



ALSO IN THIS ISSUE • Research Misconduct and How to Avoid It PAGE 10



- Tips on Using SciFinder to Aid Your Research PAGE 12
- College to Career: Exploring Technical Communications Careers PAGE 14



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THE MAGAZINE FOR ACS STUDENT MEMBERS November/December 2013

Cover: Photos from the 2011–2012 Student Chapter Awards Ceremony, 245th ACS National Meeting, New Orleans, LA, March 2013.





CONTENTS

ACS & YOU

EDITORIAL Exploring Ethics in the Laboratory By Gregory Ferrence	3
Atomic News Compiled by Chris Zeigler	4
247th ACS National Meeting Preliminary Undergraduate Program	6
How to Use DGRweb to Locate Research Opportunities and Graduate Programs By ACS Staff	9

FEATURES

Research Misconduct — What Is It and How Can You Avoid It?		
By Jennifer Look, Lisa Bianco, Christine Wilson, Matthew Bowen, and Kirsten Brown	1	10

SciFinder: A Versatile Tool for Chemical	
Research and Education By Daryl Ramai and John K. Borchardt	12

CAREERS

COLLEGE TO CAREER		
Explore Career Options in Technical Communications	By ACS Staff	
LL LAM		

HOW I WORK:	
Nader Heidari and Maxwell Kushner-Lenhoff	By Allison Proffitt 15

CHAPTERS

SPOTLIGHTS University of Houston and University of Puerto Rico at Aguadilla	17
2012–2013 ACS Student Chapter Awards	19
2013–2014 ACS Student Chapter Grant Recipients	28





AIChE

Applications S CI SCHOLARS Summer Industrial Internship Program for Undergraduates Summer 2014

The Society of Chemical Industry (SCI) is pleased to offer the SCI Scholars Program, which is designed to introduce exceptional chemistry and chemical engineering students to careers in chemical industry. Selected students will become SCI Scholars and participate in one of many prestigious 10-week industrial internships during the summer of 2014.



BENEFITS:

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 - 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

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- 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

Deadline to apply is December 14, 2013

EDITORIAL: **Exploring Ethics in the Laboratory**

BY GREGORY FERRENCE

hen I was an undergraduate, I was rather naïve and maintained a very "black and white" view of the world. Either you were ethical or you weren't. Through that lens, it seemed to me that everyone was unethical. Perhaps this is why I majored in chemistry. Atoms and molecules don't care about ethics; they simply are what they are, and do what they do. Simple, pure, just black or white or, even better, cobalt blue, molecules were my friends. Difficult and challenging to understand, sure, but each unadulterated, genuine molecule existed outside the realm of good and bad.

All that may be true, but it's taken me 25 more years to fully appreciate that there are other aspects of my profession that fall somewhere between black and white. To be able to operate within the field of chemistry — or any professional field, for that matter — you must be prepared for the shock of seeing others' unethical behavior happening in front of you. It's also smart to develop a plan for dealing with such situations when you must, and preventing or minimizing them when you can. Without learning to deal with this reality, one's naïveté can quickly deteriorate into cynicism.

Fortunately, there's a solution: instruction in Responsible Conduct of Research (RCR), training that focuses on ethics in the context of research science. RCR helps prepare one to navigate the unexpected but inevitable conflicts that arise from time to time in research. I see it not as training simply for the sake of compliance, but rather as an opportunity for intellectual growth. If approached with the right mind-set, RCR training can help you become a better, more thoughtful, and even more efficient scientist. For example, through some recent RCR training, I have learned about "conflict of commitment" (CoC). A CoC generally involves the real or perceived potential for corruption due to competing interests caused by overextending oneself to the point that one fails to live up to certain commitments.

RIGHT WR

Recently I was personally faced with such competing needs and commitments. I had to attend the ACS national meeting, but I also needed to deliver my general chemistry lectures, write this editorial, and celebrate my daughter's seventh birthday. Because I recognized my situation as a classic case of CoC, I was able to do a little planning to deal with the potential conflict. Specifically, I used a web-conferencing feed to deliver some of my lectures live from the ACS meeting, arranged for an exam to be given in my absence, and wrote this editorial about some things that were on my mind during the ACS meeting.

The birthday celebration was the hardest commitment to negotiate, but even that worked out all right. There were other requests for my time that I simply had to turn down. In general, however, I'm finding that explaining my decisions in the context of addressing a potential CoC is much better than just saying "I'm busy," which could easily convey something that I don't intend — such as, "I'm not interested."

I advise you to start by reading the freely available short books On Being A Scientist: A Guide to Responsible Conduct in Research (www.nap.edu/catalog. php?record_id=12192) and ORI Introduction to the Responsible Conduct of Research (http://ori.dhhs.gov/ori-intro). If you want a brief but intense overview of the philosophy around ethics, I highly recommend Ethics: The Fundamentals, by Julia Driver. IC



Gregory Ferrence is a professor of chemistry at Illinois State University. He is the 2009 State of Illinois Professor of the Year, and chairs the ACS Committee on Ethics. The opinions

expressed here are those of the author and do not necessarily reflect the position of the ACS.

ACS & YOU

ATOMIC NEWS

COMPILED BY CHRIS ZEIGLER

Source: ACS Office of Public Affairs Weekly PressPac, www.acs.org/content/acs/en/pressroom.html

First scientific method to authenticate **world's costliest coffee**

The world's most expensive coffee can cost \$80 a cup, and scientists now are reporting development of the first way to verify authenticity of this crème de la crème, the beans of which come from the feces of a Southeast Asian animal called a palm civet. Their study appears in ACS' *Journal of Agricultural and Food Chemistry*.

Eichiro Fukusaki and colleagues point out that Kopi Luwak (Indonesian for "civet coffee") is the world's costliest coffee, often fetching \$150-200 per pound. Palm civets eat coffee berries, digest the soft fruit surrounding the bean, and excrete the bean. Workers retrieve the coffee beans and clean, ferment, and roast them. The price makes Kopi Luwak a tempting target for fraud, with ordinary coffee sold as Kopi Luwak or real Kopi Luwak adulterated with cheap beans. Fukusaki and his team decided to find a way to scientifically identify the real deal.

They describe identifying unique chemical fingerprints that can be used to identify authentic Kopi Luwak and distinguish pure Kopi Luwak from Kopi Luwak that has been mixed with cheaper coffee. "This is the first report to address the selection and successful validation of discriminant markers for the authentication of Kopi Luwak," the scientists state.

Read more about the research: "Selection of Discriminant Markers for Authentication of Asian Palm Civet Coffee (Kopi Luwak): A Metabolomics Approach," J. Agric. Food Chem., 2013, 61 (33), pp 7994–8001.

Big environmental footprints: 21% of homes account for 50% of greenhouse gas emissions

Energy conservation in a small number of households could go a long way to reducing greenhouse gas emissions, scientists are reporting. Their study, which measured differences in energy demands at the household level, appears in the ACS journal *Environmental Science & Technology*.

Dominik Saner and colleagues point out that the energy people use to power their homes and to satisfy their mobility needs accounts for more than 70% of emissions of carbon dioxide, the main greenhouse gas involved in global climate change. Saner and his team decided to take a close look at how energy consumption for housing and land-based mobility at the household level affects

greenhouse gas emissions. Their study of more than 3,000 households in a Swiss town found that only 21% of the households accounted for almost 50% of greenhouse gas emissions. The biggest factors contributing to a few families having a disproportionately large environmental footprint were large living spaces (which use energy for heating, lighting, and cooling) and long commutes in private vehicles. "If their emissions could be halved, the total emissions of the community would be reduced by 25%," the scientists concluded.

Read more about the research: "Housing and Mobility Demands of Individual Households and their Life Cycle Assessment," *Environ. Sci. Technol.*, 2013, 47 (11), pp 5988–5997.

Toward anti-odor, **antibacterial fabrics** with the scent of vanilla

A new study has established the feasibility of giving fabrics an antibacterial, odor-resistant coating with the fresh scent of vanilla. The technology also could have medical applications in preventing the spread of hospital infections via bed linens and other objects, according to the study, published in the ACS journal Industrial & Engineering Chemistry Research.

Ricard Garcia-Valls and colleagues explain that vanillin, the main ingredient in the vanilla extract flavoring sold in little brown bottles in supermarkets, does more than confer a pleasing aroma. Vanillin also fights microbes, including the notorious *Staphylococcus aureus* bacteria responsible for many hospital-acquired infections. Garcia-Valls' team decided to use microencapsulation to combine the fresh scent and antibacterial effects of vanillin in fabrics.

They describe packaging vanillin into tiny capsules made of polysulfone, a heat-resistant plastic, and using the capsules to coat cotton. Fabric with the coating resisted growth of *S. aureus*, and the coating stayed intact through several wash–dry cycles. "This work sets the basis for fur-

ther development of fabrics with antimicrobial activity and a pleasant aromatic finish," the researchers state.

> Read more about the research: "Polysulfone/ Vanillin Microcapsules for Antibacterial and Aroma Finishing of Fabrics," *Ind. Eng. Chem. Res.*, 2013, 52 (29), pp 9995–10003.



Number of Nobel Prizes awarded in chemistry to date. The Nobel Prize in Chemistry has not been awarded on 8 occasions: 1916, 1917. 1919, 1924, 1933, 1940, 1941, and 1942.

Number of grams of astatine, the rarest naturally occurring element, in the Earth's crust:



Number of noble metals. which do not rust. They are ruthenium, rhodium, palladium, silver, osmium, iridium, platinum, and gold.

The melting point in Celsius of tungsten (6170° F). This means that if you threw liquid tungsten into a lava flow, the lava would freeze the tungsten!

The white copper The Latin word for gold, aurum, derives from

"yellow".

number of nonmetals: and gold.

Preventing vitamin B12 deficiency among vegetarians and vegans

Vegetarians and vegans should take special care to get enough vitamin B₁₂, a review of scientific studies on the vitamin has concluded. In the article, published in

ACS' Journal of Agricultural and Food Chemistry, the authors say that many of the best-known sources of vitamin B_{12} actually contain a form of the vitamin that humans can't use.

Fumio Watanabe and colleagues explain that the usual dietary sources of vitamin B₁₂ are animal-based foods, such as milk, eggs, meat, and fish, although a few plant-based foods also contain high amounts. The only living things that can make vitamin B₁₂ are certain bacteria, and they are in the digestive tracts of animals. The bacteria also can live on or near some types of plants, providing them with the nutrient. Vegetarians and vegans, who avoid animal products, have a high risk of developing a vitamin B₁₂ deficiency. Low levels of vitamin B₁₂ have been linked to health problems, including elevated blood levels of homocysteine, which may increase the chances of developing heart disease, stroke, and other diseases.

The scientists reviewed almost 100 scientific studies on the topic. They found that some highly touted sources of vitamin B₁₂, such as blue-green algae called spirulina that are sold as a dietary

supplement, and some shellfish, instead contain high levels of a "pseudo" or "false" form of the vitamin that the human body can't use. Based on their review, they note that vegans could add some fermented foods, two types of edible algae, two types of mushrooms, and B₁₂-enriched vegetables to their diets to get enough of the nutrient.

Read more about the research: "Biologically Active Vitamin B₁₂ Compounds in Foods for Preventing Deficiency among Vegetarians and Elderly Subjects," J. Agric. Food Chem., 2013, 61 (28), pp 6769-6775.

Insect-inspired **super rubber** moves toward practical uses in medicine

The remarkable, rubber-like protein that enables dragonflies, grasshoppers, and other insects to flap their wings, jump,

and chirp has major potential uses in medicine, scientists conclude in an article in the journal ACS Macro Letters. It evaluates

the latest advances toward using a protein called resilin in nanosprings, biorubbers, biosensors, and other applications.

Kristi Kiick and colleagues explain that scientists discovered resilin half a century ago in the wing hinges of locusts and elastic tendons of dragonflies. The extraordinary natural protein tops the best

synthetic rubbers. Resilin can stretch to three times its original length, for instance, and then spring back to its initial shape without losing its elasticity, despite repeated stretching and relaxing cycles. That's a crucial trait for insects that must flap or jump millions of times over their lifetimes. Scientists first synthesized resilin in 2005 and have been striving to harness its properties in medicine.

Kiick's team describes how their own research and experiments by other scientists are making major strides toward practical applications of resilin. Scientists have modified resilin with gold nanoparticles for possible use in diagnostics, engineered mos-

guito-based resin to act like human cartilage, and developed a hybrid material for cardiovascular applications. "This increasing amount of knowledge gained from studies on natural resilin and resilin-like polypeptides continues to inspire new designs and applications of recombinant resilin-based biopolymers in

biomedical and biotechnological applications," the scientists state. The authors acknowledge funding from the National Center for

Research Resources, a component of the National Institutes of Health, and the National Institute on Deafness and Other Communication Disorders. Read more about the research: "Resilin-Based Materials for Biomedical Applications," ACS Macro Lett., 2013, 2 (8), pp 635-640.

POOR FUTURE! Undergraduate Program

SUNDAY, MARCH 16

Hospitality Center 8:30 AM – 5:00 PM

Undergraduate Research Papers (Oral) 8:30 AM – 5:00 PM

Making the Most of Your First ACS Meeting 9:00 – 9:45 AM

Graduate School Reality Check: Getting in 10:00 – 11:15 AM

Graduate School Reality Check: You're In—Now What? 11:15 AM – 12:15 PM

Chem Demo Exchange-Household Chemicals 11:00 AM – 12:30 PM



Networking Social with Graduate School Recruiters 1:00 – 5:00 PM

Technical Symposium: The Many Faces of Energy Research 1:00 – 2:30 PM

Careers Outside Academia 2:45 – 4:00 PM

Workshop: Improving Scientific Communication Skills Workshop 2:45 – 4:00 PM

Making Demos Matter Workshop 4:00–5:30 PM

ACS Student Chapter Awards Ceremony 7:00 – 8:30 PM

Undergraduate Social 8:30 – 11:00 PM

247th ACS National Meeting & Exposition Dallas, TX = March 16–20, 2014



MONDAY, MARCH 17

Hospitality Center 8:30 AM – 5:00 PM

Undergraduate Research Papers (Oral) 8:30 AM – 5:00 PM

Technical Symposium: Materials Science and Energy Research 9:00 – 10:30 AM

Workshop: Chemists Celebrate Earth Day Research Events 9:45 – 11:45 AM

How to Network 101 10:45 AM – 12:00 NOON **Undergraduate Poster Session** 12:00 – 2:00 PM

Eminent Scientist Lecture 2:30 – 3:30 PM

Undergraduate Speed Networking with Chemistry Professionals 3:45 – 5:15 PM

Kavli Lecture 5:30 – 6:30 PM

Sci Mix/Successful Student Chapter Posters 8:00 – 10:00 PM

Attention: Graduate School Recruiters!

Network with highly qualified undergraduate students who are interested in learning more about your graduate school programs. Register to participate in the graduate school recruiting events. For more information contact Lori Betsock at l_betsock@acs.org. To register, go to www.acs.org/GradSchoolRecruiters All events are sponsored or co-sponsored by the Society Committee on Education Undergraduate Programs Advisory Board.

Chair: Matthew J. Mio, University of Detroit Mercy, MI Program Chair: Christopher Bradley, Mount St. Mary's University, Emmitsburg, MD.

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



ACS Directory of Graduate Research 2013 DGRweb

- >> Facilitates Research Collaborations in the Chemical Sciences
- >> Enables Networking Across Chemical Subdisciplines
- >> Helps Students with Selecting a Graduate Program
- >> Identifies Research Experiences for Undergraduates (REUs)

Conduct free online searches at www.acs.org/dgrweb.

The Redesigned ACS Directory of Graduate Research (DGRweb)

Get Fast, Accurate, and Indispensable Results Using the DGRweb!

The ACS Directory of Graduate Research (DGRweb) is a **free** searchable, online database that provides the most comprehensive compilation of information on graduate study in the chemical sciences at universities in North America. The Directory has been redesigned with improved and expanded searching capabilities. To learn more about the DGRweb, go to www.acs.org/dgrweb.



ACS Directory of Graduate Research

SEARCH EIGHT AVAILABLE DISCIPLINES:

- > Chemistry
- > Chemical Engineering
- > Biochemistry
- Medicinal/
 Pharmaceutical
 Chemistry
- > Polymers and Materials Science
- > Toxicology
- > Marine Science
- > Environmental Science

FIND INFORMATION ON: 673 academic departments

8,846 faculty members



How to Use DGRweb to Locate **Research Opportunities and Graduate Programs**

BY ACS STAFF

magine that your undergraduate research focused on nanochemistry, and you wanted to continue your study in this area while in graduate school. Where can you quickly and easily find out which schools offer such graduate-level opportunities? You could use an online search engine, but then you would have to spend precious time wading through thousands of hits to piece information together.

But why do this when the answers to your questions are right at your fingertips and just seconds away... on the ACS website? Just go to **www.acs.org/dgrweb** and search DGRweb2013. This free resource enables you to quickly and easily search and obtain comprehensive information about graduate research and researchers at universities in North America. You can run searches on DGRweb based on region, faculty, institution, and fields of specialization.

Search for faculty

Maybe you're interested in finding research opportunities in nanochemistry and you want to find faculty with active research programs in this area. In the Faculty Search section of DGRweb, you type "nanochemistry" into the specific research box, and within seconds, you get a listing of names of faculty dealing with nanochemistry in their research. For each of these faculty members, you

can further retrieve information on their specific research area, academic rank, gender, and contact information, including direct links to their e-mail address and website. You can narrow the search further by entering a specific geographic region.

Search for institutions

To locate departments that specialize in nanochemistry, go to the Institution Search section of DGRweb and type "nanochemistry" into "fields of specialization." Within seconds, you will receive a list of institutions, along with links to all departmental contact information, statistical data on the number of faculty and graduate students, and a complete list of faculty active in graduate research.

And that's not all. If you're interested in seeing whether there have been any changes in a graduate program in a selected department within the past 12 years, DGRweb can provide that information also. The site includes access to the complete DGR databases from 1999 to 2011.

Compare the stats

For many prospective graduate students, the size of the department is an important factor. If you want to see how nanochemistry programs compare in size, go to the Statistical Data Search section

and enter "nanochemistry", and you'll receive a listing of institutions with nanochemistry programs, along with the statistics comparing the number of full- and part-time faculty, postdocs, first- and second-year master's students, and first- and second-year Ph.D. students.

DGRweb is the most comprehensive source of information on faculty and their research at graduate programs in chemistry, chemical engineering, biochemistry, and related chemical sciences in North America. It contains listings for more than 673 academic programs and 8,846 faculty members.

Try searching DGRweb today. Let ACS know what you think about the site by completing the 60-second survey. This survey provides ACS staff with data to help improve future editions of DGRweb. And... while you are surfing DGRweb, be sure to bookmark it. More than likely, you'll be returning for more information! C



FEATURE

Research Misconduct — What Is It and How Can You Avoid It?

BY JENNIFER LOOK, LISA BIANCO, CHRISTINE WILSON, MATTHEW BOWEN, AND KIRSTEN BROWN

t's past midnight and you are up against a deadline in your organic chemistry course. You are writing an introduction section for a lab report due later that morning, and you realize that several paragraphs of a paper you wrote last year address this same topic. Since the ideas and words are originally yours, what's the harm of reusing this text for the new assignment?

If the duplicated material had been data or conclusions, rather than background, would that alter your opinion? Or, if you've presented any of the material at a conference prior to publication, should that be cited?

By definition and example

According to the Office of Research Integrity (ORI), a part of the U.S. Department of Health and Human Services, the body responsible for most scientific integrity oversight in the United States,

this type of double-dipping or "self-plagiarism" can be a serious offense. In professional publications, self-plagiarism is not permissible. The journal publisher (not the author) maintains copyright for a publication, so the author cannot re-publish the exact words without correctly citing them. Ronald Breslow, one of the world's most prominent chemists and a former president of ACS, had a Perspective piece withdrawn from the *Journal of the American Chemical Society* in 2012 after it was shown to contain many passages he had published before. Yet many leading scientists defended his work, saying the repetition was completely consistent with the purpose of a Perspective article.

ORI divides research misconduct into three categories: fabrication, falsification, and plagiarism. Fabrication involves inventing data without actually doing the experiments claimed. Falsification refers to the manipulation or omission of data or methods. This can occur if a researcher thinks obtaining the desired results to bolster a theory is more important than reporting accurate results. Plagiarism is the presentation of words or ideas without proper accreditation.



Ethical guidelines and trust

Although these types of research misconduct may seem easy to avoid, they actually occur quite frequently. The National Science Foundation's (NSF's) Office of Inspector General detected plagiarism in over 1% of successful grant proposals in 2011, and its Agency Financial Report claims that research misconduct has tripled in the past 10 years. These transgressions are not always intentional, however; the ethical guidelines regarding publication are complicated enough that even experienced professors struggle with them. Miguel Roig has written a guide for the ORI on avoiding questionable practices, which includes a list of 26 important guidelines. The American Chemical Society also offers advice in its document "Ethical Guidelines to Publication of Chemical Research." Individual schools and professors may also have their own ethical requirements that may differ from other sources, so it is always a good idea to review the relevant requirements whenever you're writing.

Guarding against research misconduct should not be taken lightly, because it can have serious consequences. Many colleges

Basic Rules for Avoiding Plagiarism

Researchers must understand how the rules of proper research conduct apply to whatever format they're using to share information: keeping lab notebooks, writing journal articles and reviews, preparing scientific posters and conference talks, or applying for grants, to name just a few. If you always heed these six basic rules for avoiding plagiarism, you should not run into problems.

- Clearly convey which ideas are original, and which are derived from other sources.
- Exact words from another source must be enclosed in quotation marks. When summarizing or paraphrasing ideas from sources, use your own original words.
- Make sure all cited references are true to the original author's meaning.
- Do not reference indirectly related people or unrelated works in an attempt to increase impact factor.
- When in doubt, cite the source.
- Plagiarism applies to one's previous work as well. This is known as self-plagiarism, and extensive self-plagiarism is grounds for retraction.

HINT: Use tracking programs such as RefWorks, EndNote, or Zotero to maintain a list of sources and easily create proper citations.

TIP: The Retraction Watch blog (retractionwatch.wordpress.com) is a great resource for finding more information about research misconduct. It is an interesting blog that describes cases such as the most retractions for one author (183) and creative ways around peer review (faking e-mail addresses to write your own reviews). **IC**

have honor councils that enforce rules against plagiarism and other ethical lapses. The punishments in such cases can range from a simple warning to expulsion from college. In professional settings, punishments for misconduct can also vary. Some cases lead to researchers agreeing to be closely supervised for a number of years, while others involve retraction of papers and bans on applying for federal funding. The first researcher to be sent to jail for misconduct, Eric Poehlman, was sentenced to one year and one day for his extensive fraud used to obtain more than a million dollars in federal grant money.

Research cannot exist without trust. What good is an experiment if everyone else must replicate it to believe it to be true? What purpose does science serve if the public does not believe in the integrity of the findings? The strength of science lies in the ability for one person to pick up where another left off, to strive for a greater understanding of the world. Science depends on trust, and trust is rooted in honesty. Honesty includes crediting another's work and accurately reporting data. Learning to be a good chemist requires not only mastering laboratory techniques and data analysis, but also knowing how to share your findings. Appropriate scientific conduct is important for all chemistry students to understand. **C**

What Would You Do?

Imagine that you are a graduate student, and your research group has an ongoing collaboration with the Goliath Corporation. You write a draft of a paper, and show it to everyone for suggestions. Your collaborator at Goliath provides substantial suggestions and rewrites a large chunk of the results section for you. She asks not to be named as an author on the paper because of the hassle of obtaining corporate permission to publish. What should you do?

The practice of someone (often a company) publishing research and hiding his or her possible conflict of interest by obscuring authorship is called ghostwriting. This has recently been deemed unacceptable by the ORI guidelines, but it has always been correct practice to grant authorship to all people (and only those) who make meaningful contributions to a project. All authors should read and approve of a paper before it is submitted for publication. If a collaborator (or her company) has contributed guiding ideas and interpretations along the way in a project, they qualify for authorship regardless of whether they contribute in a written fashion. Navigating corporate policies can be difficult and time-consuming, so authorship considerations should always be worked out at the start of a collaboration. For further thought: Specifically, what sorts of things qualify someone as an author? Is it ever all right for a student to publish without his or her advisor being listed as an author? 🕻

For more information see ORI's "26 Guidelines at a Glance on Avoiding Plagiarism" at http://ori.hhs.gov/plagiarism-0



Jennifer Look is an assistant professor at Mercer University and a faculty co-advisor for the ACS student chapter. Lisa Bianco is a senior chemistry major at Mercer University and she is applying to medical school.

Christine Wilson is a sophomore chemistry major at Mercer University, and secretary of the ACS student chapter.

Matthew Bowen is a senior chemistry major at Mercer University, and he plans to teach abroad after graduation.

Kirsten Brown is a sophomore computational science major at Mercer University and historian of the ACS student chapter.

FEATURE

SciFinder: A Versatile Tool for Chemical Research and Education

BY DARYL RAMAI AND JOHN K. BORCHARDT

magine that you were beginning a research project and needed to learn more about the elasticity of artificial skin. Which documents should you review? Who are the key researchers in this area? What substance information is relevant to your research?



Students and academic and industrial researchers face increasing challenges in a world of information overload and interdisciplinary research. Nowhere is this truer than in chemistry, the central science that connects the physical sciences with the life sciences, as well as applied sciences such as medicine and engineering.

For many researchers, the answer is SciFinder, Chemical Abstracts Service's (CAS's) research discovery tool. SciFinder provides an integrated and user-friendly platform for exploring CAS's scientific databases. Search online using a personalized account that you create, or access your favorite SciFinder features on your smartphone with SciFinder Mobile.

The database for chemistry and related sciences

SciFinder searches CAS databases, the world's largest, most accurate, and most up-to-date collection of scientific literature, including publications from more than 10,000 major international scientific journals, reports, dissertations, letters to editors, reviews, meeting abstracts, books, and translational biomedical science through clinical trials. SciFinder also searches Medline, a database from the National Library of Medicine, part of the National Institutes of Health (NIH).

Increasingly, new scientific findings are first disclosed in patents. If you need to search patents relating to artificial skin, SciFinder covers patents from 63 patent authorities from around

Keep Me Posted

12

As an industry consultant, John K. Borchardt was asked to create a corporate report linking regional temperatures to atmospheric carbon dioxide levels using a variety of estimation techniques. He needed to determine if there was a correlation with sea levels and whether increases in sea levels were likely to affect the offshore oil platforms and require protective measures to be taken against flooding in low-lying coastal cities such as New Orleans.

His report covered a period of 500 million years and was nearly 200 pages in length. As he worked, Borchardt kept abreast of relevant new findings published in a variety of chemical, climate, and other journals and presented at scientific conferences. He did this by creating a "Keep Me Posted" (KMP) alert to have SciFinder automatically notify him when new records matching his search criteria were added to the databases.

Users can choose the frequency of their KMP e-mails based on the time they have to do their research and how often relevant new findings tend to be published. As Borchardt became aware of these new publications, he assessed them and incorporated them into his report as appropriate. Users can also convert a static report into a dynamic one by periodically incorporating relevant results of KMP alerts into an electronic report that can either be periodically mailed to recipients or stored in a research or corporate wiki.

SCIFINDER MOBILE

If you have a smartphone, you can access SciFinder almost anywhere through the unique features of SciFinder Mobile. Smartphone users can explore by research topic, search for chemical substances and references to published literature, and review KMP notices.

With SciFinder Mobile, you can download a free app to direct the web browser on your smartphone to **SciFinder.cas.org/mobile** and log in using your username and password.

NEW! ACS MEMBER SCIFINDER BENEFIT

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the world. This global inventory of information is updated daily by a network of scientists and editors, who, in addition, analyze content to include important scientific concepts such as diseases, processes, and techniques.

Students and researchers can access these resources for reference and study by using keywords pertaining to their interests, whether those might be related to artificial skin or other topics, such as organometallic, catalyst, global warming, or just about any other chemistry-related term you can name. By setting search parameters, users can refine and narrow search results by author, journal, and year of publication.

SciFinder users can also search the CAS REGISTRY database, which contains more than 71 million unique organic and inorganic chemical substances, such as alloys, coordination compounds, minerals, mixtures, polymers, and salts. CAS REGISTRY is the largest of its kind, and is updated daily with 15,000 new substances. By using CAS REGISTRY, researchers can unequivocally identify their substance of interest by its CAS Registry Number®, a universally accepted registration code used as a unique identifier for chemical substances.

In addition, searchers can find information on a compound by using a molecular formula, such as $C_6H_{12}O_6$ (glucose) — although the CAS Registry Number is a more precise chemical identification. Researchers can also draw and search chemical structures to find the exact structure or similar structures.

SciFinder gives researchers access to extensive substance information, such as physical properties. Both experimental and predicted property data are available, with more than 4 billion property values (for more than 73 million substances), as well as data tags and spectra. Properties include solubility, Gibbs free energy, dielectric constant, crystal structure, and NMR and IR spectra.

For added convenience, icons provide one-click access related to the structure and substance being explored, including fulltext references, synthetic pathways, commercial availability, and more.

Chemical synthesis

Synthetic chemists can use SciFinder's interactive SciPlanner feature to design, develop, and organize their work. It provides access to more than 68 million single and multistep chemical reactions from journals and patents. These reactions come with related information, such as experimental procedures, reaction conditions (such as temperature, pressure, time, catalysis, and solvent), and commercial availability from more than 1,000 chemical catalogs. On average, 150,000 new single and multistep reactions are added weekly. Users can adjust chemical structures and reaction pathways and compare alternative synthetic routes to create a research plan that fits their own budget, time, and chemical resources.

SciFinder is a very versatile tool in research projects. Jong I. Lee, an assistant professor at York College, CUNY, explains, "My area of research concerns organic photochemistry. I use SciFinder for research on planning reactions, obtaining background knowledge on the research project, searching for better reaction schemes, finding theoretical papers regarding experimental data, looking for experimental data and calculated data, and updating background knowledge."

Users can save their work online in their SciFinder accounts, or download it to prepare reports in the form of PDF files to share with research team members and to use when preparing manuscripts for publication.

Chemical education

Students can also use SciFinder to further their chemical education. SciPlanner enables you to study and visualize chemical reactions from your organic chemistry courses, such as the Diels– Alder cycloaddition. SciPlanner can be used in conjunction with general or physical chemistry courses to search physical properties of molecules, such as melting and boiling points and ultraviolet absorption.

Professor Lee further explains, "For students, SciFinder is not only a research tool, but a study tool as well. For example, students can find the original paper on the S_N2 reaction, read its history and details, and see lots of examples. They will find vivid examples with many practical lab aspects in it."



Daryl Ramai is a research assistant and science writer. His research focuses on the application of biological mass spectrometry to the study of cellular activity. John K. Borchardt was a chemical consultant, science writer, and devoted ACS career

consultant for more than 15 years, until his sudden passing in January 2013. As an industrial chemist, he held 30 U.S. and more than 125 international patents and was the author of more than 130 peer-reviewed papers.

CAREERS

CAREER Explore Career Options in Technical Communications

BY ACS STAFF

hile virtually every career requires good communication skills, those who truly excel at these skills may want to explore technical communication as a career path.

Science journalists and technical writers create information about technical topics for a wide variety of audiences. Science journalists make complex technical information accessible for a lay audience, while technical writers create documents to be read by other technical people. Technical editors work with the authors to make sure the subject, style, and level of detail are appropriate for the intended audience.

Some examples include:

14

- Writing about new technological developments for popular science magazines
- Creating briefing documents for a congressperson regarding current issues
- Identifying and soliciting authors, commissioning publications, enforcing deadlines, assigning reviewers, editing for style and format, and managing the publication process
- Editing and assembling grant proposals, journal articles, technical reports, instruction manuals, and other scientific documents
- Developing press releases and marketing materials for technical products, programs, and services
- Creating standard operating procedures and help documents for industry.

Although written communication skills are needed in every industry and work sector, technical writers are concentrated in information technology, scientific, and technical companies. Significant amounts of information are now being delivered electronically, which often involves integrating text, graphics, animation, and databases. A very small percentage of technical communicators are illustrators who create images to go along with the explanatory text or translators who convert documents into other languages.



BECOMING A TECHNICAL COMMUNICATOR Education

Technical communicators should have at least a bachelor's degree in a science or engineering discipline. Undergraduate courses in science writing and journalism are helpful, and some employers prefer a degree in journalism, English,

Quick Facts

- **OPPORTUNITIES** Current job outlook continues to be positive, but the job growth curve for the future could flatten out, as is the case with such areas as electronics.
- EDUCATION NEEDED A bachelor's degree is usually required, and experience with a technical subject is important.

Salaries

- Median annual wage for technical writers: \$65,500 (2012).
- Median annual wage for editors (including technical editors): \$53,880 (2012).

or communications. A graduate degree is usually not necessary, although it may lend you credibility with some types of employers.

The more experience you can get with writing and editing, the better. Write articles and blogs, edit organization newsletters, and volunteer to write job manuals, program announcements, lab instructions, reports, and so on. Keep copies of everything you work on and create a professional portfolio of pieces you have written, as well as before and after versions of documents you have edited.

Is this career a good fit for you?

If you enjoy discussing science and explaining it to others more than actually doing the science, technical communication may be the career path for you. Writers create content from scratch, while editors take content created by others and perfect it for a specific audience and delivery method (print, online, video, etc.).

Science writers must be imaginative and understand the implications of scientific discoveries. They must learn quickly and capitalize on their basic science education to rapidly master the basics of various technical fields and communicate

effectively with scientists and engineers. People in this field must have exceptional time-management skills,

be highly detail-oriented and organized,

and be self-motivated. Good verbal communication skills are essential when conducting interviews. Having good business skills is a requirement for freelancers because they are running their own small business.

A new ACS website for undergraduate students www.acs.org/ COLLEGE to CAREER

Career path

Writing and editing are very versatile skills that are needed in every industry and every type of business, so moving between companies is possible. Leaving the chemistry bench for a career in communications is a decision that must be considered carefully, since in most cases it means not going back. Instrumentation changes, new methods are developed, and typically, once you've been away from the bench longer than a year it is very hard to get hired back.

Advancement in technical communication generally means taking responsibility for bigger pieces of more complex projects,

How I Work: Nader Heidari

ASSISTANT PRODUCTION EDITOR, CHEMICAL & ENGINEERING NEWS, AMERICAN CHEMICAL SOCIETY

With a double major in chemistry and philosophy, Nader Heidari was certainly headed for an interesting career. But when the time came to look for jobs, it was his extracurricular activities that sealed the deal.

"For all four years at the university, I worked at the University of California, Santa Barbara's student paper, *The Daily Nexus*," Heidari says. "I started out as a reporter and became a science writer because I loved to write stories about the research being done on campus. That allowed me to gain a lot of general knowledge, which I preferred over more specialization. I became the science editor, restoring the section in the paper and later expanding it to Science & Technology. I became the head of the copy desk and production team as well and managed the website and its staff before graduating."

A chemistry professor introduced Heidari to *C&EN*. He applied for an open position after seeing the posting on the *C&EN* website. Today, Nader Heidari is an assistant production editor at *Chemical & Engineering News*.

Please describe your typical day on the job.

My team and I manage and edit the articles that will be in the week's issue of *C&EN*. Typically, we spend an hour or two each day in meetings and spend the rest of the time coordinating



with the writers, editors, designers, web team, and digital production staff to produce the magazine. We check art and structures to make sure they are correct and ensure that the style guides are followed. We also write articles for *C&EN* on occasion. As part of my work, I also program a variety of tools for use by the staff to make workflows smoother.

What sort of work schedule do you keep?

I work 40–45 hours a week. The time spent is mostly contingent on the complexity of each week's issue and can vary greatly. The environment is relaxed on nonproduction days and much more fast-paced on days when pages will be sent to the printer, giving us a healthy dose of volatility.

What personal talent or trait makes you a great fit for your job?

I like challenges, a moderately fast pace, and I love news environments. I also read and write all the time, and that fits in well with the requirements. I like to find ways to make processes faster and/or more precise, and I like exploring new technology.

What is your favorite ACS resource?

I use SciFinder often to verify structures. 🕻

supervising other writers, and overseeing company-wide documentation policies and procedures. Many technical communicators freelance at the end of their careers as a way to maintain some income while gradually transitioning to retirement.

Future employment trends

Competition for freelance work is now global, and this low barrier to entry has driven rates down significantly. In addition, there is fierce competition among freelance technical writers/editors as print media continue to face strong pressure from online publications. However, the increase in scientists for whom English is a second language has opened up opportunities for technical editors to assist them. Technical communication is gaining greater acceptance as a profession and moving into fields such as data processing, hosting, and other services. **C**



Lisa M. Balbes of Balbes Consultants LLC contributed to this article.

How I Work: Maxwell Kushner-Lenhoff

COMMUNICATIONS SPECIALIST, OFFICE OF THE CHAIRMAN AND CEO, THE DOW CHEMICAL COMPANY

At an ACS national meeting, Maxwell Kushner-Lenhoff had the opportunity to speak with former ACS president and Dow employee Katie Hunt at a Chemical Professionals Meet-and-Greet for students. "We spoke about my interest in trying to find a sciencerelated job outside of R&D, and she encouraged me to consider Dow, although she could not off the

top of her mind recommend any specific positions," Kushner-Lenhoff remembers.

"I enjoyed the lab work," Kushner-Lenhoff says, "but I found that that was not my favorite part of what I was doing."

Thanks to a recommendation from an alumnus of his course, Kushner-Lenhoff found a position at Dow, tackling activities across the communications spectrum from research to writing, public relations, and promotion, in his work as a Communications Specialist in the Office of the Chairman and CEO of The Dow Chemical Company.

Can you give us a breakdown of how you spend your time?

Around 50% of my time is spent on research — online searches, reading news and white papers, and engaging with experts so that I can stay up to date on trends, analysis, and of course, all of Dow's diverse businesses and technologies. As to the rest, 30% of my time is writing, 10% is meetings, and 10% is miscellaneous projects.

One of the most enjoyable parts of my role is to engage with Dow's internal Subject Matter Experts (SMEs). Whether in R&D, business, sustainability, diversity, or government affairs, these SMEs are extremely knowledgeable and are very open and friendly. They have proven invaluable to getting the facts and the story right. With facts in hand, it is off to outlining and writing.



The environment is fairly highpressure and fast-paced. Working for a global corporation means that we engage with people across many different time zones, so often, my hours do not meet a standard 9–5, Monday to Friday work week. Time management is key, and can be a challenge. We try to anticipate everything that will be required to support events and activities, but breaking news can drive last-minute asks and research. In those moments, it helps to have come from an academic background where I honed my ability to deliver on a

deadline and under pressure.

What personal talent or trait makes you a great fit for your job?

I love listening to people tell their favorite stories. Luckily, it just so happens that those narratives very often make for the most engaging proof points that I can incorporate into my research and writing.

What essential habit do you have now that you wish you'd started much earlier?

Researching a person's title and background before I meet them helps me go into the room better prepared and with more directed and poignant questions. All of these factors make for a more productive meeting.

What's your favorite ACS resource?

Chemical & Engineering News magazine. I try to read it every week to find out about recent academic discoveries and what is going on in the industry, including stories about Dow! **IC**



Nader Heidari and Maxwell Kushner-Lenhoff were interviewed by Allison Proffitt, a freelance writer and editor based in Nashville, TN.

CHAPTERS

SPOTLIGHT **University of Houston** Houston, TX

UNIVERSITY of HOUSTON

COMPILED BY ROBIN LINDSEY

Chapter president: Aaron Pontifes Number of chapter members: 139 Number of ACS student members: 46 Website: www.acsatuh.com Institution description: Large, public, urban, minority-serving, 4-year institution

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

A: During the spring, our chapter holds elections for the new officers in time for the new officers to facilitate a general meeting with the assistance of the present officers. Previous officers meet with new officers and brief them on their duties and give them a binder with materials and documents needed to keep the officer running smoothly.

Q: Do you have any unique positions?

A: We have a historian, a demonstration coordinator, and a webmaster. These positions handle the most important parts of our mission, which involve community involvement and promotion. The demo coordinator communicates with community members and finds opportunities to spread the love of chemistry through our area schools.

Q: How do you celebrate National Chemistry Week? Chemists Celebrate Earth Day?

A: For NCW we hand out buttons and flyers to promote the upcoming NCW events. Our favorite activity is the "make your own mole/mole T-shirt" competition. On Earth Day we plant trees around the periphery of a schoolyard at a local elementary school.

Q: In what ways does your chapter give back to the community?

A: Our main focus is community outreach. Through classroom visits and involvement in school district science nights, our organization aims to help elementary and junior high school students maintain their natural scientific wonder.

Q: What types of activities do you sponsor?

A: During exam weeks, we sponsor and conduct two organic chemistry review sessions for the sophomore students taking the exam. We also sponsor a chemistry triathlon each year for local and regional high school students and a full-service and free chemistry tutor room that typically handles 4000–4500 student visits a year.

Q: Do you collaborate with other clubs on campus on activities?

A: We work closely with two sister organizations: the teachHOUSTON Student Society (tHSS) and the Pre-Pharmacy Association (PPA). We recently conducted a "Pie your Prof" event in which students could throw a whipped cream pie at their chemistry professor, and our advisor.

Q: What is your most successful fundraiser to date?

A: Almost all of our funds come from sales within our ACS store, which is run out of our tutor room. We sell items needed for undergraduate chemistry laboratory classes and review materials for organic and physical chemistry courses. This is our most successful, and longest-running, fundraiser and has run since our inception.



The UH student chapter provides a free tutoring program to students, and the tutor room typically receives 4,000–4,500 student visits a year.

Q: Describe a special project the chapter recently did or is now doing.

A: We are going to train at least 25 members in the demonstrations that our chapter conducts around the city. This way, our officers will have much more help in conducting these events and our members will gain valuable experience in community service. We are also conducting periodic small-group trainings. We currently have 12 trained members. **iC**

Faculty advisor: Simon Bott, 12 years

Q: Why did you become a faculty advisor?

Bott: I became the undergraduate advisor and it was a natural inclusion. I think the most important part of our positions at a university is to mentor and interact professionally with students. Being chapter advisor was and is a wonderful way in which to do this.

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

Bott: The development of our students in general. One specific student always stands out. She got a C in the first half of general chemistry and was going to become a business major (from premed). Through class initially and then involvement in the ACS chapter, she became a chemistry major, became president of the group, and is now finishing her Ph.D. in chemistry in a top-10 department.

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

Bott: Remember that the students are 18 to 22 years old. They need to grow and develop as people and as chemists. You can't expect them to be as responsible as your colleagues. You also have to appreciate that the year-to-year change in students and levels of involvement mean that you cannot ever rest on your laurels. IC

CHAPTERS

SPOTLIGHT University of Puerto Rico at Aguadilla Aguadilla, PR



AGUADILA

Chapter president: Eva I. Gordián-Rivera Nur Website: www.facebook.com/acs.uprag Ins

Number of chapter members: 126 Number of ACS student members: 126 Institution description: Large, public, rural, 4-year institution

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

A: The ACS-UPRAg members have the opportunity to present their interests and ideas that would impact the community in the next academic year. The members make a short oral presentation at an organized chapter assembly at which they are elected by the members depending on their proposals.

Q: Do you have any unique positions? If so, what kinds of specialty positions are those?

A: Our chapter integrated as part of our executive board a Green Chemistry Division. These include director, assistant director, and public relations positions. The division has the mission of educating the community about the Green Chemistry Principles. These unique positions are elected by our student chapter members.

Q: In what ways does your chapter give back to the community?

A: We have been actively working with the American Cancer Society, Puerto Rico Chapter. ACS-UPRAg has developed a fundraising sale of T-shirts that would support the treatment of cancer patients and participated in the March for a Cause: Breast Cancer in honor of the victims of this type of cancer. Our group is focused on educating our community about this reality.

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

A: During National Chemistry Week (NCW), we participated in the Festival de Química at the Paseo de la Princesa, Old San Juan, which is open to the general community. Here, we communicate and educate the community about the chemistry of life, making handson experiments for all ages. A diverse group of student chapters and high school Chem-Clubs from the entire island participated in this event. Furthermore, our members participate in community service, dynamic assemblies, and departmental decoration for the NCW and Earth Week celebration. On Earth Day, the members celebrate with a birthday cake and a Green Chemistry party!

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

A: The freshman welcoming activity organized by the department of natural science is one of the most successful recruiting events. An oral presentation is made in which we present the benefits of being part of our ACS chapter.

Q: What is your most successful fundraiser to date?

A: Our most successful fundraising activity was the lunch sale. The effective way to raise funds was by holding a pre-sale for students, university administrators, and the faculty of each department from our university.

Q: Is there anything else you want the readers of *inChemistry* to know about your chapter?

A: This year, 2012–2013, our chapter is celebrating its 10th anniversary. Our chapter has always been distinguished because in



Last year, the UPR Aguadilla chapter celebrated its 10th anniversary. Unlike most ACS student chapters, its membership is comprised of biology and environmental technology majors.

our university there is no chemistry department, only a natural science department, which means that all of us are in the biology or environmental technology area. This makes the perfect combination, making the chemistry of life. We have always been very energetic, dynamic, and very distinguished as an excellent chapter, which leads to great professionals.

Faculty advisor: Brenda J. Ramos-Santos, 6 years

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

Ramos-Santos: I developed a real passion for the mission and vision of the ACS ever since my undergraduate years. As a faculty member, when I started to work at the Aguadilla campus, I was involved immediately with the student chapter and their advisor. I became a faculty advisor of the student chapter as soon as their advisor at that time started a sabbatical period.

Q: What challenges have you faced in your position?

Ramos-Santos: One of the biggest challenges is managing my time between teaching diverse courses and following through with my advisor responsibilities. As an advisor, I am more than just a professor. The students see me as a counselor. It is really challenging to try to help them in a wise way, listening to them and figuring out how best to guide them.

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

Ramos-Santos: The most rewarding is receiving love, friendship, and care from my students. Developing great professional and extraordinary human beings with the capacity to lead and serve others. When a student tells you how important your motivation and guidance is, it is an extraordinary feeling.

Congratulations to the winners of the 2012–2013 Student Chapter Awards

t is a tremendous honor for me to help celebrate the many accomplishments of ACS student chapters and their faculty advisors throughout the country. You have helped to communicate the value and benefits of chemistry to society through your many outreach events in your communities and on your campuses. You have been exemplary partners in advancing my 2013 presidential theme of "Partners for Progress and Prosperity!"

It is important for you to continue following your passion. You have made a difference through your participation in student chapter activities, and along the way, you have gained valuable professional skills that will serve you well throughout your career. I encourage you to keep up your award-winning ways—developing and exercising your leadership skills, building a strong network of mentors, colleagues, and friends, and broadly taking advantage of all the development opportunities ACS has to offer.

Chemistry is an increasingly global enterprise so we need to work together now more than ever to communicate the central role chemistry plays in solving global challenges of the environment, and shortages of energy, water, food, and natural resources. Thank you for all you have done in advancing the mission of ACS.

Congratulations to all of the ACS award-winning chapters. I wish you continued success in 2014 and beyond!



Marinda Li Wa

Marinda Wu President, American Chemical Society

19

SPECIAL RECOGNITION FOR 2012–2013 PROGRAMS

The ACS Society Committee on Education has selected the following student chapters to receive special recognition for the programs and activities described in their 2012–2013 annual reports. They will be honored at the 247th ACS National Meeting in Dallas, TX, on Sunday, March 16, 2014.

We congratulate the 53 Outstanding, 86 Commendable, and 125 Honorable Mention award-winning chapters!

KEY: Winning Institutions Faculty Advisors Chapter Presidents

Alvernia University, Reading, PA Rosemarie Chinni & Kevin Burns Daniel Kwasniewski & Brandi Loga

Barry University, Miami Shores, FL George Fisher Travis Comnick & Elliott Rodriguez

Bradley University, Peoria, IL Edward Flint Dylan Kemmerer & Michelle Baliss

California Polytechnic State University-San Luis Obispo Jennifer Carroll Jennifer Chik & Kerry Leong

California State University-Chico Daniel Edwards Michael Shaffer **California State** University-Fresno Melissa Golden & Joy Goto Brittany Bevier & Alicia Alfter

California State University-Stanislaus, Turlock Elvin Aleman Sukhwinder Kaur & Monica Trejo

City Colleges of Chicago-Wilbur Wright, IL Doris Joy Espiritu Michael Foley & Veronica Ibarra

Duquesne University, Pittsburgh, PA Jeffrey Evanseck & Paul Johnson Emilee Renk & Colin Schmucker

East Los Angeles College, Monterey Park, CA Kirk Olsen & Armando Rivera Figueroa Ana Perez & Candelaria Flores **Eastern Oregon** University, La Grande Anna Cavinato Kelsey Irish & Logan Loennig

Emory University, Atlanta, GA Douglas Mulford & Jeremy Weaver *Amanda Mui & Boru Wang*

Florida International University - Biscayne Bay Campus, Miami Mayra Exposito & Milagros Delgado Naomi Pierre & Joyce Louis

Francis Marion University, Florence, SC Jennifer Kelley & Thomas Anderson Yana Sivolobova & Regina Blackman

Georgia College & State University, Milledgeville Catrena Lisse Katie Fredo & James McPhail Gordon College, Wenham, MA Joel Boyd Justin Andrews & Sarah McCarron

Hofstra University, Hempstead, NY Ronald D'Amelia & Scott Lefurgy Timothy Clark & Amanda Clune

Illinois State University, Normal Jun-Hyun Kim & Jeremy Driskell Andrea Bruck & Stephan Germann

Inter American University of Puerto Rico San Germán Campus Angela Gonzalez Dannajoe Galarza-Ramos & Lymarie Malavé-Cancel

Middle Tennessee State University, Murfreesboro Gary White & Andrienne Friedli Bryan Donaphon & Jacob Basham Northeastern University, Boston, MA Kathleen Cameron Christine Dunne & Elise Miner

Ohio Northern University, Ada Tevye Celius Zachary Dunn &

Ryan Čhristman Penn State Berks,

Reading, PA Greglynn Gibbs Kristin Kamowski & Benjamen Reed

Salt Lake Community College, UT Ron Valcarce Adrian Scottorn & Kylee Shumway

Seton Hill University, Greensburg, PA Demetra Czegan Paul Cornelius & Amanda Dumi

South Texas College, McAllen Ludivina Avila & Joe Studer Jessica Tanguma & Jorge Garcia

Temple University, Philadelphia, PA Frank Spano Ashley Gilman

Tennessee Technological University, Cookeville Daniel Swartling *Christine Beck & Michael Probasco*

Texarkana College, TX Patricia Harman & Mike Buttram *Keith Chase & Chris Kinney* **Texas Christian University, Fort Worth** Kayla Green Nicholas Gurney & Lindsey Pickard

The College of New Jersey, Ewing Benny Chan & Abby O'Connor Marisa Sanders & Devon Pesce

The Pontifical Catholic University of Puerto Rico, Ponce Lizette Santos & Carmen Collazo Nicole Yordán & José Rosario

The University of Texas at Dallas, Richardson Kenneth Balkus Sarah Faheem & Ruperto Mariano

The University of Utah, Salt Lake City Anita Orendt & Holly Sebahar Neilson Wagley & Jesse Spencer

Union University, Jackson, TN Brenda Peirson & Randy Johnston Katherine Shelnutt & Michael Jones

University of California-San Diego, La Jolla Stacey Brydges & Haim Weizman Annie Jia & Jing Gu

University of Central Arkansas, Conway Karen Steelman & Faith Yarberry Jordan Wilkerson & Amanda Wallace University of Detroit Mercy, MI Matthew Mio & Kendra Evans Alexis Konja & Benjamin West

University of Michigan-Flint Jessica Tischler & Monique Wilhelm Caitlin McCarthy & Alexa Barres

University of Northern Iowa, Cedar Falls Melisa Cherney & Dawn Del Carlo Chelsea Meier & Shane Lies

University of Pittsburgh, PA George Bandik Akira Shimizu & Karen Kaminsky

University of Puerto Rico at Arecibo Maiella Ramos & Vanessa Montalvo Orlando Vargas Perez

University of Puerto Rico-Aguadilla Brenda Ramos-Santana & Carlos Ruiz-Martinez Eva Gordian-Rivera & Yarelis Dumeng-Santiago

University of Puerto Rico-Río Piedras Campus Ingrid Montes Orlando Morales-Martínez & Joel Pérez-Colón

University of San Diego, CA Christopher Daley Phillip Guichet & David Peters University of St. Thomas, Houston, TX Lisa Prevette & Eric Fort Nicholas Zaibaq & Jamelleh Amouri

University of Tennessee at Martin S.K. Airee Elizabeth DeVlieger & Chelsea Peeler

University of Texas at Tyler Rachel Mason & Sean Butler Jacob Oliver & Jacob Ford

University of Toledo, OH Edith Kippenhan Omar Badawi & Amber Hall

Waynesburg University, PA Evonne Baldauff & Robert La Count Jerica Briggs & Elizabeth LeCain

West Virginia State University, Institute Micheal Fultz & Thomas Guetzloff Joshua Kim & Emily Wood

Western Washington University, Bellingham Steven Emory & Elizabeth Raymond Nicole Koeppen & Curtis Strom

Xavier University of Louisiana, New Orleans Michael Adams & Janet Privett Shirmir Branch & LeaAnn Love

21



Arkadelphia. AR

Janice O'Donnell &

Savannah Stevens & Katarina Bejarano

David Bateman

Vincent, Riverdale, NY Pamela Kerrigan Dakota Zinani & Michael Pena

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Michael Schramm &

Hannah Pham & Tuyen Tran

Paul Buonora

22

Hannah Tims

Sarah Bednar

November/December 2013

Mississippi State University Emily Rowland *Kerry Barnett & Ashley Horn*

Missouri State University, Springfield Diann Thomas & Bryan Breyfogle Brett Huntley & Jennifer Schott

Morehead State University, KY Mark Blankenbuehler Kathryn Renyer & Blake Cantrell

Morgan State University, Baltimore, MD Louise Hellwig Brent Powell & Tabassum Kanir

North Carolina Agricultural and Technical State University, Greensboro Marion Franks Carmen Marable & Krislyn Miner

Old Dominion University, Norfolk, VA Marie Melzer Meredith Cochrane & Emily Hardy

Pacific Lutheran University, Tacoma, WA Andrea Munro & Neal Yakelis Skylar Johnson & Victoria Richmond

Park University, Parkville, MO Donna Howell & Gregory Claycomb Frances Venable & Samuel Hansen

Pasadena City College, CA Veronica Jaramillo & Peter Castro Baldwin Ngai & Natalie Martinez

Portland State University, OR Albert Benight & Niles Lehman Naneki Collins & Natasha Hippler

Princeton University, NJ Steven Bernasek Sara Rubin

Saginaw Valley State University, University Center, MI Stephanie Brouet & Arpita Saha Eric Nelson & August Delemeester Saint Francis University, Loretto, PA Edward Zovinka Chris Albright & Frank Rugh

Saint Louis University, MO Brent Znosko Tom Krenning & Alejandro Rasas

San Jose State University, CA Lionel Cheruzel & Gilles Muller Anh-Dai Nguyen & Bao Le

Santa Clara University, CA Linda Brunauer Alisha Chan & Pavel Klier

Simmons College, Boston, MA Changqing Chen Veronica Nowakowski & Kristin Mcdonough

Southeastern Oklahoma State University, Durant Nancy Paiva Amelia Showalter &

Sheriden Hurst Southwest Minnesota State

University, Marshall Noelle Beyer & Frank Schindler Ross Kuchta

Spring Hill College, Mobile, AL Raluca Craciun Patience Wright & Santina Johnson

St. Ambrose University, Davenport, IA Kelly Gierlus & Andrew Axup Kialee Bowles & Victor Dumitru

St. Edward's University, Austin, TX Donald Wharry & John D. Lewis Carley Little & Omneya Nassar

Suffolk University, Boston, MA Doris Lewis & Andrew Dutton Gianna Mancuso & Elsy Naveo

Tarleton State University, Stephenville, TX Peter Bell & William Whaley Emryse Geye & Karl Mueller

Trinity University, San Antonio, TX Michelle Bushey Leigh Logsdon & Rahaman Navaz Gangji Truman State University, Kirksville, MO Timothy Humphry & Barbara Kramer Tara Korff & Alana Schlemmer

Union College, Schenectady, NY Margot Paulick & Laura MacManus-Spencer Faraz Khan & Ethan Loew

University of Alabama at Birmingham Jacqueline Nikles & Gary Gray Michael Longmire

University of Arizona, Tucson John Pollard Kara Saunders & Alyssa Vollaro

University of Central Missouri, Warrensburg Innocent Pumure Christina Dobson-Jones & Rachel Ransdell

University of Colorado Denver-Anschutz Medical Campus Marta Maron Chi Huynh & Danielle Langlois

University of Connecticut, Storrs Edward Neth Eric Commendatore & Kevin Sterling

University of Florida, Gainesville Ronald Castellano & Leslie Murray Erika Klump & Claire Ziewitz

University of Houston, TX Simon Bott Richard Hatch & Yuhung Chou

University of Kansas Main Campus, Lawrence Paul Hanson & Roderick Black Carl Appelman & Vinaykumar Tallavajhala

University of Mary Washington, Fredericksburg, VA Leanna Giancarlo Patrick Emsley & Mae Carpenter University of Northern Colorado, Greeley Kimberly Pacheco Gwendolyn McIrvin & Danea Burgess

University of Portland, OR Angela Hoffman & Kevin Cantrell Celia Gendron-Herndon & Michael Paton

University of Puerto Rico at Cayey Edgardo Rivera Tirado Jonathan Orozco & José Pagán-Lopez

University of Saint Thomas, Saint Paul, MN Mithra Beikmohamadi Marcus Thomas Gentle & Kristin Braden

University of South Alabama, Mobile William Reichert & Diane Roe Nathan Williams & Andrew Pischek

University of Texas at El Paso Bonnie Gunn & James Becvar Sarah Abu-Issa & Reyna Rey

University of the Sciences in Philadelphia, PA Catherine Bentzley & Vanessa Jones Tashnia Babar & Brian Koronkiewicz

Utica College, NY Michelle Boucher & Alyssa Thomas Emily Kawa & Amanda Ferguson

West Virginia Wesleyan College, Buckhannon Edward Wovchko & Joanna Webb Casey Rowland & Alexandra Roberts

Westminster College, New Wilmington, PA Paul Hooker Lizeth Davis & Natalie Batty

Wilkes University, Wilkes-Barre, PA Adriana Dinescu & Donald Mencer Breanna Conklin & Alison Duda

York College of Pennsylvania Kathleen Halligan *Christopher Lloyd*



Allegheny College, Meadville, PA Mark Ams & Ivelitza Garcia Matt Uhlman & Nicole Hogan

Shannon Hines

Aquinas College Grand Rapids, MI Elizabeth Jensen Lauren Cichon & Anastasia McRoberts

Arcadia University, Glenside, PA Chester Mikulski Amanda D'Orazio & Kristin Gagne

Arkansas Tech University, Russellville Charles Mebi Marissa Reynolds & Mollie Whitehead

Armstrong Atlantic State University, Savannah, GA Catherine MacGowan Madelyn Roush & Y Tram Nguyen

Augustana College. Rock Island, IL Sally Burgmeier Carla Mann & Michael Szmurlo

Michael Keith Samantha Silva & Michael Torres

Carlow University, Pittsburgh, PA David Gallaher Nicole Passarella & Taylor Sirko

Carthage College, Kenosha. WI Janice Pellino Daniel Catlin & Ashley De Lio

Centenary College of Louisiana, Shreveport Thomas Ticich Everett Grimleu & Luke Lisherness

Christian Brothers University, Memphis, TN Dennis Merat Yusef Akbik & Anna Birg

Claflin University, Orangeburg, SC Angela Peters Mary Olagunju & Chloe Gonzalez

Coe College, Cedar Rapids, IA Martin St. Clair Elizabeth Curley & Jordan Graen

Jacquelyn Blake-Hedges & Natalie Wong

Drexel University, Philadelphia, PĂ Daniel King James Brooks & Dayne Swearer

East Stroudsburg University of Pennsylvania John Freeman Luisa Londono

El Camino College, Torrance, CA Robert Shibao Mitchell Miller

Erskine College, Due West, SC Tiffany Hayden Chandler Adkins & Rachel Whitmire

Fairmont State University, WV Matthew Scanlon & Andreas Baur Lorenzo Garcia & Christopher Matheny

Florida Atlantic University, Boca Raton Evonne Rezler Amy Kloosterboer & Catalina Torres Lopez

Alexandra Gabrielli

Hartwick College, Oneonta, NY Susan Young Mackenzie Shipley & Brian Redder

Hillsdale College, MI Christopher Hamilton & Matthew Young Kurt Masciovecchio & Luke Mugge

Hiram College, OH **Carol Shreiner** Adam Miller & Aaron Andzelik

Houston Baptist University, \overline{TX} Saul Trevino Kevin Ramirez & Jean Ghosn

Idaho State University, Pocatello Joshua Pak & Byron Bennett Casey Hyde & Robert Hanson

Illinois Valley Community College, Oglesby **Richard Ault & Matthew Johll** Richard Taylor & Ahmed Seyam

Indiana State University, **Terre Haute** Stephen Wolf Caitlyn East & Jessica Stanfield Inter American University of Puerto Rico Metropolitan Campus, San Juan Agnes Dubey Ilianet Pacheco & Estelamarie Sanchez

Iona College, New Rochelle, NY Sunghee Lee Jaclyn Robustelli & Erin Morgan

Jackson State University, MS Dalephine Davis & Ashton Hamme Brandon Newton & Jeremy Stocks

Jacksonville State University, AL Nixon Mwebi & Alfred Nichols Keuton Fike & Rachel Gibbs

James Madison University, Harrisonburg, VA Chrisi Hughey Fay Crawshaw & JenaMarie Baldaino

Lake Forest College, IL Elizabeth Fischer & Dawn Wiser Thomas Pospiech & Jenny Bruno

Lander University, Greenwood, SC Albert Dukes Justin Felder

Lawrence Technological University, Southfield, MI Jerry Crist Jaime Willbur

Lebanon Valley College, Annville, PA Marc Harris Stephanie Velardo

Loras College, Dubuque, IA David Oostendorp & David Speckhard Reena Dev & Jeffry Breitbach

Los Angeles City College, CA Terry Boan Ikenna Onyia & Hanan Mansour

Manchester University, North Manchester, IN Susan Klein & Jeffrey Osborne Macie Price & Kaitlyn Schmidt McMurry University, Abilene, TX Hyunshun Shin & Edward Donnay Amanda Genzling & Brad Rowland

Mercer University, Macon, GA Garland Crawford & Jennifer Look Kevin Jiles & Michael Fanning

Miami University, Oxford, OH David Tierney Tessa Woodruff & Nicole Fisher

Midland College, TX Patcheammalle Nandakumar *Isaac Orth & Leah Bell*

Millersville University of Pennsylvania Lyman Rickard & Patricia Hill Benjamin Daum & Thi Nguyen

Millikin University, Decatur, IL George Bennett Chelsea Hadsall & Jessica Davison

Mississippi College, Clinton Leland Benton & Dale Rosado *Annaclaire Hall & Sarah Westergaard*

Missouri Western State University, Saint Joseph Shauna Hiley & Steven Lorimor *Hannah Huff & Bailee Testorff*

Monmouth College, IL Lindsay Ditzler Patrick Corrigan & Kortney Rupp

Monroe Community College, Rochester, NY Jason Anderson Phil Rock & Saher Alghazi

Montana State University, Bozeman Steven Holmgren Ann Staudinger & Ben Smith

Mount St. Mary's College, Newburgh, NY Lynn Maelia Alana DeTone Muhlenberg College, Allentown, PA Bruce Anderson Hudson Roth & James Custer

Murray State University, KY Kevin Miller Zachary Reeder & Matthew Chisolm

Newberry College, SC Christina McCartha Stephanie Matthews & Michael Sexton

Northern Kentucky University, Highland Heights Lili Ma

Adam Gottula & Anthony Bankemper

Northwest-Shoals Community College, Phil Campbell, AL Mike Murphy Katie Harris

Nova Southeastern University, Fort Lauderdale, FL Beatrix Aukszi & Maria Ballester Ruby Wagimin

Olivet College, MI Susanne Lewis Chelsea Cloke & Maria Loza-Lopez

Ouachita Baptist University, Arkadelphia, AR Martin Perry & Joseph Bradshaw Hollyn McCarty & Kelsey Willis

Pepperdine University, Malibu, CA Joseph Fritsch Kelsey Brereton & Thomas Boundy

Point Loma Nazarene University, San Diego, CA Sara Choung & Matthieu Rouffet Amber Gillett & Caitlyn McGue

Polytechnic Institute of New York University, Brooklyn Jin Montclare *Diana Klatt*

Providence College, RI Kathleen Cornely *Hilary Chase* Purdue University, West Lafayette, IN Beatriz Cisneros Gabriel Magallanes & James Sperl

Rensselaer Polytechnic Institute, Troy, NY James Moore Alyssa Preston & Emily Werth

Rider University, Lawrenceville, NJ Bruce Burnham Thaiphi Luu & Tom Weindl

Roger Williams University, Bristol, RI Stephen O'Shea & Clifford Murphy Christina Fontana & Courtney Dennis

Saint Louis Community College at Florissant Valley, Ferguson, MO Donna Friedman & Samuel Tremont Sandra Warner & Jessica Wyatt

Saint Vincent College, Latrobe, PA Steven Gravelle David Tiberi & Robert Crovak

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Siena College, Loudonville, NY Jodi O'Donnell & Jesse Karr Tim Masiello & Joshua Kranick

Skidmore College, Saratoga Springs, NY Kara Bales Jennifer Harfmann & Ariel Alperstein

South Dakota School of Mines and Technology, Rapid City Justin Meyer Rachael Boosinger

Southeast Missouri State University, Cape Girardeau Marcus Bond Sariah Cantrell & Bryan Reynolds Southern Illinois University Edwardsville Ed Navarre Ridge Lin

Southwestern College, Chula Vista, CA David Brown & Joann Um-Kim Paola Barragan

Spelman College, Atlanta, GA Shanina Sanders & Kimberly Jackson Nakisha Rutledge & Taylor Ratliff

St. Cloud State University, MN Sarah Chapman Petitto Keith Voeller

St. John's University, Queens, NY Neil Jespersen Quyen Nguyen & Nicole Escorcia

State University of New York at Stony Brook Joseph Lauher & Katherine Aubrecht Christopher Rooney & Arthur Chan

State University of New York College at Geneseo James McGarrah Carolyn Levinn

Stern College For Women-Yeshiva University, New York, NY Donald Estes & Chaya Rapp

Elizabeth Goldberger & Davida Kollmar

Stevenson University, MD M. Diane Payne Adrianna Lucente

Stonehill College, Easton, MA Cheryl Schnitzer & Marilena Hall Samantha Sweeney & Stephanie Murray Texas State University, San Marcos Benjamin Martin Michael Spiegel & Matthew Milner

Texas Woman's University, Denton Cynthia Maguire & Lynda Peebles Mikeal McKim & Kathryn Padgett

The College of Wooster, OH Nicholas Shaw Sarah Blosser & Rebecca Craia

The Evergreen State College, Olympia, WA Dharshi Bopegedera Nick Culores & Amanda May

University of Arkansas at Little Rock Jerome Darsey Saad Azam & Asad Akhter

University of California-Los Angeles Richard Kaner & Julio D'Arcy Kenny Chen & Sara Shu

University of California-Riverside Jack Eichler Anh Thach & Avilene Cueto

University of Central Florida, Orlando Stephen Kuebler Nykita Stoudemire

University of Central Oklahoma, Edmond Dana Rundle & Dallas New Kelsie Magiera & Caitlin Kriewall

University of Kentucky, Lexington Beth Guiton Brandon Nelson & Sam Beavin

University of Louisiana at Lafayette August Gallo & Son Do Kyle Pujol & Anh Tran University of Mary Hardin-Baylor, Belton, TX Darrell Watson & Lin Gao Quy Nguyen & Codi Hammons

University of Maryland Baltimore County Stephen Mang & Tara Carpenter Joyce Yoon & Scott Johnson

University of Michigan-Ann Arbor Bart Bartlett & Paul Jones Daniel Semaan & Brianna Chamberlin

University of Minnesota-Morris James Togeas Gretchen Zieqler

University of New Mexico, Albuquerque Lisa Whalen Sergei von Hoyningen-Huene & Paul Sandoval

University of North Florida, Jacksonville Stuart Chalk & Corey Causey Ashley Sever & Howard Hartley

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Valdosta State University, GA Linda De La Garza & Tolulope Salami Cieanna Baptiste & Imani Mann

Virginia Polytechnic Institute and State University, Blacksburg Maggie Bump Morgan Pixa & Alexa Prose

Washburn University, Topeka, KS Lisa Sharpe Elles Mollyanne Gibson & Sarah Walker

Washington College, Chestertown, MD Aaron Amick Stephanie Spitznagel & Devin Reilly

Wayland Baptist University, Plainview, TX Gary Gray & Robert Moore Jessica Kenneson

Wayne State University, Detroit, MI Matthew Allen & Mary Pflum Zeinab Moubadder & Nicholas Elsey

Western Kentucky University, Bowling Green Jeremy Maddox Hillary Asberry & Celia Whelan

Youngstown State University, OH Nina Stourman Randi Dangerfield & Phillip Boran

2012–2013 Green Chemistry Student Chapters

Student involvement in applying green chemistry principles and practices is essential to the integration of environmentally benign technologies in academia and industry. The ACS Green Chemistry Institute® recognizes student chapters that have engaged in at least three green chemistry activities during the academic year. Listed below are the 73 recipients of the 2012–2013 Green Chemistry Award, by institution.

Alvernia University, Reading, PA

Arkansas Tech University, Russellville

Augustana College, Sioux Falls, SD

Bellevue College, WA

California State University-Fresno

California State University-Long Beach

California State University-Stanislaus, Turlock

College of the Canyons, Santa Clarita, CA

College of William & Mary, Williamsburg, VA

East Los Angeles College, CA

Emory University, Atlanta, GA

Ferris State University, Big Rapids, MI

Florida Atlantic University, Boca Raton

Florida International University - Biscayne Bay Campus

Florida International University, Miami

Georgia College & State University, Milledgeville

Gordon College, Wenham, MA

Idaho State University, Pocatello Illinois State University, Normal

Inter American University of Puerto Rico Ponce Campus, Mercedita

Los Angeles City College, CA

Manchester University, IN

Millikin University, Decatur, IL

Mississippi State University

Missouri State University, Springfield

Mount St. Mary's College, Newburgh, NY

Northeastern University, Boston, MA

Ohio Northern University, Ada

Pacific Lutheran University, Tacoma, WA

Penn State Berks, Reading, PA

Portland State University, OR

Rensselaer Polytechnic Institute, Troy, NY

Saint Francis University, Loretto, PA

Saint Louis University, MO

Salt Lake Community College, UT

South Texas College, McAllen St. John's University, Queens, NY

State University of New York at Stony Brook

Stern College For Women-Yeshiva University, New York, NY

Suffolk University, Boston, MA

Tarleton State University, Stephenville, TX

Tennessee Technological University, Cookeville

Texarkana College, TX

Texas State University, San Marcos

The College of New Jersey, Ewing

The Pontifical Catholic University of Puerto Rico, Ponce

The University of Texas at Dallas, Richardson

Trinity University, San Antonio, TX

Union University, Jackson, TN

University of Arizona, Tucson

University of California-San Diego, La Jolla

University of Central Arkansas, Conway

University of Colorado Denver-Anschutz Medical Campus

University of Connecticut, Storrs University of Illinois at Urbana-Champaign

University of Louisiana at Lafayette

University of Massachusetts Boston

University of Michigan-Ann Arbor

University of Pittsburgh, PA

University of Puerto Rico at Arecibo

University of Puerto Rico at Cayey

University of Puerto Rico-Aguadilla

University of Puerto Rico-Río Piedras Campus

University of San Diego, CA

University of Southern Maine, Portland

University of Tennessee at Martin

University of Texas at Tyler

University of Toledo, OH

West Virginia State University, Institute

Western Washington University, Bellingham

Wilkes University, Wilkes-Barre, PA

Xavier University of Louisiana, New Orleans

York College of Pennsylvania

2013–2014 Community Interactions Grants (CIG)

KEY: Chapters Faculty Advisors Student Project Directors Project Title Amount

For the 2013–2014 academic year, the ACS Society Committee on Education has selected the following 17 CIG proposals to receive funding. The ACS Undergraduate Programs Office is pleased to announce the grant recipients.

Barry University,

Miami Shores, FL George Fisher • Elliott Rodriguez Science Outreach to Minority-Serving Elementary and Middle Schools \$500

California State University-Long Beach Michael Schramm • Brandon Graham, Tuyen Tran, Hannah Pham SAACS Science Showcase \$344

Chicago State University, IL Valerie Goss • DeBorah Myles, Lucinda Boyd, Shaunteri Perryman Probe the Surface: A Nanotechnology Activity

28

\$500

East Los Angeles Community College, Monterey Park, CA Armando M. Rivera • Ana Silvia Perez Organic Chemistry Through Smells \$100

Eastern Michigan University, Ypsilanti Amy Johnson • Lois Vasquez Saturday in the Lab \$500

Eastern Oregon University, La Grande Anna Cavinato • Logan Loenning Saturday Science: A Day of Hands-on Activities on Energy and Sustainability \$500

Elmira College, NY Corey Stilts • Chelsea Zorn Family Science Night \$300

Florida International University, Miami Uma Swamy • Anthony Llodra Inspiring Chemistry to Minorities in South Florida \$500 Saint Louis University, MO Brent Znosko • Thomas Krenning, Alex Rosas, Grace Pruett Create a Class \$400

South Texas College, McAllen Ludivina Avil • Cynthia Prado, Eunice Tun, Jorge Garcia Spooky Science and Exploration Day \$250

Stern College for Women-Yeshiva University, New York, NY Donald Estes • *Elizabeth Goldberger, Gabriela Dobkin Chemistry and Health* \$300

Temple University, Philadelphia, PA Frank C. Spano • Yasaira Isabel Rodriguez 8th and Diamond Community Center \$350

Union University, Jackson, TN Randy Johnston • Brooklin Byrd, Matthew Taw Use of Scientific Drama to Engage Elementary and High School Students \$200 University of Maryland, College Park

Efrain Rodriguez • *Michael Mandler Math and Science Outreach for Prince George's County Schools* \$300

University of Puerto Rico-Mayagüez, Manati Nilka Rivera • Sherry Rivera Embracing the Future of Underrepresented Students \$500

West Virginia State University, Institute Micheal Fultz Promotion of Applied Chemistry \$200

Xavier University of Louisiana, New Orleans Michael Adams • Lydia Mensah Cooking with Chemistry \$370

2013–2014 Innovative Activities Grants (IAG)

KEY: Chapters Faculty Advisors Student Project Directors Project Title Amount

For the 2013–2014 academic year, the ACS Society Committee on Education has selected the following nine IAG proposals to receive funding. The ACS Undergraduate Programs Office is pleased to announce the grant recipients.

Adrian College, MI David Bartley • Caitlyn Cookemaster Chemical Demonstration Program for Continuing Education \$500 East Los Angeles Community College, Monterey Park, CA Armando M. Rivera • Ana Silvia Perez Organic Chemistry Through Smells \$500

Elmira College, NY Corey Stilts • Abby Davenport Science Weekend at Elmira College \$300

Mercer University, Macon, GA Jennifer Look • Peyton Fanning, Jeffrey Mimbs Battery and Ink Cartridge (B.I.C.) Recycling Initiative \$150

Stern College for Women-Yeshiva University, New York, NY

Donald Estes • Amalia Weinberg, Miriam Andrusier, Elizabeth Goldberger Safety Video \$300

Texas Christian University, Fort Worth Kayla Green • Troy Gurney Sick Science TV Show \$500

University of North Florida, Jacksonville Stuart Chalk • Ashley Sever UNF Chemical Analysis Competition: Determination of KHP in a Sample Using Acid/Base Titration \$500

University of Puerto Rico Río Piedras Campus, San Juan Ingrid Montes • Orlando José Morales-Martínez Fostering a Safety Culture \$325

University of Utah, Salt Lake City Thomas G. Richmond • Florence Fernandez Raising Environmental

Florence Fernandez Raising Environmental Consciousness in High School Students \$500

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