare Successful Science Fair Projects

Xavier University of Louisiana
Kirbye Sullivan, Gabrielle Jones, Michael Adams
Elements for Those in Elementary

2009-2010 Community Interaction Grants

For the 2009-2010 academic years the ACS Society Committee on Education has awarded nine projects with Community Interaction grants to provide pre-college minority students with enriched hands-on science activities. Listed below are the *chapters,* **student project directors**, faculty advisors, and ***project titles***.

Barry University
Cristina Marrero, George Fisher
Science Outreach to Minority Serving Elementary Schools

Iona College
Paul Sanstead, Sunghee Lee
Success Center Halloween Party

Nazareth College of Rochester
Jenna Howard, Jane Shebert
Gymnasium Science

Samford University
Danielle Brown, Sam Douglas, Denise Gregory
Reaching Out to Minority Students in Birmingham

South Texas College
Jorge Murillo, JD Contreras, Alyssa Rodriguez, Ludivina Avila
Go Green Celebration

Stern College for Women-Yeshiva University
Loriel Solodokin, Donald Estes, Evan Mintzer
Blast Off Into Outer Space

University of Alabama at Birmingham
Pratik Talati, Khoa Nguyen, Jackie Nikles
Saturday Science Academy

Union University
Carrie Moore, Charles Baldwin
Enlightening Young Minds Through Chemistry

University of Texas-El Paso
Alma Miramontes, Gloria Herrera, James Becvar
CirCus Training

ACS Chemistry for Life™ | SCI America | AIChE

Call for Applications

SCI SCHOLARS

Summer Industrial Internship Program for Undergraduates

Summer 2010

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 21 prestigious 10-week industrial internships during the summer of 2010.

Participating Companies: Albemarle, Air Liquide, Air Products, Arch Chemicals, Avon Products, Chemtura Corporation, Dow Chemical Company, Dow Corning Corporation, ExxonMobil, Honeywell, ISP, LANXESS, and W.R. Grace & Co.

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

Applications opened October 15, 2009. Deadline for submission is January 15, 2010.

GET HIRED as an INDUSTRIAL CHEMIST

ALL PHOTOS FROM ISTOCK

By Samina Azad

IF YOU ARE CONSIDERING A CAREER AS A CHEMIST in industry, it is important to know where to look for entry-level positions and to have a complete understanding of what an employer is seeking in a potential employee. Becoming familiar with the hiring process is important because it will help you prepare for an interview and rise to the top of a large pool of candidates.

Hiring managers are usually in a rush to fill an entry-level chemist position. They prefer to spend only a few weeks circulating the job posting and bringing candidates in for on-site interviews. It is important for job seekers to check the job boards every day and to apply immediately when they see a job posting. Human resources (HR) recruiters start collecting résumés as soon as the job is posted.

The two key players in a recruiting process are the HR manager and the technical manager (TM). The applicant, if hired, reports to the TM. Following are the steps companies generally take when hiring an industrial chemist.

Job descriptions and postings

First, the core competencies are identified, based on the responsibilities of the position. A job description is created featuring the required skill sets, responsibilities, and expectations for the position. A "job requisition" is then posted on internal and external websites. Channels commonly used to find candidates include referrals from the current employees and posting jobs on the company's internal website and on career websites such as the ACS Careers Jobs database, monster.com, and CareerBuilder.com.

You should go to the websites of companies often to review the openings. Each company has a slightly different way of recruiting, but in any case, many jobs are posted on the company website. You should modify your résumé to align well with the job requirements listed on the job posting, and then submit it online.

Cost can often determine where a company posts a job. Employers do not list openings on all career sites. For this reason, you should check all job search sites, including the ones that are for local candidates only. You may also want to use other sources, such as third party recruiting agencies, trade publications, professional associations, and campus recruiting. It is usually not a good idea to go through a third

party recruiting agency if the job is already posted on the company website. The company has to pay the third party a significant amount and would rather hire directly if it can. Some companies may also have an existing agreement with a professional recruiting firm.

Most of the career websites have an applicant tracking system that allows you to create or paste a résumé into your own applicant profile. When applying for a position, you can forward the data stored in your profile to specific employers; employers can also search through these profiles without even posting a job.

Sometimes, screening questions are also posted on the career websites. For example, if a job requires travel 70% of the time, the listing might include a question regarding the applicant's willingness to travel. If an applicant indicates he or she prefers significantly less time traveling, the résumé is most likely discarded by the HR manager — even though the applicant might be well suited for the position otherwise.

ALL PHOTOS FROM ISTOCK

Résumé review

Employers obtain their first impression of a candidate when they examine the applicant's résumé. HR looks for basic requirements such as salary expectations, education level, and location during a screening process. It is safe to list salary expectation as "negotiable," because the résumé may not pass the screening if the expectation is outside the employer's range. Also, if there are several candidates with similar backgrounds, the employer may select the ones who have lower salary expectations.

When the HR manager and the TM review résumés, they try to evaluate the applicant's past accomplishments, drive, adaptability, career orientation, and personality type. It is very important that the candidate be a good fit with existing team members. Employment history is reviewed critically. Any gap in employment or several short-term employments may raise concerns. Employers often try to find stable candidates who will not be in a rush to make another career move in the near future. Many companies look for local candidates if they can't help with relocation expenses. Résumés with spelling mistakes or typos are most often discarded immediately.

Résumés with spelling mistakes or typos are most often discarded immediately.

Phone screening

The main purposes of the phone interview are to verify that all the information on the candidate's résumé is correct and to conduct a preliminary evaluation of competencies and personality. In general, the interviewer is looking for information about the applicant's desired work location, salary requirement, and reasons for leaving the current position. Technical background and skills are also brought up on the phone. For example, if the job requires operating an FTIR on a daily basis, the interviewer will verify that the candidate is skilled in this technique. The initial phone interview may be conducted by either the HR manager or the TM. The phone screening will also measure the candidate's communication skills. Based on the phone conversation, a decision is made whether or not to bring the candidate in for an on-site interview.

On-site interview

At this stage, it is clear that the candidate is technically competent for the position. The question remains, however, whether or not the person is a good cultural match for the group. For this reason, the on-site interview is very much focused on behavioral questions; however, technical background may also be discussed. The candidate meets with the hiring team, including the HR manager, the TM, and the people in the TM's group who will work closely with the candidate. The objective is to identify the candidate who has the right skill set and the greatest motivation, and seems best able to help meet the organization's goals.

Also, during the on-site interview, the team evaluates whether the candidate would easily adapt to the company or team culture. Each company has specific policies and culture in terms of dress codes, communication styles, and values. Moreover, within the company, each group or division may also have its own culture. For example, in some groups, employees like to keep their social and work lives strictly separate, and the communication style is very formal, while in other groups, employees are more relaxed and may even socialize with each other, and the communication style is informal. The interview team describes to the candidate the job responsibilities and corporate culture. If a candidate truly enjoys teamwork, challenging tasks, and learning new skills, the person will not be suitable for a job that is repetitive, isolated, and unchallenging. In such a case, the team tries to find a candidate who likes to work independently and prefers routine tasks. On-site interviews give both the employer and the candidate an opportunity to get to know each other and obtain the relevant information that will help both parties make a decision.

ALL PHOTOS FROM ISTOCK

People often mistakenly believe that the purpose of the screening processes is to match a candidate's technical competency with the job requirements. Rather, it is behavioral skills such as communication, teamwork, and time management that employers look for when they consider applicants for an entry-level chemist position. Many employers actually say that these types of skills are more important than a candidate's GPA. Many companies find it is easier to train people in laboratory techniques, but it is very difficult to change someone's attitude.

Reference checks

Once all of the interviews have been completed, the hiring team, composed of the HR manager, TM, and other relevant individuals, discusses the candidates and decides which one is the best match for the team. In most cases, the TM makes the final decision. Before making an offer, most employers will check work and education histories for accuracy, and also contact references. References may be listed on the résumé or attached on a separate piece of paper. Applicants should make their references aware of their job search. If a reference is surprised to hear that the applicant is looking for a job, it reflects poorly on an applicant's communication and organizational skills. References should be easy to reach. Checking references not only verifies job history and work experiences but also helps evaluate a candidate's work style, strengths, and weaknesses.

...It is behavioral skills such as communication, teamwork, and time management that employers look for when they consider applicants.

The best fit

You should try to understand the qualities an employer is seeking when a job is posted. Read the job description carefully. During any conversations with potential employers, try to convey that your skills and abilities, both technical and behavioral, are a good match for the job. Employers prefer to hire someone who appears to be motivated and trustworthy, and who is likely to get along well with the group. It is important that you show interest and excitement about the opportunity during the interview. People who are excited about their work often turn out to be hardworking and motivated, and they do not hesitate to go the extra mile for the benefit of the organization.

In the end, the hiring decision almost always comes down to behavioral skills. An employer hires a person who will fit well in the group and with whom everyone wants to work. It is very important to use the interview to reveal that you possess the necessary behavioral skills. The behavioral skills are most important for entry-level candidates with B.S. degrees, because there are a lot of people with similar backgrounds applying for the same position.

In the end it is up to you to impress the TM and the entire team (your future co-workers) during the on-site interview. iC

Samina Azad is a senior scientist and supervisor in R&D at Steris Corporation in Mentor, OH, and has filled several entry-level positions as a technical manager.

ISTOCK

What It Takes To Become an Awesome Chemical Educator

Building Career Skills Outside the Lecture Hall

By Burt Hollandsworth

You've discovered you have a real passion for sharing your knowledge of chemistry with others, and thoughts of a career in the teaching profession are on your mind. Whether you are planning to teach at a high school, community college, or four-year college or university, you can begin **now** to prepare for a teaching career.

Find mentors

Pete Smith, a professor of chemistry at **Westminster College** in Pennsylvania, still maintains contact with mentors who guided him during his two-year teaching postdoctoral fellowship at the **University of Georgia**. According to Smith, "It's important to talk with a broad spectrum of teachers in all areas." Malika Jeffries-El, a professor of chemistry at the **University of Iowa**, knows that mentors have been an important influence in her career. Her mentors have helped with advice not only about teaching but also about managing people and money and writing grant proposals.

DAVID GIESKE

Malika Jeffries-El is a chemistry professor at the University of Iowa.

Keep in mind that your current professors might become valuable mentors for you in the future. Maintain good relationships with them, and keep in touch after graduation. Participate in a variety of activities in school and in the community. Marcy Gever, a chemistry teacher at Central Bucks High School in Warrington, PA, explains, "A teacher who knows you and your strengths can help you decide on a career path and provide you with excellent references for internships and other work-related opportunities."

COURTESY OF CENTRAL BUCKS HIGH SCHOOL

Marcy Gever teaches chemistry at Central Bucks High School in Warrington, PA.

Choose a variety of courses

Take a wide variety of science courses, especially lab courses. High school chemistry teachers are often asked to teach math, biology, earth science, or physics. "Teaching middle and senior high school can be all about breadth, not depth," notes William Smith, a chemistry teacher and science department chair at Bristol High School in Bristol, PA. Professors at predominantly under-graduate institutions are often asked to teach general education science courses or chemistry courses outside of their own sub-discipline. Exposure to a variety of topics as an undergraduate will often give you a leg up when you start to develop a course outside of your immediate area of expertise. Laurel Morton, a professor of chemistry at Eastern Kentucky University, suggests gaining experience with a variety of instrumentation. Hands-on experience with modern lab instruments is a huge plus, especially when you have taught others how to use them.

DARAH NOCITO

William Smith is a chemistry teacher and science department chair at Bristol High School in Bristol, PA.

Choose a variety of courses taught by different professors. Each professor has unique teaching styles and methods. Discuss the benefits of different teaching styles with your professors. You may be surprised at how much forethought they have put into exactly *how* a course should be taught.

Dive in

Invest in a few books with chemical demonstrations and try them out. Learn to give concise written and oral explanations of why events occur from a molecular perspective. "As scientists, we don't go to a school to learn how to wow students and draw them into our subject; but that is an important goal for 7th thru12th grade teachers," explains Smith.

Eric Oblinger, a high school science teacher at Concordia Lutheran High School in Tomball, TX, encourages students who are thinking of a career as a teacher to take advantage of the opportunities that their undergraduate ACS student chapter provides to perform demonstrations at magic shows and other community outreach events. He explains, "You not only learn how to safely perform chemical demonstrations, you also learn creative presentation methods. It will also prepare you to start your ACS-sponsored high school ChemClub." Gever adds, "You'll also develop excellent presentation skills, which will enhance your ability to communicate with others in the field."

MARSHA DOMANN

Eric Oblinger demonstrates a science experiment to a student at Concordia Lutheran High School in Tomball, TX.

Keep current with technology

You may already be skilled and savvy about the latest communication and computing technology. Texting, blogging, developing a webpage, running a computer network, and analyzing data (grades) are all part of today's age of teaching. However, tomorrow (or at least very soon), exciting new technologies will emerge and, if history is any indication, your students will be among the earliest adopters. It will be important for you, too, to stay on the forefront of these emerging technologies in order to continue reaching and engaging your students.

Teach others

Many undergraduate institutions hire teaching assistants to help with lower level chemistry lab experiments. Volunteer for as many teaching assignments as you can. Morton supervised both graduate and undergraduate students as a post-doctoral fellow at **Villanova University**. She mentioned that this experience came in especially handy when beginning her own research program at **Eastern Kentucky University.** In fact, all of the professors

interviewed for this article mentioned that they would have benefitted by asking for more teaching responsibility in graduate school and as a postdoctoral fellow.

As an undergraduate, consider asking a professor if you can prepare and deliver a day's lecture for a lower level course, or perhaps a pre-lab lecture. Many colleges and universities also offer well-qualified undergraduate students positions in peer-led teaching or supplemental instruction programs. In these types of programs, you may be asked to attend a particular lecture section in your department and then offer after-hours instruction sessions for the students in the course. Working through chemistry problems with a group of students will allow you to solidify chemical concepts while you begin to develop your own teaching style. Tutoring is also a great way to hone your teaching skills in a one-on-one setting, much like a professor's office hours. Try to seek out students who aren't as interested in chemistry as you are; if you can find ways to motivate them to learn and enjoy chemistry, you are on your way to becoming a real educator. Smith explains, "Teaching the toughest students is the best preparation for teaching the best students."

TEACHFORAMERICA

As a student member of ACS, you have a unique opportunity to help expand and diversify the pipeline of future scientists by providing students in low-income public schools with the skills, knowledge, and support they need to be successful. Consider joining Teach For America. As a corps member, you'll obtain the skills necessary to become a teacher and make a significant impact on your students' understanding of science.

Currently, Teach For America has 7,300 corps members in 35 urban and rural regions who are playing a critical role in improving schools and communities across the country, by ensuring that their students achieve academic success.

A growing number of chemistry graduate schools partner with Teach For America to offer special benefits for corps members and alumni, such as two-year deferrals and application fee waivers. These graduate schools seek out our alumni, recognizing that they have gone through a highly selective program and have engaged in a challenging professional experience. To learn more about Teach For America, our graduate school partners, and joining the corps, visit **www.teachforamerica.org**.

Communicate scientifically

As a chemistry teacher, you will need to communicate with students, administrators, and fellow educators — not to mention students' parents and your school board. You must be able to answer tough questions and remain composed. You will also often need to communicate scientific ideas in writing. Whether you are applying for a grant, writing a journal article, or writing a report for a supervisor, you will need to communicate accurate information as clearly as possible. Start learning how to write succinctly and how to format your research results in manuscript format. If you work for a professor who applies for research grants, ask to read the applications before they are submitted and provide some comments.

Present your undergraduate student research project results in both written and oral form. Ask to present your undergraduate research or interesting lab results in a chemistry seminar at your own institution. Consider presenting at a regional or national ACS meeting. Both posters and oral presentations provide excellent opportunities to practice communicating your ideas to others.

Stay connected

Jeffries-El notes that some of her most helpful mentors are contacts from the ACS committee that she has worked with. Local section, regional, and national ACS meetings are great venues for meeting new mentors. National meetings often provide an opportunity for keeping up with your undergraduate professors after you have moved on to a job or to graduate school.

If you're thinking about teaching at the middle or high school level, Oblinger recommends that you attend as many science teachers' conferences as possible. Talking to experienced science teachers is one of the best ways to learn creative and effective teaching methods. "Collect ideas that excite you, adapt them to your teaching style, and try them out in the classroom," suggests Oblinger.

Love learning

If you plan to teach middle or high school science, try to keep in mind that your course will be the last exposure that most of your students will have to a chemistry classroom. Smith advises budding teachers to "embrace this fact and prepare yourself to be the best representative of our enterprise that you can."

Finally, prepare for your career in teaching by fostering your love for learning. Teachers must not only teach, but also continue to learn new topics and new teaching techniques. "Teachers must develop a style that suits them as an individual, and this takes years," observes Smith. Adds Oblinger, "Never be afraid of failure. Students are very forgiving when your effort is sincere."

To help ensure your success, begin finding mentors and embracing technology now. Take advantage of opportunities to teach others and speak in front of audiences. Work hard to broaden your chemical knowledge. Begin taking these steps now, and you should be well on your way to becoming an effective science educator. iC

Burt Hollandsworth is an assistant professor of chemistry at Harding University in Searcy, Arkansas.

happy 400th Anniversary!

Chemistry at Philipps-Universität Marburg in Germany

ISTOCK

By Christian Reichardt and Karl-Michael Weitzel with Megan Brenn-White

IT IS A TOP-RANKED chemistry department with more than 600 bachelor's and master's students and 100 doctoral candidates. Construction is under way on an entirely new, state-of-the-art chemistry facility. At first glance, this description of **Philipps-Universität Marburg** could apply to universities anywhere, but its history makes Philipps-Universität Marburg a very unique place to study.

The chemistry department of Philipps-Universität Marburg in Germany is celebrating its 400th anniversary this year with a look back at how the first Chair of "Chymiatrie" has evolved into a top-ranked department located in a picturesque medieval university town.

VIOLA DUEWERT/UNIVERSITY OF MARBURG

The old university.

Medieval chemistry

Philipps-Universität Marburg was founded in 1527 by Count Philipp the Magnanimous. In 1609, Count Moritz the Scholar appointed Johannes Hartmann professor of "chymiatrie," the study of chemistry as related to medicine. Hartmann became the first director of a public university chemistry laboratory (*laboratorium chymicum publicum*), and students came from across Europe to work with him on what would be considered an early form of pharmaceutical chemistry.

Hartmann moved in 1621 to the nearby town of Kassel to become the personal physician of Count Moritz and his family, likely drawn by a higher salary.

It's fascinating to examine these events in the context of medieval times. Imagine the world 400 years ago, when Philipps-Universität Marburg established the world's first chemistry department and Hartmann was appointed the first chemistry professor. In the early 1600s, people we today refer to as "scientists" were called "natural philosophers." There was no concept of the word "scientist." Much research of the day focused on discovering the "panacea" — a remedy that would cure all illnesses and diseases — and formulating an "elixir of life" — a special potion that would provide immortality. Both were thought to have a connection to the philosopher's stone, a mythical substance that would transmute common metals into gold. But major changes in philosophy and science were also taking place. The scientific

Johannes Hartmann

JUPITERIMAGES


JUPITERIMAGES

revolution was helping to push Europe from medieval alchemy to the true science of chemistry as we know it today.

Important advancements

In a reference found from1685, Conrad Moench, a professor of botany and chemistry, sent an appeal to the count. It stated: "I have read the *chymie* without the use of a laboratory; but due to the fact that I have to carry out experiments in my kitchen, I cannot carry on without a significant payment increase of the honorarium because too much gear, especially glassware, perishes." The prior laboratory had been demolished to create room for the new university's riding school, but Moench was able to establish a new facility near the old Botanic Gardens in Marburg.

Since glassware will indeed "perish" when experiments are conducted in the kitchen, a proper chemistry laboratory was founded in 1825 in the House of the Teutonic Order (*Deutschordenshaus*), a meeting place in the center of Marburg for German nobility. This laboratory was led by Robert Wilhelm Bunsen from 1839 to 1851. Bunsen is considered the founder of physical chemistry and of gas and spectral analysis. He also worked with H.E. Roscoe on major improvements to the laboratory gas burner now named after him – the Bunsen burner.

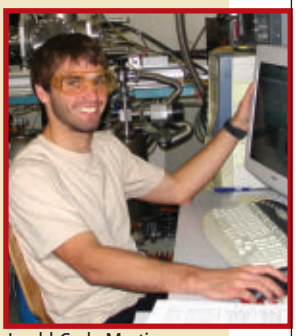

Robert Wilhelm Bunsen

Current research

The *Fachbereich Chemie* (School of Chemistry) of Philipps-Universität Marburg is located outside the historical town center of Marburg in a modern campus area surrounded by a beautiful forest. Roughly 20,000 students study in Marburg today, making up over one-quarter of the entire population of the town. This is truly one of the classic European university towns, attracting students from all over the world; nearly 2,400 international students call Marburg home at any time. For chemistry students and faculty, the long history and the current investments in


MARTIN LEISSL/UNIVERSITY OF MARBURG
Student studying in the cloister.

INTERVIEW WITH
Jerald Cody Martin
from Purdue University


COURTESY OF THE WEITZEL GROUP
Jerald Cody Martin

1. Why did you decide to do a research internship in Germany? Why Marburg?

I've always been fascinated with Europe. I'm a little bit of a history nerd, and Europe is full of historical sites and events. I chose Germany partly because I have ancestry from Germany and have taken a few language courses in German, so it seemed natural to me to choose Germany. As for Marburg, I chose the program through the German Academic Exchange Service (DAAD). The program in which Lisa Paetow, the Ph.D. student I'm working under, is involved interested me greatly, so I applied for the Research Internships in Science and Engineering (RISE) and received the grant.

2. What were your first impressions of Philipps-Universität Marburg?

My very first impressions were that it was very old and had a full history behind it. You could tell just by looking at some of the older buildings of the university. Other than its age, it's much more spread out through the town than Purdue University, which is all concentrated in a specific area.

3. Are there any specific things that give you a sense of the rich history of this university and chemistry department?

Since the building they use isn't that old and most of the equipment they use is relatively new, you wouldn't know about their history just at a first glance, but they have a wall that has pictures of a bunch of famous chemists who have worked there, which gives you a historical perspective of how old the department is and how much emphasis is put on the sciences at this university.

4. What are your goals for the future and how will this internship help you achieve them?

This is the question I always dread answering. At this point, I'm planning on going to graduate school in the United States in a certain area of chemistry but have not made up my mind yet what area. I will probably get a Ph.D. and go into industry to do research, but I am not quite sure. Hopefully this internship will give me a further grounding in chemical knowledge and techniques so I can at least understand what it is like working in a laboratory full time five days a week.

For more information on the RISE program, please visit www.daad.de/rise.

Other Philipps-Universität Marburg Alumni, Faculty, and Students

Nobel Prize winners

- **Hans Fischer** 1930, for his research into the constitution of hemin and chlorophyll and especially for his synthesis of hemin
- **Adolf Butenandt** 1939, for his work on polymethylenes and higher terpenes
- **Otto Hahn** 1944, for his discovery of the fission of heavy nuclei
- **Karl Ziegler** 1963, along with Giulio Natta, for their discoveries in the field of chemistry and technology of high polymers
- **Georg Wittig** 1979, along with Herbert C. Brown, for their development of the use of boron- and phosphorus-containing compounds, respectively, into important reagents in organic synthesis

Other notable alumni

- **Michael V. Lomonosov,** co-founder of the University of Moscow
- **Edward Frankland,** who, in 1849 in Marburg, discovered the first dialkylzinc compounds and is considered a founder of organometallic chemistry
- **Frederik A. Genth,** past president of ACS

Former directors and their mark on chemistry

- **Hermann Kolbe,** Kolbe nitrile synthesis, Kolbe fatty acid electrolysis, and Kolbe salicylic acid synthesis
- **Hans Meerwein,** Wagner-Meerwein rearrangement, Meerwein arylation, Meerwein-Ponndorf-Verley reduction, and Meerwein oxonium salt synthesis
- **John Tyndall,** Tyndall effect
- **Alexander Satytzeff,** Saytzeff rule

VIOLA DUEWERT/UNIVERSITY OF MARBURG

The old assembly hall.

HELLMUTH GRASSMANN/UNIVERSITY OF MARBURG

The current chemistry building.

infrastructure make this a particularly unique place to study and do research.

Research in Marburg's School of Chemistry currently focuses primarily on two fields. The first focus is on the synthesis and characterization of functional hybrid materials, such as those containing one inorganic and one organic entity contibuting to their molecular function. The second focus is on the transport of ions at and through interfaces, an important ingredient of diverse fields from energy storage and sensorics to sensory perception.

Today, students study and conduct research in inorganic, organic, physical, analytical, biochemical, polymer, and theoretical chemistry. The department has been rated among the top German chemistry schools by the *Wissenschaftsrat* (national scientific advisory board to the federal government). Students from across Germany and the world come to Marburg to write a new chapter in its history.

For more information about Philipps-Universität Marburg, please visit www.uni-marburg.de/fb15. iC

Christian Reichardt is a retired professor of organic chemistry and **Karl-Michael Weitzel** is a professor of physical chemistry and former dean of the School of Chemistry at Philipps-Universität Marburg. **Megan Brenn-White** is the executive director of the Hessen Universities Consortium New York Office.

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- 10 summer weeks
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or write to
ireu@acs.org

Applications will open November 15, 2009

Deadline for submission: January 31, 2010

Rxn's and SIn's

In this issue's Reactions and Solutions, recent graduates blog about the career paths they chose after earning their bachelor's degrees in the chemical sciences.

COMPILED BY LORI BETSOCK

➔ BLOG

Grasping the Big Picture

When I graduated with a B.S. in biochemistry, I had no idea which area of chemistry I felt most passionate about. Using my ACS student membership to network and apply for positions at a few pharmaceutical companies, I obtained an entry level position in the Analytical Development Department at Vertex Pharmaceuticals. This department supports the manufacture of pharmaceuticals by developing analytical methods that characterize the different stages of the manufacturing process.

Grasping the big picture and really understanding how my seemingly insignificant role had such a major impact within the company was an amazing experience for me. After all, it was the results of the HPLC method that I developed that allowed the next batch of drugs to be created and supplied to sites for clinical trials. Understanding this fact kept my interest and has allowed me to build experience. Although I use much of my chemistry background on a regular basis, I have found that everyone, graduate degree or not, begins their career with very little experience. In school, you obtain the tools. In industry, you learn how to apply those tools.

Don't be afraid of new challenges; they give you the opportunity to grow. After I spent a few years gaining experience in the field of analytical chemistry, I learned how to write technical documents. Now I apply my technical background to my immediate work and help shape the way our company functions.

Posted by Jim

Exposing One's Self to Opportunities

After graduating with a B.S. in biochemistry from the University of Texas (UT), I was hired to work at PharmaForm as a chemist in north Austin. Large pharmaceutical companies contract with PharmaForm to formulate tablets, capsules, films, etc., perform analytical testing, and in some cases manufacture the product for clinical trials. I gained a tremendous amount of experience in the fast-paced environment, learning everything from drug development, FDA compliance, and HPLC techniques, to dealing with clients and generating technical protocols. Although I was engaged in this work, I wasn't 100% sure that this was my career.

After doing some searching, I found an opportunity to be a public health intern through UT at the Texas Department of State Health Services. I conducted research in the Newborn Screening Department doing gel electrophoresis, PCR, and DNA digestion, which I enjoyed immensely. I realized that public health was the perfect match for me, because the field is so interdisciplinary; I was able to utilize my science skills AND my outgoing personality. Now, I am in the Masters in Public Health program at the University of California Berkeley studying environmental health. I think the best thing I did after graduating was to start working, because if I hadn't, I might not have ever found the public health field. Hardly anyone gets their dream job right out of school. Have an open mind and expose yourself to as many opportunities as you can, and I think you will have a better chance!

Posted by Pujeeta

Constantly Learning

While in college, I attended a seminar taught by a chemical patent attorney who sparked my interest in a career involving both law and chemistry. Now employed at the U.S. Patent & Trademark Office (USPTO) in the fuel cell section, I review patent applications involving fuel cells — from the chemical composition of the cathode/anode to the layout of a fuel cell system used in an aircraft. Every application is unique, and I am constantly learning. Each case contains specifications and drawings describing the invention and a set of claims that I examine for patentability. After determinations are made, I write either rejections or allowances, which are then sent to the applicants and their attorneys. If a rejection is made, the attorney has a chance to argue and/or amend the claims to overcome the patent or science literature that was used to reject the patent.

Every day I search the databases, read the applications to understand the science and what the novelty is, and write office actions. I use my chemistry background to understand the inventions. I plan on making a career at USPTO. I will not need a graduate school degree to advance my career; a B.S. in chemistry has provided me with the knowledge I need to succeed.

Posted by Amanda

Giving Back

After graduating with a B.A. in chemistry, I was unsure about my next step and decided to accept a position at Merck until I figured it out. I joined the Basic Research Department at Merck two weeks after my graduation. My experience there was much like my summer research experience as an undergraduate student. I worked with a team of scientists to discover novel molecules with potential drug uses. After two years and some soul searching, I decided to give teaching a try.

As a graduate of a New York City high school, I realized that high school students in urban districts often lack a positive chemistry experience — I know *I* did. I joined the New York City Teaching Fellows program, an initiative designed to help individuals without formal classroom training transition into teaching.

Many of the skills I acquired at Merck and through my undergraduate experience at Barnard College are useful in my classroom. My job as a teacher in an urban school district is similar to my job as a scientist. Instead of running experiments in the lab, I run them in my classroom, and instead of using chemicals I have students. My problem is not discovering novel molecules, but rather, to find creative ways to help students understand and appreciate chemistry. Being a teacher can be as challenging as being a research scientist, and as equally rewarding.

Posted by Alexandra

Employing Science and Life Skills

I've always enjoyed chemistry, and have been involved in it throughout my life. As an undergraduate student, I also held various customer service positions and volunteered for numerous community service projects, which I enjoyed because of the people-to-people interactions.

As I approached my senior year, I still was unsure of the career path I wanted to take. Research seemed to be an obvious route, but I wasn't interested in exploring that side of chemistry. Then, the ACS student chapter faculty advisor at my university sent a blurb from the ACS Faculty Advisor Newsletter that described an employment position in the Undergraduate Programs Office at ACS. The qualifications for the position included strong interpersonal skills, project management skills, event planning experience, and a degree in a chemical science — qualifications I felt I had gained throughout my college experience. I decided to apply and was hired for the position.

I now understand how beneficial it is to become involved in outside activities, especially your ACS student chapter. As an active ACS student member, you gain many intangible skills — from planning community service projects, brainstorming innovative ideas, and presenting research posters to planning ice cream socials and networking at ACS meetings — all of which can make you a more well-rounded chemist and qualify you for professional positions.

I obtained many of the skills that qualified me to work at ACS through my volunteer work. I encourage you to become more involved in your chapter activities. Involvement will expose you to and qualify you for numerous opportunities and career paths in chemistry.

Posted by Audley

Gaining the Motivation to Move on

I love forensic science and the idea of mixing a physical science with a social science. I became a chemist knowing I needed a background in a physical science to become a forensic scientist and was more interested in chemistry than either physics or biology.

In 2004, I graduated with a B.S. degree in chemistry with an emphasis in forensic science. My degree, coupled with hands-on experience using GC, HPLC, and MS in undergraduate labs, earned me a position in the forensics lab at MedTox Laboratories in St. Paul, Minnesota.

My main responsibility was to screen and confirm meconium samples (the first feces of a newborn baby) for illicit drugs. The confirmation process involved using solid- and liquid-phase extraction techniques coupled with GC-MS to quantitatively determine the amount of drugs in the sample.

I quickly discovered that I wouldn't be happy in a lab tech position; the work was too repetitive and not challenging enough for me. However, the experience motivated me to pursue a Ph.D. in chemistry. Today, I find that I still enjoy combining chemistry and social science and hope to incorporate that into my future career.

Posted by Susan

Jim Bush earned a B.S. in biochemistry in 2005 at Union College in Schenectady, NY, and is a quality control scientist at AMAG Pharmaceuticals in Cambridge, MA.

Pujeeta Chowdhary graduated with a B.S. in biochemistry in 2007 from the University of Texas at Austin and worked for two years as a chemist for PharmaForm in Austin, TX. She is now pursuing a master's degree in public health at the University of California, Berkeley.

Amanda Barrow graduated from Union College in Scheneetady, NY in 2008 with a degree in chemistry. She currently works for the U.S. Patent & Trademark Office in Alexandria, VA.

Alexandra Severino earned a B.A. from Barnard College in New York, NY, in 2005 and worked as a chemist for Merck for two years. She has since completed her masters and the Teaching Fellows Program and teaches at Union City High School, Union City, NJ.

Audley Burke graduated from Morgan State University in 2008 with a B.S. in chemistry and currently works for the ACS Undergraduate Programs Office in Washington, DC.

Susan Brastad received a B.S. in chemistry from Carroll University in Waukesha, WI, and worked as a laboratory technologist for MedTox Laboratories in St. Paul, MN. She is currently a fifth-year physical chemistry graduate student at the University of Wisconsin-Madison.

Changing the Face of Chemistry: ACS Scholars Program

By Robert Hughes

SINCE 1994, THE ACS Scholars Program has awarded more than $12 million in scholarships and provided mentoring support to 2,300 undergraduate African American, Hispanic, and American Indian chemical science majors. This select group of scholars was chosen from nearly 18,000 applicants.

ISTOCK

Building awareness

Established by the ACS Board of Directors, the Scholars Program awards renewable scholarships of up to $5,000 to members of minority groups considered to be under-represented in the sciences by the National Science Foundation. It also works with these groups to build awareness of the value of and rewards associated with careers in chemistry and helps ACS Scholars acquire skills and credentials needed for success.

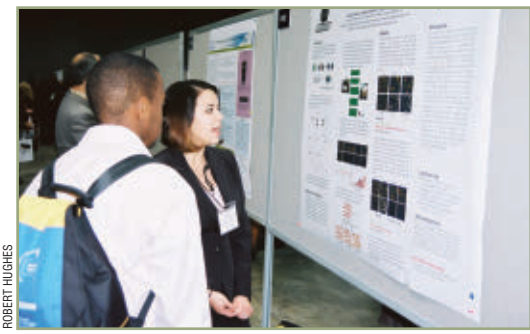
ACS began the Scholars Program by providing an initial funding of $5 million for scholarships and a commitment to cover all administrative costs for five years. In the fall semester of 1995, the first scholarships were awarded to 203 ACS Scholars.

By 1997, the Scholars Program had attracted outside interest from PPG Industries in Pittsburgh, Pennsylvania, and Tripos Incorporated in St. Louis, Missouri. PPG Industries has now donated more than $1 million, along with mentors and internships. It leads a group of well over 40 corporations and foundations and numerous individuals who have provided financial support for the Scholars. ACS has also extended its support of the program by continuing to cover all operating expenses. By doing so, ACS has ensured that 100% of funds donated to the Scholars Program are used to support student scholars.

Beyond the money

In addition to receiving money to help pay for college, Scholars can receive travel grants to present their research at ACS national meetings, if funding is available. For Chavonda Mills, now an assistant professor of chemistry at **Georgia College and State University**, the ACS Scholars Program enabled her to attend her first ACS national meeting and provided a life-changing experience. "After attending oral and poster presentations and speaking with several matriculating graduate students and former ACS Scholars," she says, "I made the decision to attend graduate school to obtain my doctoral degree." With the help of her ACS mentor, she was able to easily transition directly into a doctoral program and graduate with a Ph.D. five years later.

The Scholars Program also encourages its scholars to participate in internships or undergraduate research. Former ACS



ROBERT HUGHES

Cammi Valdez at the Annual Biomedical Research Conference for Minority Students in 2007.

Scholar Arial Marshall remembers, "ACS provided me with information on different opportunities and a great way to network with other students and universities. Now, whenever I talk to high school students who are interested in the sciences, I always encourage them to look into this scholarship."

The ACS Scholars Program has received many accolades, including an Award of Excellence in 1997 from Associations Advance America. It was also listed as an exemplary program in the congressionally mandated BEST


ROBERT HUGHES

ACS Scholars at the 235th ACS National Meeting in New Orleans, LA.


ROBERT HUGHES

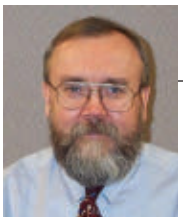
ACS Scholars at the 236th ACS Meeting in Philadelphia, PA.

Initiative (Building Engineering and Science and Talent) in 1999 and, along with Project SEED, was honored in 2001 with The Presidential Award for Excellence in Science, Mathematics and Engineering Mentoring.

The long-term impact

Needless to say, the program has continued well beyond its allotted first five years with demonstrated success. ACS keeps up with its Scholars beyond the undergraduate years, not only to measure their success, but also to notify them of activities, programs, and opportunities that may be of interest. With follow-up information available on 87% of the confirmed graduates, it is known that almost 50% have entered graduate degree programs in the chemical sciences and, to date, 62 have received Ph.Ds. Five have completed an M.D./Ph.D. program, nine have accepted university faculty positions, and over 160 are currently enrolled in doctoral programs. About 40% of the graduates entered the chemical science workforce, accepting positions with such companies as Dow Chemical, DuPont, ExxonMobil, Kimberly Clark, Merck, 3M, Pfizer, Procter & Gamble, and many others.

In 2010, the ACS Scholars Program will mark its 15th anniversary. Given the current economic climate, it's difficult to predict whether this program can grow or sustain itself at the current level. It's even harder to imagine what the program may look like in another 15 years. However, one thing remains clear: the program is succeeding in its primary goal of helping to diversify the American chemical science workforce with talented young minds, and has made a difference in the lives of its recipients. As Laura Dattolo, a 2008 scholarship winner, explains, "This award represents an incentive to be successful in my career and to achieve all the goals that I am setting for myself. You can be certain that I will not disappoint your expectations in me…" IC



Robert Hughes joined ACS staff in June 1995, supporting the ACS Scholars Program. He became manager of the program in 1998.


ISTOCK

Applications for the Scholars Program for the 2010-2011 academic year are being accepted now through March 1, 2010. If you are an African American, Hispanic, or American Indian high school senior or college freshman, sophomore, or junior pursuing a college degree in the chemical sciences or chemical technology, you may be eligible. If you have questions about the program or the application process, please e-mail scholars@acs.org or call 800-227-5558, ext. 6250.

239TH ACS NATIONAL MEETING

EUREKA!

Discover amazing chemistry at the Undergraduate Program!

Sunday, March 21

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: Everything You Want to Know about Chocolate
9:00 – 10:30 a.m.

Careers in Chemistry: Green Jobs
9:00 – 10:30 a.m.

Chem Demo Exchange
10:30 a.m. – 12:00 noon

Graduate School Reality Check
10:30 a.m. – 12:00 noon

Networking Social with Graduate School Recruiters
1:30 – 3:00 p.m.

Making Demos Matter Workshop
3:30 – 5:00 p.m.
Co-sponsored by ACS Kids & Chemistry

ACS Student Chapter Awards Ceremony
7:00 – 8:30 p.m.

Undergraduate Social
8:30 – 11:30 p.m.

Monday, March 22

Undergraduate Hospitality Center
8:00 a.m. – 5:00 p.m.

Graduate School Recruiting Breakfast
8:00 – 10:00 a.m.

Community Outreach Workshop
9:45 – 11:15 a.m.
Co-sponsored by the ACS Committee on Community Activities

Technical Symposium: Chemistry of Wine
9:45 – 11:15 a.m.
Co-sponsored by the ACS Division of Agricultural & Food Chemistry

Undergraduate Research Poster Session
12:00 noon – 3:00 p.m.
Co-sponsored by the ACS Divisions of Analytical, Environmental, Inorganic, Medicinal, Physical, & Polymer Chemistry, Biochemistry, & Geochemistry.

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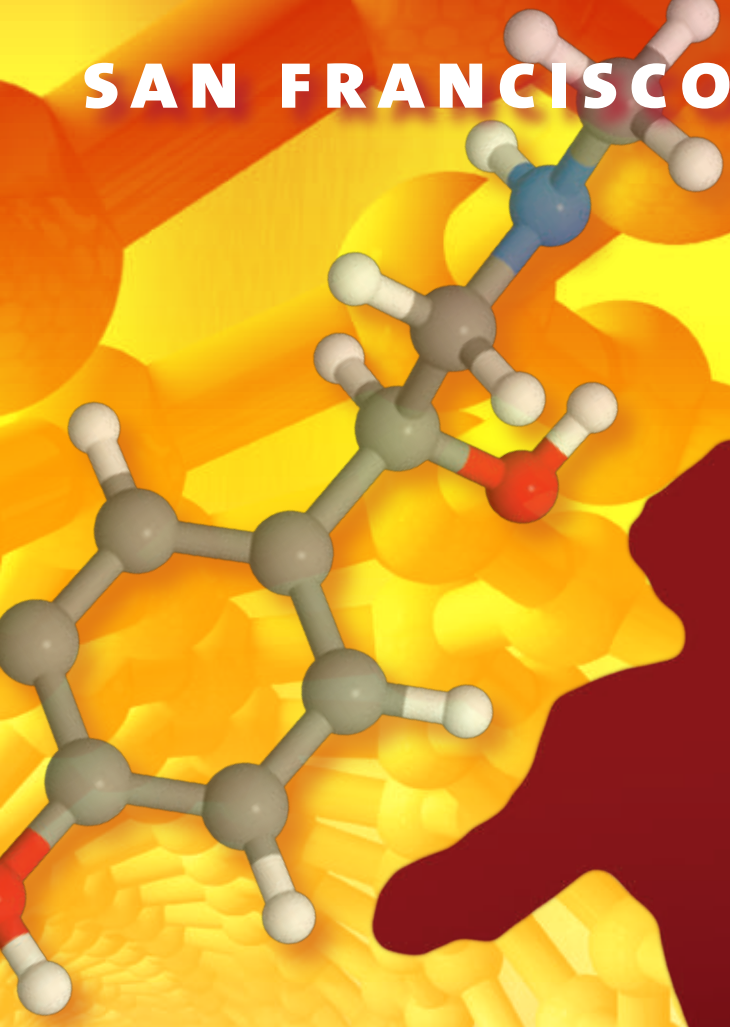

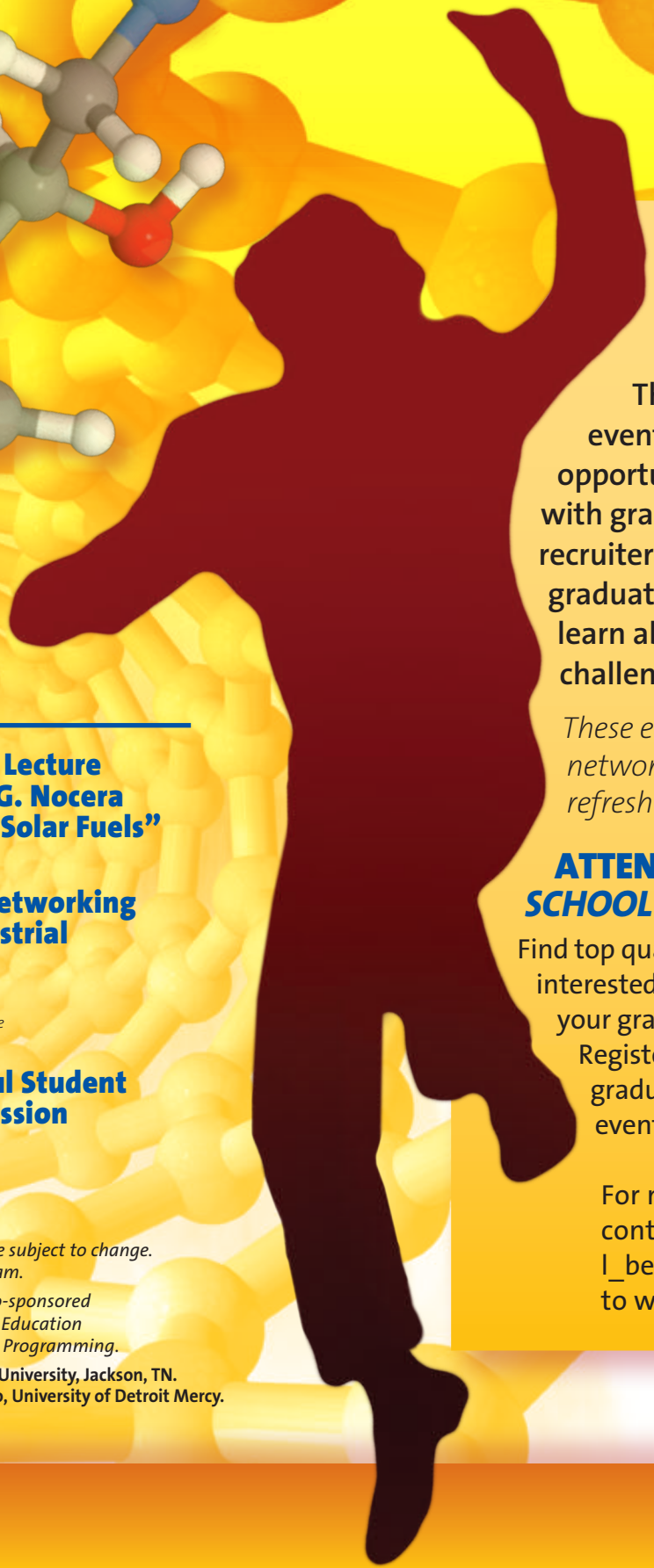

Eminent Scientist Lecture Featuring Daniel G. Nocera on "Chemistry of Solar Fuels"

3:30 – 4:30 p.m.

Undergraduate Networking Session with Industrial Chemists

4:30 – 6:00 p.m.

Co-sponsored by the ACS Committee on Corporation Associates.

Sci-Mix/Successful Student Chapter Poster Session

8:00 – 10:00 p.m.

Program format and times are subject to change. Please consult the final program.

All events are sponsored or co-sponsored by the Society Committee on Education Task Force on Undergraduate Programming.

Chair: Charles Baldwin, Union University, Jackson, TN.
Program Chair: Matthew J. Mio, University of Detroit Mercy.

Discover What Graduate School Has to Offer

The graduate school events provide a great opportunity to network with graduate students and recruiters from prestigious graduate programs and to learn about meeting the challenges of graduate school.

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ACS at the Birthplace of Rock and Roll

By Meghan Brown

PLANNING FOR the Undergraduate Program of the Central Regional Meeting of the ACS (CERMACS) 2009, which was held in Cleveland, OH, was a new experience for the student chapter at John Carroll University. The first challenge was to recruit members who would be dedicated to planning and executing the program. After we successfully accomplished this task, we held meetings to brainstorm about how the undergraduate session could have the most positive impact on the students who attended.

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We all agreed that the poster session would draw the most students, but we knew we also had to develop a program that engaged their interests beyond the presentation of their posters. Our solution was to offer a meet-and-greet session with a keynote speaker, providing the students time to talk with a renowned chemist in an informal setting. We also decided to add a career networking session.

Spreading the word

The program would not have been successful without the participation of students. We e-mailed an informational flyer to all ACS student chapters in the central region of the U.S. using a list provided by the ACS Undergraduate Programs Office.

We found that simply sending out one e-mail was not enough. There are many forms of media that can be used to publicize a program, and it's best to take advantage of every one — including e-mail, flyers, Facebook, and free advertising in *inChemistry*. Our chapter advisor was also a valuable resource. It is important to become aware of resources that are available, especially grants through the ACS Undergraduate Programs Office. Be creative in choosing events and advertising them to students.

As our plans became more concrete, we sent additional flyers indicating that there would be two raffles for preregistered undergraduates: one for an iPod shuffle and one for two tickets to the Rock and Roll Hall of Fame & Museum.

COURTESY OF JOHN CARROLL UNIVERSITY

CERMACS student program organizers Ashley Wallace and Meghan Brown.

Avoiding last-minute stress

Although there were a few minor details that needed to be hammered out during the days leading up to the conference, things went very smoothly — thanks to a set schedule of tasks to be accomplished every month. It was sometimes challenging to complete everything by the required date when an exam or paper came up, but in the end, setting milestones not only avoided last-minute stress but also resulted in a much better conference. A definitive schedule kept everyone on track and helped us to reach out to prospective panelists or speakers far enough ahead of time to allow them to work the Undergraduate Program into their schedules.

Attending the conference

Wednesday. We encouraged undergraduates to attend the morning career planning workshops presented by the ACS. A plenary talk by Charles Lieber of

Harvard University was held in the afternoon, followed by a meet-and-greet for undergraduates. The session offered a relaxed atmosphere where students were invited to ask about Lieber's research and find out how he got into chemistry. Lieber also offered some great advice about how to accomplish your career goals.

Thursday. In the morning, we invited undergraduates to sit in on an interview skills session and sign up for mock interviews with working chemists, including a recruiter. This session helped students learn the ins and outs of writing an effective résumé and how to most effectively convey their strengths in an interview. The mock interview provided very personalized feedback.

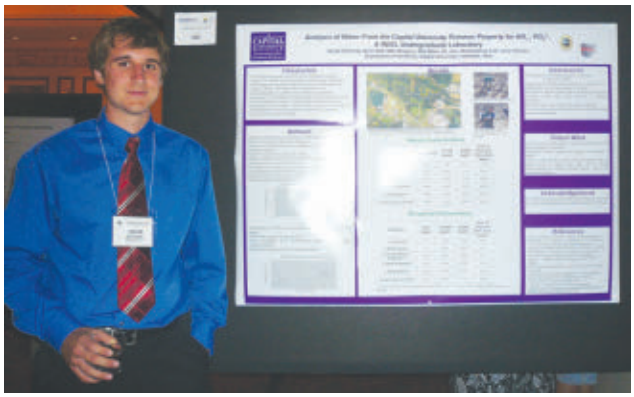
The early afternoon started with a plenary talk by Daniel Nocera of the Massachusetts Institute of Technology, followed by a meet-and-greet session. Nocera was incredibly attentive to the students' questions, and quite engaging. He also provided very helpful feedback.

After lunch, there was an undergraduate career panel discussion that involved five chemists working in different areas of chemistry. The chemists provided personal stories about how they became interested in their fields. All were eager to give advice based on their own undergraduate experiences.

COURTESY OF JOHN CARROLL UNIVERSITY

CERMACS student program organizers and ACS staff member Audley Burke, at the meet-and-greet.

The day concluded with the undergraduate research poster session, which coincided with the graduate school information session. There were 69 accepted abstracts, making this the most well-attended event of the Undergraduate Program.



COURTESY OF JOHN CARROLL UNIVERSITY

Capital University student, David Pickering, presenting at the CERMACS Undergradaute Poster Session.

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Attending CERMACS gave us a chance to think about our future and helped us learn how to plan accordingly.

COURTESY OF JOHN CARROLL UNIVERSITY

Students from the Central Region networking at the Undergraduate Research Poster Session.

Responding to economic challenges

The onset of the current economic crisis influenced our plans for the conference. Quickly adapting to these changes was crucial. Initially, we hoped to have many graduate schools register for our recruiting event — not only to make the event more helpful to attendees but also to provide us with needed funds. However, due to budget cuts, only one graduate school was able to purchase a display table during the undergraduate poster session. Since graduate program participation was low, our networking session wasn't as large as we had hoped. We also invited Human Resources representatives from local companies to attend, but since very few companies were hiring, we changed our networking night to a panel discussion. Faced with budgetary and economic challenges, we had to devise creative solutions to provide a great program.

Attending CERMACS gave us a chance to think about our future and helped us learn how to plan accordingly. It challenged the ideas we had about the paths we thought chemists took in life, and it helped us to think more critically about issues around us and what the future will bring. It was also a great opportunity to network and learn about valuable job skills. Planning and attending this conference was an amazing experience. Our meeting team gained valuable leadership and planning skills. We were also able to meet many other undergraduate chemists in the process. iC

Meghan Brown is a junior at John Carroll University double-majoring in biochemistry and cell and molecular biology, and is the president of the JCU undergraduate ACS student chapter.

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