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THE MAGAZINE FOR ACS STUDENT MEMBERS November/December 2016

Hats off to the 2015–2016 Student Chapter Award Winners

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THE MAGAZINE FOR ACS STUDENT MEMBERS

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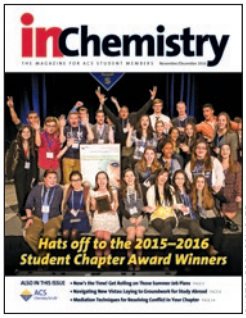

PHOTO: BRONSON PATE

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EDITORIAL:
Exceptional Involvement Yields Extraordinary Results

BY DONNA J. NELSON

It is a wonderful honor and my distinguished privilege to close out my ACS presidency by taking this opportunity to congratulate 284 ACS student chapters for their amazing achievements during the 2015-2016 academic year! I am inspired by the thousands of unique, innovative, and valuable activities that you and your peers across the country organized, building on the 80-year legacy of chemistry undergraduate students who chose the same special path you are now on.

From Honorable Mention to Commendable to Outstanding, you all have made important strides in improving people's lives through the transforming power of chemistry. More than that, you have created a buzz about chemistry, bringing excitement and inspiration to your classmates, young children, and the general public. You are making a serious impact on how people perceive chemistry while educating them on how chemical research affects their everyday lives. You are also building bonds with peers that will last a lifetime. And you are developing exceptional professional skills that will take you far in your future careers.

Those of you who serve as officers or coordinate activities face unique challenges. You set goals and develop strategies to achieve them — making your chapter's mission and vision become a reality. You take on the responsibility of organizing the many details that go into putting on special events. While maintaining chapter pride and momentum, you build strong relationships with fellow members, faculty, your institution, and the community. You network, communicate, and navigate challenges and obstacles that can sometimes threaten chapter morale. Your sincere dedication, staunch work ethic, and clear passion for chemistry work together to make possible the numerous successes to which we are thrilled to bear witness.

PHOTO: BRONSON PATE

As you continue to grow as a chapter member and a professional, I encourage you to take advantage of attending an ACS national meeting. It is the perfect place to hone presentation skills, network with other peers and professionals in various areas of chemistry, and take advantage of career services, such as résumé review.

Examining Science in Hollywood

I would like to especially invite you to the upcoming spring national meeting in San Francisco, where I am organizing a symposium called "Hollyweird Chemistry." During three half-day sessions, writers, producers, and others who study film and television will discuss the challenges of portraying science and scientists on the screen and the influence that science has on students and the public. And do we as real-life scientists have any influence over how accurately we are portrayed? Actually, that's a question we should all be interested in, and there will be time for conversations like this during the panel discussions that follow each session. *There will be opportunities for photos and autographs with those behind the science in your favorite TV shows and movies.*

Your commitment to your future is already well under way as members of an ACS student chapter. I encourage you to expand the scope of your knowledge by making every effort to experience a technical scientific meeting, and joining the conversation about communicating science responsibly to the public. iC

Donna J. Nelson, *a chemistry professor at the University of Oklahoma, is president of ACS. She is a fellow of ACS and the American Association for the Advancement of Science. Her other honors include a Guggenheim Fellowship, a Fulbright Scholarship, and a woman of Courage Award from the National Organization of Women.*

ATOMIC NEWS

COMPILED BY BLAKE ARONSON

Source: *Chemical & Engineering News*, cen.acs.org

Sniffing out water pollution

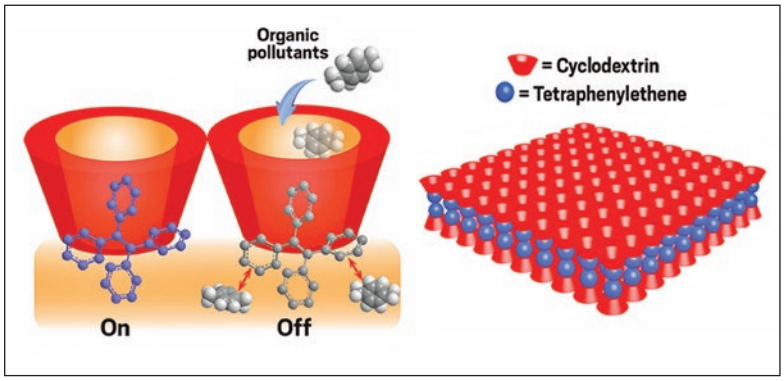
Taking a cue from canine noses, a research team led by Guodong Liang of Sun Yat-sen University and Ben Zhong Tang of Hong Kong University of Science and Technology created fluorescent nanosheets that build themselves to sniff out organic pollutants in water.

The team starts with basket-shaped molecules of hydrophilic carbohydrates, called cyclodextrins, and attaches fluorescent tetraphenylethene groups. When added to an aqueous solution, these structures self-assemble into nanoscopic, sandwich-like sheets about 4 nanometers thick. Two layers of cyclodextrin act as the bread slices surrounding a filling of tetraphenylethene.

Although the exterior of the circular cyclodextrin molecules is hydrophilic, they have hydrophobic interior cavities. These cavities collect and funnel volatile organic molecules into the tetraphenylethene layer. Once in that layer, the contaminants dim the fluorescing compounds. The design of the self-assembled sheets is modeled after dog noses, which use bony structures to funnel scent molecules for receptors.

The fluorescent nanosheets are extremely sensitive to aromatic xylenes, with a limit of detection at 5 µg/L, the team says. Smaller organic pollutants are also detectable. The sensitivity appears to correlate with how well the organic compound fits into the sensor's cyclodextrin cavities.

Read more about the research: "Bioinspired Fluorescent Nanosheets for Rapid and Sensitive Detection of Organic Pollutants in Water," *ACS Sensors*, 2016, Article ASAP.
http://pubs.acs.org/doi/abs/10.1021/acssensors.6b00530
http://cen.acs.org/articles/94/i39/Sandwichlike-sensors-sniff-organic-water.html



CREDIT: *ACS SENSORS*

The nanosheet sensors are coated in cyclodextrins, which guide organic pollutants into the device. The pollutants can then switch off fluorescent tetraphenylethene groups.

Glow technique warns of **invisible cracks in plastics**

Microscopic cracks in a material can spread and grow into larger fissures — ones that can split apart the plastics and composites used in airplanes, spacecraft, electronics, and pipes. A simple new technique can reveal tiny, invisible cracks in a wide variety of plastics by making the cracks glow.

An early-warning strategy could allow engineers to replace or repair critical components and prevent catastrophes. Nancy R. Sottos, Jeffrey S. Moore, and colleagues at the University of Illinois at Urbana-Champaign embedded various polymers with polyurethane microcapsules filled with a dilute solution of 1,1,2,2-tetraphenylethylene (TPE), which fluoresces brightly when TPE molecules aggregate. Formation of tiny cracks in the plastic ruptures the capsules, leading to solvent evaporation and growth of TPE crystals on the capsule shell. Ultraviolet (UV) light causes the crystals to shine bright blue. The most promising results were obtained from plastics loaded with 10% microcapsules by weight. Scratches made in these plastics blended in under visible light but glowed when illuminated with a UV lamp. The researchers could detect cracks smaller than 2 µm up to 40 days after the damage occurred.

Read more about the research: "A Robust Damage-Reporting Strategy for Polymeric Materials Enabled by Aggregation-Induced Emission," *ACS Central Science*, 2016, 2 (9), pp 598–603.
http://cen.acs.org/articles/94/i39/Plastics-glow-warn-invisible-cracks.html

SHUTTERSTOCK

Cooking up **the ultimate sweetener**

Fans of stevia will be interested to hear that Manus Biosynthesis has announced a new process to make commercial quantities of the natural zero-calorie sweetener rebaudioside M (Reb M) for the first time.

Most commercial stevia products are based on stevioside and rebaudioside A, which are the most abundant sweeteners in the stevia plant. Like some artificial sweeteners, these compounds have a subtle unfavorable, bitter, metallic off-taste that becomes more pronounced at higher concentrations. But Reb M is a stevia compound thought to have a better overall taste profile. At less than 0.01% of total leaf weight, it is difficult to source economically. Building on core technology developed by the Massachusetts Institute of Technology's Gregory Stephanopoulos and co-workers, Manus Biosynthesis has used an engineered bacterium and a new fermentation process to produce bulk amounts of Reb M in better than 95% purity.

Read more about the research: "Microbial Production of Steviol Glycosides," WIPO Patent WO/2016/073740A1.
www.freepatentsonline.com/WO2016073740A1.pdf
http://cen.acs.org/articles/94/i39/Cooking-ultimate-sweetener.html

Undergraduate Program

April 2-6, 2017
San Francisco, CA
www.acs.org/SanFran2017
#acsSanFran

253RD AMERICAN CHEMICAL SOCIETY

Sunday, April 2, 2017

Hospitality Center
8:00 am – 5:00 pm

Undergraduate Research Oral Sessions
8:30 am – 5:00 pm

Making the Most of Your First National Meeting
8:30 – 9:15 am

Symposium – Frontiers in Nanoscience
9:30 – 11:30 am
Cosponsored by the ACS Division of Polymer Chemistry

Graduate School Reality Check, Part 1 – Getting In
10:00 – 11:30 am
Cosponsored by the ACS Younger Chemists Committee

Chem Demo Exchange
11:00 am – 12:30 pm

Graduate School Reality Check, Part 2 – You're In, Now What?
11:30 am – 12:45 pm
Cosponsored by the ACS Younger Chemists Committee

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

Networking 101
1:30 – 3:00 pm
Cosponsored by the ACS Division of Professional Relations and Younger Chemists Committee

Two-Year to Four-Year College Transfer Survival Guide
2:30 – 3:30 pm

SciBabe: Chemistry Blogging
4:00 – 5:30 pm

Student Awards Ceremony
7:00 – 8:30 pm

Undergraduate Social
8:30 – 11:00 pm

All events are sponsored or cosponsored by the Society Committee on Education Undergraduate Programs Advisory Board.

Chair: Michael R. Adams, Xavier University of Louisiana, New Orleans
Program Chair: Mary Roslonowski, Eastern Florida State College, Melbourne

ACS Chemistry for Life®

NATIONAL MEETING & EXPOSITION

Monday, April 3, 2017

Hospitality Center
8:00 am – 5:00 pm

Undergraduate Research Oral Sessions
8:30 am – 5:00 pm

Improving Scientific Communications
9:00 – 10:15 am

Symposium – The Chemistry of Fermented Beverages
10:00 – 11:30 am

Undergraduate Research Poster Session
12:00 – 2:00 pm
Cosponsored by the ACS Divisions of Agricultural and Food Chemistry, Analytical, Biological, Environmental, Inorganic, Medicinal, Physical, Polymer Chemistry, and Geochemistry

Eminent Scientist Lecture – Featuring Dr. Carolyn Bertozzi, Stanford University
2:30 – 4:00 pm
Cosponsored by the ACS Division of Medicinal Chemistry

Undergraduate Speed Networking with Chemistry Professionals
4:00 – 5:15 pm

Kavli Lecture
5:30 – 6:30 pm

Sci-Mix/Successful Chapter Posters
8:00 – 10:00 pm

Tuesday, April 4, 2017

NSF Graduate School Fellowships
9:00 – 9:45 am

Chemistry & the Environment Film Series
12:00 – 2:00 pm
Cosponsored by the Committee on Environmental Improvement

Program is subject to change. Visit **www.acs.org/undergradmeetinginfo** for the latest information.

Get Rolling on Summer Job Plans!

BY MICHELLE A. BOUCHER

SHUTTERSTOCK

Summer is more than a time to hang out with friends and binge on TV shows you missed. It's the ideal opportunity to set yourself up for a job after graduation by interning or doing research. Employers want workers with experience, and summer is the perfect time to get it without the distraction of classes, homework, clubs, or social activities.

While it may seem early to be thinking about summer work, research and internship programs are accepting applications now. If you're not sure what you want to do after graduation, the Research Experiences for Undergraduates (REU) program or an internship will give you a chance to try out different types of positions, organizations, and research areas without making a long-term commitment.

Experience opportunities for your résumé

Research Experiences for Undergraduates. In the REU program, undergraduate students work closely with faculty and other researchers on a specific laboratory project at the host institution. Funded by the National Science Foundation (NSF), the program provides stipends and, in many cases, assistance with housing and travel. The chance of gaining graduate-level research experience is more than worth the effort of writing the best application you can.

Internships. Interning is a great way to get the kind of technical and professional experience that employers are looking for — even if you plan to attend graduate school. Check with your career services office or local companies for positions. If your school has a career fair, attend it. ACS's Get Experience website has a comprehensive list of internships, and the ACS SCI Scholars Program offers internships in industry.

Other research opportunities. Along with REUs, you can do graduate-level research at a university, government institution, or corporation. Talk to professors within your department, researchers at other universities, or members of your ACS local section to find out about summer research.

What if you don't get an REU or internship?

Don't take it personally if you don't get accepted for a position. Huge applicant pools and restricted funding often play a large role in job placements. However, you never know how the tide may turn — An employer's needs may change or a chosen candidate may back out at the last minute. That's why it's important to stay in touch with your contacts and take some time to refine your application. Run your résumé by a career counselor (**ACS student members:** remember your ACS career counselor benefit!). Make sure that your application shows why you are a good fit for the program.

If an internship doesn't pan out, keep your eyes and ears open for last-minute opportunities that will help you build professional skills.

Other experience options

Summer jobs in your department. Often, there are non-research jobs for students at college departments that can help you gain professional skills and knowledge. For example, performing laboratory cleanup leads to a good understanding of chemical safety and equipment naming and function. Tutoring students will give you experience for future teaching assistantships.

Think outside the department. Does your school have summer programs for high school students or pre-freshmen? If so, they might need peer tutors and peer mentors. These positions require responsible students who can handle authority and communicate effectively, two skills that are desirable in teaching assistants or team members in industrial settings.

Build your own summer experience. It is alright if you don't want to spend the summer doing research, but find what you want to do, and do it! You will undoubtedly build skill sets that are transferrable to graduate school or employment. If you have a passion for writing, spend the summer reading and writing (and consider writing for *inChemistry*). Volunteer with your local section or even with non-chemistry organizations, such as Habitat for Humanity. Work at a summer camp, or see if your parents' employers have summer jobs.

Lastly, don't be afraid to talk to a faculty member about your plans, to seek ideas or for a pep talk. Your professors understand how nerve-wracking this period of time can be, and they are happy to remind you that you are not alone in this process. Good luck!

Michelle A. Boucher *is an associate professor of chemistry at Utica College, a member of the Undergraduate Programming Advisory Board of the ACS, and a longtime student chapter advisor.*

Resources for Internships and REUs

NSF REU Program
www.nsf.gov/crssprgm/reu

Get Experience
www.acs.org/GetExperience

SCI Scholars
www.acs.org/SCI

ACS Local Sections
www.acs.org/LocalSections

Go Global!

Laying the Groundwork for a Study Abroad Experience

BY ALLISON PROFFITT

The number of U.S. students studying abroad for academic credit has more than tripled over the past two decades, according to the Open Doors Report on International Educational Exchange conducted by the Institute of International Education. The most recent data (for the 2013–2014 school year) show that 304,467 students spent part of their academic careers abroad, and the greatest percentage of those students — 22.6% — were science, technology, engineering, and mathematics (STEM) majors.

"When I came to the field in 2001, there was a lot of history from faculty and students that you couldn't study abroad as a STEM student," says Isabelle Crist, assistant director of operations for the Vanderbilt University Global Education Office. "A lot of that has changed."

Plan early

There are more opportunities than ever for chemistry majors and other STEM majors to enjoy academic experiences abroad, especially with early and careful planning. Tanya Puccio, a biology and Hispanic studies double major with a chemistry minor at Virginia Wesleyan College, knew she wanted to build her language skills in a Spanish-speaking country. She also had a preference for taking science classes taught in English.

Puccio began her planning one year before her semester abroad. "We had a study abroad advisor, so she was the first person I contacted when I was first interested," says Puccio. "She led me down the right path, and from there I branched out and spoke to my professors and friends who had studied abroad to narrow down where I wanted to go." Doing advance planning allowed Puccio to find a study abroad program that was right for her and that offered a scholarship.

Research your curriculum

If you are working with a study abroad program within your own institution, chances are good that the program has already been vetted, meaning that credits and financial aid should transfer seamlessly. If you are looking at a program outside of your institution, however, transferability is less certain. It is always a good idea to double-check in either case. For example, after getting some direction from her study abroad advisor, Puccio did her own research on the classes she would need to take while abroad. "I pretty much figured it out myself in terms of what classes I needed and how to rearrange my schedule," Puccio recalls. "I confirmed with my professors ahead of time that I was going to be able to take these classes, get credit for them, and not worry about missing out on any important classes while I was gone."

Crist agrees that it's extremely important to have the classes you hope to take evaluated by your home college or university. She advises preparing a "portfolio" of classes abroad that would be acceptable in case your options are limited. "What we really focus on in our advising is the best academic fit for the student, with the understanding that they are more than likely going to be taking coursework toward their major," Crist says. "We advise students to meet with their academic advisor and look at their four-year plan to make sure they understand what requirements they have to fulfill, and which courses can move around if they need to."

Kenneth Mei and Jessica Woolf, both undergraduates at the University of New England (UNE), looked at their schedules and chose to study abroad in the spring semester of their sophomore years instead of a year later (which is the more common timing). Mei studied in Tangier, Morocco, and Woolf in Seville, Spain.

"I talked to my advisors, and they suggested sophomore year," Woolf explains. "I feel like all your real core classes usually are junior year, and you can always push [a class] back" if it isn't offered abroad. Physics — typically a sophomore-year class — wasn't offered in Seville during the semester Woolf was there, but she had plenty of space in her schedule to add the class once she returned home.

Find your program

Mei and Woolf had the advantage of attending international campuses already affiliated with their own university. UNE has an undergraduate population that is very science-focused and, according to Associate Professor of Chemistry Amy Keirstead, the institution began an arrangement with Universidad Pablo de Olavide in Seville several years ago wherein UNE could set up its own organic chemistry course with a laboratory. In 2014, UNE also opened a study abroad campus in Tangier, offering

SHUTTERSTOCK

STUDY ABROAD FOR TWO-YEAR COLLEGE STUDENTS

Study abroad isn't limited to four-year institutions. According to the Institute of International Education's 2014 report on community colleges, more than 6400 students from two-year colleges studied abroad in 2013 and 2014, 24% of whom were in a STEM program. Such programs are usually shorter — from 1 to 4 weeks — to accommodate the working schedules and family commitments common to two-year college students. Programs typically offer course credit, and many institutions have scholarships for participating students.

organic chemistry, physics, anatomy/physiology, genetics, and regionally themed liberal arts courses.

"We want our students to have a positive study abroad experience, but also be able to take their science courses and stay on schedule," says Keirstead. "All these courses are taught by local instructors, with faculty members sometimes visiting from the United States."

"One of the great things about both of these study abroad experiences is that the students pay their regular UNE tuition and room and board. All they need to cover is the plane ticket, and there are scholarships to help defray the cost of that," Keirstead explains.

Most universities won't have their own courses and labs set up abroad, but many have established partner schools and approved course syllabi. For example, the University of Texas at Austin (UT) College of Natural Sciences has several partner institutions around the world that offer courses designed to meet course requirements for the university's chemistry and biochemistry majors. To help students make good decisions, UT also maintains its own study abroad database, which includes 10,000 pre-approved foreign courses matched to their equivalent courses.

Look for research opportunities

For many chemistry students, studying abroad offers an early and invaluable introduction to the international chemistry community — and lessons that go beyond just classes. Arik Ohnstad, associate director of the Global Education Office at Vanderbilt, notes that the possibility of doing research abroad is "quite doable."

"Most of our students who get involved do so through a faculty member who knows colleagues abroad and connects them," he explains. "We've had students do research in labs and even manage their own projects abroad."

One of Puccio's professors in Seville invited her to do a mini project in the lab while she was there, giving her the opportunity to spend time working with graduate students in the lab and perfecting her Spanish. "In that experience, I got a feel for what lab life was like there," she recalls. "It surprised me how similar it was to lab life here."

Even without working in a lab, Mei still felt the introduction to the international science community was important. "One of the most valuable lessons I learned while I was there was to deal with different languages," Mei says of his time in Tangier. "Many of the classes in Morocco were taught by instructors whose first language wasn't English, so that took a bit of patience to get used to. I think that will be a common occurrence in my future career."

Ohnstad adds that research experience "provides students with something pretty fantastic to be able to talk about, whether in the job market or in graduate school applications."

Lay the groundwork

If this all sounds good to you, begin by scheduling a conversation with your school's study abroad or global education office, and then start researching. The biggest mistake that students make is not laying the proper academic groundwork, Crist notes. "If they forget a piece — like getting the courses evaluated, or verifying that the results they found work for them — that can't be changed late in the semester." Crist recommends that students stay on track by owning the process and ensuring that the courses they choose are in their best interest.

Studying abroad can be a fantastic experience, both personally and as part of an academic career — but students must begin planning early, diligently ensuring that study abroad fits into their academic plan. "It's good to have help with that," Crist says, "but at the end of the day, you have to remember that you're the one graduating with the degree, so you're in charge of making your study abroad experience work for you." iC

Allison Proffitt *is a freelance writer and editor based in Nashville, TN.*

REFERENCES

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2. www.iie.org/en/Research-and-Publications/Open-Doors/Data/Community-College-Data-Resource/Study-Abroad/Study-Abroad-Characteristics-2013-14

Resources for Study Abroad Opportunities

ACS International Center
https://global.acs.org/programs-by-experience-level-undergraduate

ACS Undergraduate website
https://www.acs.org/content/acs/en/education/students/college/studyabroad.html

ACS, Wikipedia Put Chemistry Topics in Student Hands

BY JAMI MATHEWSON

Wikipedia is one of the most-accessed online references in the world, with the free encyclopedia getting more than 500 million views every month. Yet its coverage of natural and physical sciences, such as chemistry, lacks substance. If you look at Wikipedia's list of featured articles — considered the most accurate, complete, and neutral by Wikipedia editors — only 41 articles are related to chemistry. By comparison, you'll find 591 comprehensive articles about military history and warfare. And that's just one example of many.

To increase public access to reliable scientific research, the Wiki Education Foundation (Wiki Ed) is partnering with the American Chemical Society (ACS) to support instructors and students in researching and writing about chemistry topics on Wikipedia.

Wikipedia matters

In its 16-year history, Wikipedia has evolved into a robust resource that has become a valuable starting point for students and researchers. More importantly, it has become a top reference source for the public. Other than university libraries, people have limited access to recent scientific research and discoveries. Yet non-scientists, including policy-makers, frequently make decisions that can — and should — be informed by science.

Furthermore, anyone who is searching for information about any topic, scientific or otherwise, is likely to find a Wikipedia article at the top of web search results. Chemists and chemistry students can help ensure that those searches yeild accurate, informative results.

CREDIT: JAMI MATHEWSON

Undergraduate botany students learn they can improve Wikipedia's articles about the species they study.

Students and faculty steer Wiki chemistry

Many academics are embracing Wikipedia as a platform for public scholarship. Individuals can get involved, and so can entire classes. In fact, Wiki Ed offers a program to help students and instructors get the most out of editing Wikipedia. Wiki Ed has long supported chemistry courses through its Classroom Program — so many that the organization developed a quick guide for writing chemistry articles (**https://upload.wikimedia.org/wikipedia/commons/a/a2/Editing_Wikipedia_articles_on_Chemistry_%28Wiki_Ed%29.pdf**). So far this year, chemistry students have contributed more than 400,000 words to Wikipedia. That's equivalent to about 550 printed pages.

In this unique program, instructors enhance a traditional writing assignment by asking students to review the available literature on a course-related topic, synthesize it, and publish their work to Wikipedia. Wiki Ed provides online trainings for students, tools for instructors to track student work, and Wikipedia expertise throughout the process. As students pick up communication, information literacy, and critical thinking skills, the world gets access to high-quality chemistry research.

CREDIT: JAMI MATHEWSON

A University of Mississippi student reviews Wikipedia to select an article for a classroom assignment.

Highlighting women in STEM

As a part of this partnership, Wiki Ed and ACS are working to create and improve biographies of women chemists, who remain underrepresented in the encyclopedia. Chemistry students can use Wikipedia's reach to highlight notable women in the field and increase their visibility as role models — especially to budding scientists. Information is advocacy, and students like you can play a significant part in advocating for women whose research is largely overlooked.

Tapping into members' energy

ACS and its members have shown considerable interest in improving Wikipedia's chemistry content. The society organized edit-a-thons in Washington, D.C., in San Diego, and at the 252nd ACS National Meeting in Philadelphia. Members received instruction from knowledgeable Wikipedia contributors about the rules of editing, and these experts also helped them make their first edits. Attendees were excited to learn about amplifying their impact by bringing Wikipedia into the classroom.

If you're a chemistry instructor or student interested in Wiki Ed initiatives, please visit **www.wikiedu.org**, or e-mail Wiki Ed staff at **contact@wikiedu.org**.

Jami Mathewson *is the educational partnerships manager at the Wiki Education Foundation.*

Tips for Editing Wikipedia Articles

ADAPTED FROM WIKI ED'S "EDITING WIKIPEDIA ARTICLES ON CHEMISTRY"

Be accurate: You're contributing to a resource that millions of people use to inform themselves about the world of science!

Understand the guidelines: Wikipedia uses a framework called the Five Pillars to shape its content. Take time to read and understand the rules before you start making edits.

Engage with others: Wikipedia is a community of editors, and part of the experience is receiving and responding to feedback from others.

Use your own words: Like any writing assignment, plagiarism and close paraphrasing are against the rules.

Play to your strengths: Wikipedia depends on volunteers who write, copyedit, add images to, and organize articles. Whatever your skill or interest, there's a way for you to contribute.

Distilling Lessons from a Whiskey Research Program

BY REGAN L. SILVESTRI

"It always seems impossible until it's done." So said Nelson Mandela, the South African anti-apartheid revolutionary who served as president from 1994-1999. But some things truly are impossible, right? Well, not at Lorain County Community College (LCCC) in Elyria, OH. We've been able to launch a graduate-level research program at a two-year college.

It's challenging enough for four-year colleges to offer substantial research experiences to students with 3–4 years of experience under their belt, but at Lorain, students are using gas chromatography-mass spectroscopy (GC-MS) to characterize flavor compounds in unprecedented flavors of bourbon whiskey.

So, how did we pull off modeling graduate research for our students? It was all a matter of being open to the opportunities around us. What follows is our story, and some lessons about spotting opportunities that could help you achieve what seems impossible.

Why being early is better than being on time

BONUS LESSON: ***Stay active in professional societies.***

It all started very innocently. A former student told me at a campus picnic that he had just completed an inspiring internship at the nearby Cleveland Whiskey distillery. Of course, a whiskey company would need chemical engineers, I thought. So I followed my instincts, and during a brainstorming session for the local Cleveland Section of the Society for Applied Spectroscopy (SAS), I chimed in the idea to visit a whiskey maker for a future group activity. Had I not stayed active with SAS (and, as you will learn later, my other professional society, the ACS), I would've missed an opportunity to build on my hopes.

On the heels of my suggestion, we organized a tour of Cleveland Whiskey. I arrived early that evening since I had arranged the tour, and I was pleased to be greeted at the door by the founder and CEO of the company, Tom Lix. Tom would be our tour guide. By arriving early, I had time for a pleasant chat that became a major game changer for our chemistry program.

FRONT TO BACK: **LCCC students Katie Nowlin, Valerie Gardner, Christopher Wright, and Clayton Mastorovich with Coleen McFarland, a senior analytical chemist at Envantage, Inc., and SLCC Assistant Professor of Chemistry, Regan Silvestri.** PHOTOS: RONALD JANTZ

Say yes to good opportunities — even if you don't have all the pieces

BONUS LESSON: ***Take time to self-educate even after you graduate.***

I introduced myself, and when I told him that I was a chemistry professor at LCCC, Tom immediately suggested that we collaborate on a joint research project using GC-MS to study some new whiskey flavors he was experimenting with. How did he know about GC-MS? I wondered. He's not an analytical chemist. It was apparent that Tom took time to self-educate in order to strengthen his business and support the work of his employees.

I quickly replied, "Yes, let's establish a joint research project," although I honestly didn't know what we would do or how we would do it. All I knew was that we had to do it.

Every little bit counts

Working with Cleveland Whiskey would give students practical experience, relevant to local industry. It would also be easy for students to understand the applications of the research. But first we needed the equipment, space, and other operational plans for doing the work on our campus.

We would also need funding. So, we started applying for grants. *(Note: Grant writing is a major component of graduate research, too.)* Our first grant proposal was to the ACS Collaborative Opportunities Grants program. Winning this funding award gave us reassurance that we were doing something worthwhile, and it inspired us to forge ahead.

BONUS LESSON:
Use small successes to build momentum for big ones.

We proceeded by submitting two more grant proposals — one to the ACS Two-Year College Faculty/Student Travel Grants program, and another to the Center for Teaching Excellence at LCCC. We ended up winning those, too! Despite the fact that all of these grant awards were modest, collectively we were beginning to put together something substantial.

Invest in the people you work with

At a community college with 15,000 students and virtually no chemistry majors, how would I recruit students to participate in a chemistry research project and motivate them to produce results? Money! Money is a great incentive, especially for students on shoestring budgets.

Another grant opportunity met this need. This semester, every student in my group is working under a full scholarship, thanks to the NASA Community College STARS Program. Needless to say, each of the students is thrilled to work on the project.

Current friends = future collaborators

As a teacher, I knew my responsibility in this research effort was to teach my students how to analyze bourbon whiskey for flavor compounds. The problem was, I didn't know how to do it myself. How would I know? I'd never done it before.

I turned to Coleen McFarland, a friend from college and a senior analytical chemist at Envantage, Inc., a premier analytical testing lab. Not only did Coleen's company have substantial expertise in the area, it was also a true pleasure to work with a trusted friend. It was a most valuable validation for why it's important to stay close with your friends from college. They are your future collaborators, job references, sources for insider tips and opportunities, and so much more.

Build on prior knowledge to get new results

At LCCC, we now get to do research using samples of experimental whiskey flavors that are not yet commercially available. Using GC-MS, we profile the distinct flavor compounds that are leached from the various woods in these uniquely flavored bourbon whiskies. Thus, we have been able to identify and quantify the flavor compounds for each of these unprecedented bourbons. Because of the applied nature of our research, new students readily understand the work and begin to contribute quickly, generating practical and relevant information for our industry partner, Cleveland Whiskey.

The bottom line: You never know what you can do until you try. Be open to new ideas, use the resources around you, and soon you could also accomplish something that seems impossible. iC

Regan L. Silvestri, *Ph.D., is an assistant professor of chemistry at Lorain County Community College, near Cleveland, Ohio. His background includes service in the Peace Corps as a visiting professor in the Republic of Kazakhstan. Through his "Magical Science!" shows at local schools, he has reached combined audiences of tens of thousands of enthusiastic students.*

Cleveland Whiskey: Pioneering Spirits

Traditionally, whiskey is produced by aging a clear, distilled spirit in a charred oak barrel for up to 10 years or more. During this time, the spirit becomes flavored with compounds that leach into it from the charred oak.

At Cleveland Whiskey, CEO Tom Lix has developed an innovative technology that accelerates the aging process of whiskey from a matter of years to just days. Essentially, the process involves placing the new spirit in a stainless steel vessel with pieces of charred wood of a controlled surface area, sealing the vessel, and subjecting the headspace above the liquid to a precisely defined cycling of pressure. This forces the alcohol into the wood, extracting compounds from the wood that naturally flavor the whiskey. The company has also begun using the technology to experiment with other new flavors, including bourbon aged naturally with cherry, apple, hickory, maple, and honey locust woods.

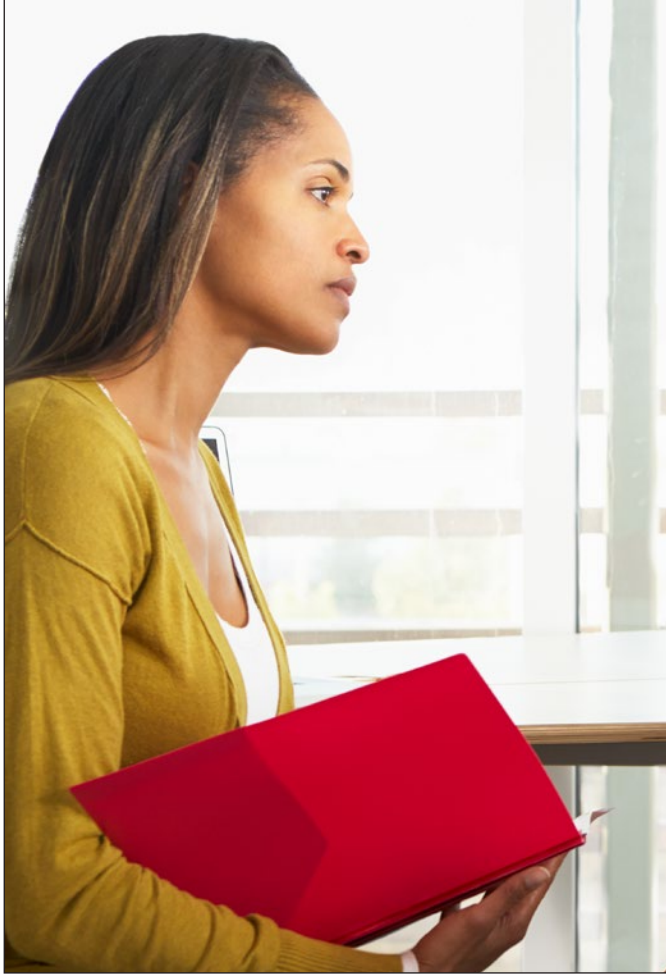
Resources for Collaboration

- **Student resources:** www.acs.org/undergrad
- **Local sections:** www.acs.org/localsections
- **Technical divisions:** www.acs.org/divisions
- **Local businesses:** www.chamberofcommerce.com/chambers

Mediating Conflict in Your Student Chapter

A Guide for Student Chapter Leaders

BY JESSICA ROBERTS



As a leader of an ACS student chapter, you probably felt excited and, hopefully, prepared to take on the responsibility of your role. Whether you are planning events, hosting chapter business meetings, or contacting speakers, you probably have a list of roles and responsibilities that came with your position. One role you might not have expected to fulfill is that of a conflict mediator.

In almost every group, conflicts are bound to arise as people disagree over how to tackle a given problem or task. These disagreements can be exacerbated by differences in personality and communication styles, and they can be difficult to overcome. As a leader, you might have to step in to help your members find a resolution to a problem in order to keep the chapter on track for success.

As an example, let's say your chapter is planning an outreach event for Chemists Celebrate Earth Day (CCED), and the two heads of your outreach team, Nadia and Matt, are not getting along. Nadia is fairly free-spirited and prefers to communicate face-to-face or using the group text. She wants to think outside the box this year and move beyond her chapter's traditional Tree Planting Day. She proposes doing a green chemistry demo at a local school. Matt, in contrast, likes traditional activities and prefers to communicate official ideas in e-mail so that he has a record. He is a bit shy and likes the idea of continuing to plant trees on campus, perhaps even extending it to a cleanup of the nearby river as well. Matt feels like Nadia is being pushy with her idea, and Nadia feels that Matt is unfairly shooting down her proposal.

When to step in?

This is perhaps the hardest question to answer because it is based on a unique set of circumstances for each chapter. Conflicts can often trigger a "fight-or-flight" response in people, ranging from loud arguments to passive–aggressive actions to avoidance. As a leader, it's probably best to step in when the approaches to resolving issues are not working, or, at least, when one party indicates they are having difficulty working with another party.

In our example, the situation escalates when Matt finds out that Nadia has, without consulting with him first, announced to the rest of the outreach team that the chapter will be doing green chemistry demos. Upset with Nadia, Matt has come to you, the chapter leader, to air his grievance.

How to respond?

If someone comes forward with a concern, you should make sure they feel heard and understood while remaining impartial. It's often best to offer advice one-on-one first without jumping straight into mediation. If that fails, or if you're coming up on a deadline for planning an event with still no possibility of a resolution, it's probably time for mediation.

When Matt comes forward to you with the issue, you should acknowledge his frustration and ask what he thinks would help solve the problem. While mediation is usually the last thing people want to do, it is often a more successful method for resolving future problems than having chapter members speak through you indefinitely. So although Matt may indicate he wants you to talk to Nadia on his behalf, it may still be best to sit down with both of them to help them discuss how to work through this issue together.

Starting a mediation

Setting up mediation can feel extremely awkward, especially if one party doesn't realize there is a problem, which, unfortunately, does happen. If possible, talk to both parties one-on-one and in person, and let them know you'd like to have a meeting to discuss the issue at hand. Avoid blaming either party; instead, offer your help in finding a resolution.

Meet in a place where everyone feels comfortable, like a club room if you have one, or a quiet corner of campus. Ideally, everyone should be sitting at the same height, so that no one feels like they are being overpowered.

SHUTTERSTOCK

Setting up ground rules

Once everyone has assembled together, it's time to set up some ground rules for the discussion. Although they may not need to be strictly enforced, if the conversation gets heated, it's good to have these rules of engagement set up to refer back to later.

Good rules to include are:

- **active listening techniques;**
- **giving each speaker your full attention during the discussion (as the leader, set a physical example by leaning in when each person is talking);**
- **taking turns during the conversation; and**
- **having the parties address each other, not you.**

Your primary purpose is to observe and, if needed, enforce ground rules. While you can offer neutral suggestions to solve a problem, ultimately the parties involved need to work out a solution that will work for them going forward. Encourage people to use "I" statements in describing the problems, such as "I feel..." and "I would like to...". Such statements tend to come off as less aggressive and can help each person understand how their actions affect others. More ground rules concerning respect and openness to finding a compromise can also be added, if appropriate.

Mediation and follow-up

In the CCED scenario, Nadia and Matt were having problems on many fronts, including personality and communication differences stemming from the surface issue of which type of event to host. Addressing the surface problem is like trying to put a Band-Aid on a bullet hole (yes, that's a Taylor Swift reference). If the issues underneath aren't resolved, then there's the potential for future misunderstandings and conflicts.

Encourage each person to explain why they feel the way they do about the problem. Matt might indicate he doesn't feel comfortable speaking up over Nadia, and she, in turn, might feel like he doesn't take her ideas seriously. Ask each of them how they would propose finding a solution, and have them talk it out until there's an agreeable compromise.

A possible resolution for this conflict might include Nadia and Matt agreeing in writing rather than in person before announcing plans for an event. Matt could forgo tradition but still be able to give input by helping to fully flesh out Nadia's idea. Of course, there are many ways this scenario could play out. The key is to have both parties agree on a compromise in such a way that they both feel satisfied that they've been heard.

If you achieve compromise and good communication, consider the mediation successful. If the conflict has been especially contentious, it's a good idea to write up a "contract" of sorts, with each party outlining what they agreed to so they can reference their plan if they need it in the future.

Mediating conflicts can feel uncomfortable, but leaving them to fester can be destructive to the health of your chapter and may discourage others from wanting to work on projects together. By impartially approaching conflicts in your chapter, you can help make your chapter a successful and thriving place where people are happy to share their love of chemistry. iC

Jessica Roberts *has a B.A. in chemistry from the University of Virginia. She currently works in the ACS Undergraduate Programs Office.*

A Look at ACS International Chapters

BY LINDA WANG
From *Chemical & Engineering News*, cen.acs.org

The American Chemical Society chartered its first ACS international student chapter in April 2014 at the Technical University of Munich, Germany. Now, the society has 27 international student chapters in 17 countries: Brazil, China, Colombia, Egypt, Georgia, Germany, Hungary, India, Italy, Jamaica, Malaysia, Mexico, Nigeria, Qatar, Saudi Arabia, Singapore, and the United Arab Emirates.

These chapters are growing in parallel with ACS International Chemical Sciences Chapters, which now number 16 (*Chemical & Engineering News*, June 22, 2015, page 43). To remain active, student chapters need to maintain a minimum of six paid ACS members and submit a chapter report at least once every three years.

"The student chapters give international student members of ACS an opportunity to learn more about the society and its resources, build a community around chemistry, and stay engaged with ACS", says Nicole Di Fabio, manager of undergraduate programs at ACS. "It's also an opportunity for students to gain cross-cultural experiences. Some of the student chapter members, for example, have attended ACS national meetings in the United States, where they've presented their research."

Here is a look at what some of these international student chapters have been up to since their formation. iC

Linda Wang *is a senior editor for* Chemical & Engineering News *magazine. She has a B.S. in biochemistry from the University of Wisconsin, Madison and an M.S. in science and technology journalism from Texas A&M University, College Station.*

CREDIT: UNIVERSITY OF SCIENCE, MALAYSIA

Since its charter in October 2014, the ACS student chapter at the University of Science, Malaysia, has visited the Spritzer factory chemical plant to expose members to careers in chemical engineering; organized competitions to help members sharpen their public speaking skills; attended the fall 2015 ACS national meeting in Boston; and hosted an ACS student forum to promote communication among students, academics, and industrial scientists.

CREDIT: UNIVERSITY OF THE WEST INDIES

The University of the West Indies, Mona, Jamaica, chapter participated in the "Communicating Chemistry: Caribbean Cuisine" competition at the 252nd ACS National Meeting in San Diego. Chartered in April 2015, the chapter has also toured Salada Foods Jamaica Ltd., one of Jamaica's coffee manufacturers, and gone on air at a local TV station to discuss the chemistry of Jamaica's national fruit, the ackee.

CREDIT: UNIVERSITY OF SÃO PAULO

Students from the University of São Paulo chapter in Brazil (chartered in October 2015) have hosted a round-table to explore different chemistry topics and participated in a science fair at a local high school.

REFERENCE

The original version of this article appeared in the ACS weekly news magazine, *Chemical & Engineering News* (*C&EN*). "A Look at the International ACS Student Chapters," *C&EN*, 2016, 94 (31), pp 36–37. **http://cen.acs.org/articles/94/i31/look-International-ACS-Student-Chapters.html**.

CREDIT: UNIVERSITY OF AGRICULTURE

Members of the University of Agriculture, Makurdi, chapter in Nigeria attend a student skill-building event. Chartered in August 2015, they have also performed a demonstration of the production of caramel using cassava and held a chemistry quiz competition for members.

CREDIT: MUNICH AND MODENA

Students from Germany's Technical University of Munich and Italy's University of Modena and Reggio Emilia gather for an inter-chapter meeting. Chartered in 2014, the chapters have invited a guest lecturer from the State Office of Criminal Investigation, organized a discussion of research abroad experiences, and held an awards ceremony recognizing the best theses in food chemistry. CREDIT: MUNICH AND MODENA

CREDIT: AMERICAS PUEBLA

Students represent the University of the Americas Puebla chapter in Mexico at a Science Day festival. Chartered in October 2015, the chapter has also given writing workshops for undergraduate students, invited speakers to its Congress of Science event, and hosted a talk on sustainability and nanotechnology.

CREDIT: KING FAHD

Students from the King Fahd University of Petroleum and Minerals chapter in Saudi Arabia visit the Saudi Arabian Fertilizer Co. Since its charter in June 2015, the chapter has also hosted a two-day molecular modeling workshop on ChemSketch, attended the 250th ACS National Meeting in Boston, given talks at a local high school, visited King Abdulaziz City for Science and Technology, and organized its first chemistry student research symposium.

CREDIT: ICESI UNIVERSITY

The Icesi University chapter in Colombia take a group photo at its "Celebration of Chemistry" event. Chartered in June 2015, the chapter has also conducted an educational campaign explaining how carpooling reduces air pollution. CREDIT: ICESI UNIVERSITY

SPOTLIGHT

University of New England

Biddeford, ME

COMPILED BY ROBIN LINDSEY

Chapter presidents: Molly Wright, Megan Perry **Chapter members:** 25 **ACS student members:** 15
Facebook page: www.facebook.com/UneChemistryClub **Institution description:** Small, private, rural, four-year

Q: **How did you celebrate National Chemistry Week (NCW) and Chemists Celebrate Earth Day?**

A: Every year our chapter celebrates NCW (we call it Chemapalooza) with daily events, demonstrations, food, and raffle prizes in the campus quad. For last year's theme, Chemistry of Colors, we baked and decorated periodic table cupcakes and provided information on the dye molecules in the frosting. We also performed colorimetric reaction demos, made rainbow slime and elephant toothpaste, and made our own liquid-nitrogen ice cream in various colors. For Mole Day, we had a bonfire and members made a very lifelike (and safe) mole piñata.

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

A: Our most popular events are NCW, our Valentine's Day fundraiser, and our Chemistry Club Trivia Lunch. For the Valentine's Day fundraiser, we attached cheesy, science love-puns to plastic test tubes filled with candy. It was a huge hit that allowed us to raise money and get people interested in our club. *Chemical & Engineering News* even re-tweeted about it! Chemistry Club Trivia Lunch is a favorite because it allows the department to bond in a fun and educational way by giving us a reason to eat pizza and have a little friendly competition. All are welcome, and many of our professors come. We don't just have chemistry or science questions; we do general trivia, and sometimes there are trivia facts about our professors.

Q: **Do you collaborate with other clubs?**

A: We have collaborated a little bit with the University of Southern Maine ACS student chapter. Last year was our first successful attempt to reach out to other chapters, so our gatherings were primarily about getting to know each other. We took turns hosting cookouts and celebrated Mole Day together in order to get familiar with each other's clubs and exchange ideas for fundraising. We are looking forward to fostering that collaboration with other student chapters in Maine and northern New England.

Q: **What career-related events does your chapter do?**

A: Just last year our club began attending the Beyond Benign Green Chemistry Outreach Fellows training held at the Warner Babcock Institute in Massachusetts. Not only was it a great way to introduce outreach opportunities; members also had a chance to learn about up-to-date chemistry concepts in relation to modern industry. It was a fantastic stepping stone, especially for students who are interested in elements of chemistry and the environment. We have also started hosting Program in a Box (www.acs.org/PIB) events. iC

University of New England student chapter members.

Faculty advisor: Amy Keirstead, 5 years
Co-advisors: Chris Ambrose and Jill Tenny

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

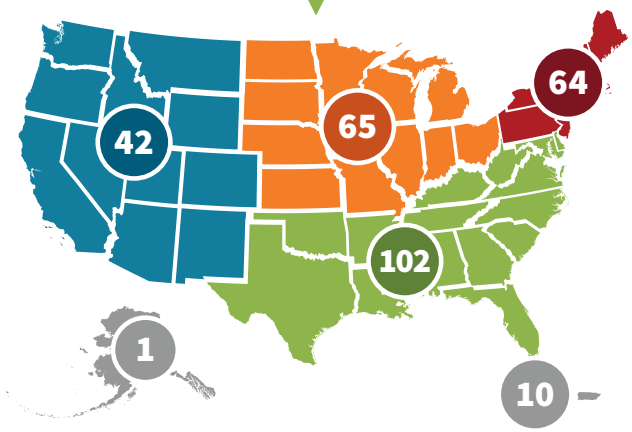
Keirstead: The most rewarding moments are those when I step back and let my students "do their thing" – and they just blow me away with their leadership and their skills and their abilities. From taking them to ACS meetings and watching the students engage with professionals, to running outreach activities and doing demos with children, to brainstorming and executing a fun fundraiser, to getting new members involved through social activities, they have really made me proud.

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

Keirstead: Work with your students, but act as an advisor. Let them take the lead, unless it's critical that you intervene. Letting them do the lion's share of the work helps them as they develop their skills and build character and leadership traits. It also allows them to take pride in their successes and learn from their failures. One last piece of advice is to start small. We started our chapter by focusing on doing a few key events each semester really well, which helped us build our chapter and become more known on campus. iC

Student Chapter Awards 2015–2016

Award-Winning Chapters



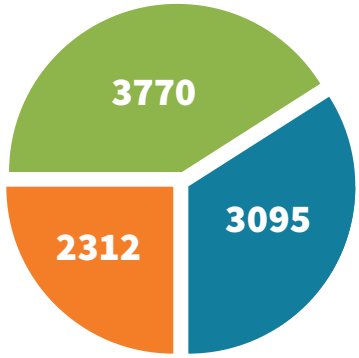
OUTSTANDING	46
COMMENDABLE	94
HONORABLE MENTION	144
GREEN CHEMISTRY AWARD WINNERS	52

The Impact by Event

How award-winning chapters contribute to community and chapter development

PROFESSIONAL DEVELOPMENT

1178	Hosting presentation/speaker
485	Attending scientific meeting
343	Attending presentation/speaker
209	Attending tour/field trip
97	Hosting and attending tour/field trip



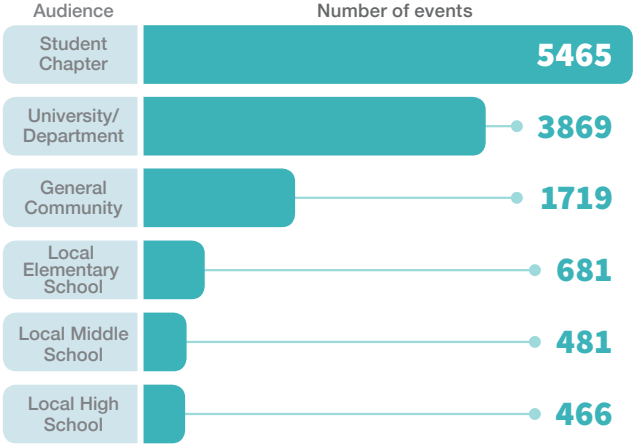
CHAPTER DEVELOPMENT

2047	Business function/fundraising
1539	Social
184	Competition/contest

SERVICE

2066	Outreach/service to community
1029	Outreach/service to university

Events by Audience Type



Most Events by Chapter

	Events
Salt Lake Community College	147
Truman State University	126
University of Puerto Rico Río Piedras Campus	99
Western Washington University	98
South Texas College	88

Bravo, Chapters!

Announcing the 2015–2016 ACS Student Chapter Award Winners

The ACS Society Committee on Education has selected 284 chapters to receive special recognition for distinguished programs and activities described in their 2015–2016 annual reports. They will be honored at the 253rd ACS National Meeting in San Francisco, CA, on Sunday, April 2, 2017.

In addition, the ACS Green Chemistry Institute is recognizing 52 chapters that have engaged in at least three green chemistry activities as a way of integrating environmentally benign technologies in an academic setting.

Congratulations to the 46 Outstanding, 94 Commendable, and 144 Honorable Mention award-winning student chapters!

OUTSTANDING

KEY: ***Winning Institutions*** **Faculty Advisors** *Chapter Presidents* = Green Chemistry Student Chapter

Aquinas College, Grand Rapids, MI
Elizabeth Jensen
Nina Diklich & Nat Dunn

Barry University, Miami Shores, FL
George Fisher & Tamara Hamilton
Victoria Hoelscher & Qiwen Su

California State University-Stanislaus, Turlock
Elvin Aleman
Jing Lee & Jorge Vivar

Canisius College, Buffalo, NY
Phillip Sheridan
W. Benton Swanson & Lauren Evans

City Colleges of Chicago Wilbur Wright College, IL
Doris Joy Espiritu
Philip Duca

Duquesne University, Pittsburgh, PA
Ellen Gawalt & Jeffrey Evanseck
Danielle Bautista & Ayan Ahmed

Eastern Oregon University, La Grande
Anna Cavinato
Jeremy Bard & Darcy Morales

Erskine College, Due West, SC
Joel Boyd
Ariele Houston

Florida International University, Miami
Uma Swamy & Joong-ho Moon
Robert Wood

Francis Marion University, Florence, SC
Jennifer Kelley
Marisai McCrimmon & Bailey Carnes

Georgia College & State University, Milledgeville
Catrena Lisse
Jessica Minnick

Gordon College, Wenham, MA
Irvin Levy
Verna Curfman & Logan Walsh

Heidelberg University, Tiffin, OH
Nathaniel Beres
Alexandra Bauer & Claire Chandler

Illinois Valley Community College, Oglesby
Matthew Johll & Promise Yong
Adam Skoff & Aubrey Molln

Inter American University of Puerto Rico-Ponce, Mercedita
Edmy Ferrer Torres
Lenianne Ramirez & Aleishka Almodovar Ortiz

Mississippi College, Clinton
Trent Selby & Dale Rosado
Jonathan Bethea & Weston Eldridge

Northeastern University, Boston, MA
Kathleen Cameron
Brittany Laramee

Northern Kentucky University, Highland Heights
Amber Onorato
Emily Hogle & Hannah Hearn

Pasadena City College, CA
Veronica Jaramillo
Jennifer Portillo & Anthony Varelas

Salt Lake Community College, UT
Ron Valcarce
Elizabeth Hayes & Henry Hsieh

South Texas College, McAllen
Ludivina Avila & Karlos Moreno
Michael Ochoa & Luis Rodriguez

Southeastern Oklahoma State University, Durant
Nancy Paiva
Elizabeth Landers & Ludmila Chandler

Southwest Minnesota State University, Marshall
Noelle Beyer & Frank Schindler
Rhiannon Sears & Megan Bruns

Tennessee Technological University, Cookeville
Daniel Swartling & Amanda Crook
Kelsey Richards & Shikha Amin

Texas Christian University, Fort Worth
Kayla Green & Benjamin Janesko
Sarah Price & Caleb Ashbrook

The Pontifical Catholic University of Puerto Rico, Ponce
Lizette Santos & Carmen Collazo
Norymar Rivera Ortiz & Jann Vale Hernandez

The University of Texas at Dallas, Richardson
Kenneth Balkus
Dorothy Nguyen & Eli Sanchez

The University of Utah, Salt Lake City
Holly Sebahar & Thomas Richmond
Carter Jennings

Trinity University, San Antonio, TX
Christina Cooley
Pooja Bollampally & Natalie Seitzman

Union University, Jackson, TN
Randy Johnston & Joshua Williams
Evan Lewoczko & Kelsie Wood

University of California-Riverside
Jack Eichler
Julia Jenkins & Michelle Smith

University of California-San Diego, La Jolla
Stacey Brydges & Haim Weizman
Levi Pilapil & Cole Carter

University of Central Arkansas, Conway
Faith Yarberry & Karen Steelman
Taylor Huntington & Rachel Mayo

University of Central Florida, Orlando
Stephen Kuebler
Bailey Mourant & Lauren Gandy

University of Detroit Mercy, MI
Matthew Mio & Kendra Evans
Grace Nguyen & Sabina Kurtovic

University of Florida, Gainesville
Ronald Castellano & Leslie Murray
Nicholas Lee & Nga Tran

University of Houston, TX
Simon Bott
Seung Hong & Thien Ngo

University of New England, Biddeford, ME
Amy Keirstead
Megan Perry

University of Puerto Rico at Cayey
Edgardo Rivera Tirado
Mariana Leon-Berrio

University of Puerto Rico-Aguadilla
Brenda Ramos-Santana & Carlos Ruiz-Martinez
Reynat Jimenez-Hernandez & Ricardo Pitre-Yulfo

University of Puerto Rico-Mayagüez Campus
Jessica Torres Candelaria
Tai Massas Le Cleres & Jean Pierre Feng Baez

University of Puerto Rico-Río Piedras Campus
Ingrid Montes
Kinaysha Collazo Maldonado & Adrian Burgos-Aviles

University of the Sciences in Philadelphia, PA
Catherine Bentzley & Vanessa Jones
Courtney Vander Pyl & Joey Harmon

University of Toledo, OH
Edith Kippenhan
Zane Wilhelm & Patrick Schermerhorn

Waynesburg University, PA
Evonne Baldauff & Robert La Count
Jelena Kyle & Josie McKinley

Western Washington University, Bellingham
Steven Emory & Elizabeth Raymond
Deanna Myers & Tess Clinkingbeard

COMMENDABLE

KEY: ***Winning Institutions*** **Faculty Advisors** *Chapter Presidents* = Green Chemistry Student Chapter

Alvernia University, Reading, PA
Rosemarie Chinni & Kevin Burns
Katelyn Weeber

Angelo State University, San Angelo, TX
Edith Osborne & Kevin Boudreaux
Blake Holle & Amber Sullivan

Arcadia University, Glenside, PA
Chester Mikulski
Emily Ng & Matthew Hyers

Ball State University, Muncie, IN
Ryan Jeske & Scott Pattison
Olivia Manahan & Saadia Sial

Belhaven University, Jackson, MS
Philip Carlson
Marjory Clement & Jeremiah Reese

Bethany College, WV
Scott Brothers & Lisa Reilly
Megan Nally

Bradley University, Peoria, IL
Dean Campbell
Muhammad Malik & Jacob Chrestenson

Bucknell University, Lewisburg, PA
Patrick Martino
Kevin Garcia & Tyler Fulton

California State University-Chico
Randy Miller
Annette Valceschini

California State University-Fresno
Melissa Golden & Donnie Golden
Sara Kendrick & Annabelle Lolinco

California State University-Sacramento
Cynthia Kellen-Yuen & Benjamin Gherman
Rajan Suasin & Alex Zurmuhle

Central Michigan University, Mount Pleasant
Dale LeCaptain & Sharyl Majorski
Jessica Callus

Central Washington University, Ellensburg
Dion Rivera & Timothy Sorey
Juan Rodriguez & Eamonn Clarke

Christian Brothers University, Memphis, TN
Dennis Merat
Thomas Summers & James Tansey

Delta State University, Cleveland, MS
Sharon Hamilton
Zachary Boone & Will Weeks

East Los Angeles College, Monterey Park, CA
Armando Rivera Figueroa & Kirk Olsen
David Serradell & Vanessa Corona

Elizabethtown College, PA
Kristi Kneas
Ricky Castro & Holly Sofka

Florida International University-Biscayne Bay Campus, Miami
Mayra Exposito & Milagros Delgado
Sandra Ike & Joan Glenny-Pescov

Florida Southern College, Lakeland
Jarrod Eubank & Jason Montgomery
Blake Crosby

Georgia Gwinnett College, Lawrenceville
Gillian Rudd & Rebecca Kalman
Emily Valenzuela & F'jei Will

Georgia Institute of Technology, Atlanta
Michael Evans
Anabel Liyen Cartelle & Maeve Nagle

Hillsdale College, MI
Matthew Young & Christopher Hamilton
Zoe Norr & Bilyana Petkova

Hiram College, OH
Carol Shreiner & Steven Romberger
Darian Waugh

Hofstra University, Hempstead, NY
Scott Lefurgy
Botai Xuan & Diego Prado

Hope College, Holland, MI
Jeffrey Johnson
Matthew Rolain & Lisa Savagian

Humboldt State University, Arcata, CA
Jenny Cappuccio
Jordan Jacobs & Marcos Amezcua

Idaho State University, Pocatello
Joshua Pak
Brett Brownfield & Erika Blay

Illinois State University, Normal
Andrew Mitchell
William Darrow & Alexandra Mandl

Inter American University of Puerto Rico-San Germán Campus
Angela Gonzalez
Pedro Silvestry-Padilla

James Madison University, Harrisonburg, VA
Isaiah Sumner & Debra Mohler
Daniel Corbin & Ricky Flores

Keene State College, NH
James Kraly & Denise Junge
Heather MacLennan & Claire Lilley

Kent State University, OH
Margaret Leslie & Erin Michael
Mary Waddington & Heather Andro

Marietta College, OH
James Jeitler
Jason Miller & Adam Garlow

Marquette University, Milwaukee, WI
Chris Dockendorff & Lori Callaghan
Emily Legan & Mark Specht

Maryville College, TN
Nathan Duncan & Mary Turner
Allison Peeler & Cody Kidd

McNeese State University, Lake Charles, LA
Paula McDonald & Omar Christian
Gurnoor Benipal

Mercer University, Macon, GA
Jennifer Look & Garland Crawford
Kirsten Brown

Middle Tennessee State University, Murfreesboro
Gary White & Keying Ding
Xyan Aguilar

Midland College, TX
Patcheammalle Nandakumar & John Anderson
Ryan Ramos & Megan Ennis

Millersville University of Pennsylvania
Lyman Rickard & Steven Kennedy
James Dreer

Missouri Western State University, Saint Joseph
Shauna Hiley
Adam Hunt & Nicholas Chapman

Morehead State University, KY
Mark Blankenbuehler
Aaron Hunter & William Hull

Morgan State University, Baltimore, MD
Louise Hellwig
Abdullah Abdul & Pierce Perkins

Mount St. Mary's University, Emmitsburg, MD
Christopher Bradley
John Andjaba & Zachary Call

Nova Southeastern University, Fort Lauderdale, FL
Beatrix Aukszi
Alfredo Lam & Sara Rodriguez

Ouachita Baptist University, Arkadelphia, AR
Sara Hubbard & Joseph Bradshaw
Trevor Meece & Jace Bradshaw

Oxford College of Emory University, GA
Mohammad Saadein

Radford University, VA
Cindy Burkhardt & Kimberly Lane
Lawrence Rhea & Hannah Bell

Rhodes College, Memphis, TN
Larryn Peterson & Mauricio Cafiero
Megan Denny

Roger Williams University, Bristol, RI
Stephen O'Shea & Clifford Murphy
Mary Yurkevicius & Connor Sweet

Sacred Heart University, Fairfield, CT
Linda Farber
Sarah Aanonsen & Stephen Baer

Saginaw Valley State University, University Center, MI
Jennifer Chaytor & Adam Warhausen
Emily Greeson & Jessica Martin

Saint Francis University, Loretto, PA
Edward Zovinka
Hannah Schorr & Rebekah Krupa

Saint Louis University, MO
Brent Znosko
Mark Cheneler & Prerak Trivedi

Saint Michael's College, Colchester, VT
David Heroux
Jordan Roach & Molly Maliska

Saint Vincent College, Latrobe, PA
Daryle Fish
Breanna Tomiczek

Santa Clara University, CA
Linda Brunauer
Pavel Klier & Camille Dubois

Santa Monica College, CA
Jennifer Hsieh & Travis Pecorelli
Kimberly Kokado & Petar Antovski

Seton Hill University, Greensburg, PA
Demetra Czegan
Monica Theroux & Margaret Gerthoffer

Siena College, Loudonville, NY
Jodi O'Donnell & Jesse Karr
Zackary Gregg & Bryce Lipinski

Southern Illinois University Edwardsville
Myron Jones
Abbie Fox & Grant Hansen

St. Edward's University, Austin, TX
Mary Kopecki-Fjetland
Christopher Jackson & Priscilla Torres

Stevenson University, MD
Diane Payne
Malik Naanaa & Corinna Carter

Suffolk University, Boston, MA
Edith Enyedy
Janice Bautista & Sydney Thomas

Tarleton State University, Stephenville, TX
William Whaley
Elizabeth Tamez & Caleb Murphy

Texas Tech University, Lubbock
Dominick Casadonte & Michael Findlater
Jon Hill & Claudia Santillan

The College of New Jersey, Ewing
Benny Chan & Abby O'Connor
Katherine Fomchenko & Susan Knox

Truman State University, Kirksville, MO
Timothy Humphry & Barbara Kramer
Kayleigh McElveen

Universidad de Sagrado Corazon, San Juan, PR
John Olmo
Joenisse Rosado

University of Alabama at Birmingham
Jacqueline Nikles & Gary Gray
Nicholas Boyle & Marina Triplett

University of Arkansas at Little Rock
Jerome Darsey
Zachary Hicks & Phuc Tran

University of California-Davis
Kirill Kovnir
Benjamin Wigman & Chelsey Souza

University of California-Los Angeles
Richard Kaner & Avalon Dismukes
Maya Nag

University of Illinois at Urbana-Champaign
Joaquin Rodriguez Lopez
Shannon Miller

University of Kansas, Lawrence
Roderick Black & Paul Hanson
Emmaline Lorenzo & Riel Latimer

University of Mary Hardin-Baylor, Belton, TX
Lin Gao & Joy Beckendorf
David McKinzey & Mackenzie Sautter

University of Mary Washington, Fredericksburg, VA
Leanna Giancarlo
July Laszakovits & Kelly McDaniel

University of Michigan-Flint
Jessica Tischler & Samantha Grathoff & Monique Wilhelm
Catherine Wilhelm & Alexandrea Rizo

University of Pittsburgh, PA
George Bandik
Taylor Hochuli & Bradley Lukasak

University of Puerto Rico-Humacao
Juan Suarez
Rosely Quinones-Lopez & Nicole Lopez Pena

University of Saint Thomas, Saint Paul, MN
Gabriela Uzcategui-White & Marites Guino-o
Andrea Westlie

University of San Diego, CA
Christopher Daley
Kristina Zivkovic & Wayne Cottle

University of St. Thomas, Houston, TX
Crystal Young
Angel Rivera & Pilar Zaibaq

University of Tennessee at Martin
S. K. Airee
William Kuenzinger & Michaela Short

University of Texas at Tyler
Laura Boyd & Lauren Leamer
Matthew Terra & Laura Calvo

Utica College, NY
Michelle Boucher & Alyssa Thomas
Lana Nitti

Virginia Polytechnic Institute and State University, Blacksburg
Maggie Bump
Tyler Flournoy & Jordan Saunders

Wayne State University, Detroit, MI
Mary Pflum & Matthew Allen
Nathaniel Hardin & Adrianna Breckenridge

West Virginia State University, Institute
Micheal Fultz & Thomas Guetzloff
Amanda Smith & Umer Rizwan

West Virginia Wesleyan College, Buckhannon
Joanna Webb & Edward Wovchko
Asa Nichols & Angel Harvey

Westminster College of Salt Lake City, UT
Robyn Hyde & Paul Hooker
Jessica Tobin & Kent Johnson

Wilkes University, Wilkes-Barre, PA
Christopher Henkels & Taela Donnelly
Michael McCleaf & Jarret Colvin

Xavier University of Louisiana, New Orleans
Michael Adams & Candace Lawrence
Kennedi Crosby & Veronica Miles

Youngstown State University, OH
Michael Serra
Samantha Mock & Sam Kulifay

HONORABLE MENTION

KEY: ***Winning Institutions*** **Faculty Advisors** *Chapter Presidents* = Green Chemistry Student Chapter

Adams State University, Alamosa, CO
Renee Beeton & Aaron Moehlig
Samantha Sargent & Bailey Keller

Allegheny College, Meadville, PA
Mark Ams & Ivelitza Garcia
Matt Gray & Jacob Patterson

Augustana University, Sioux Falls, SD
Jared Mays
Delaney Schara

Bard College, Annandale on Hudson, NY
Christopher Lafratta
Kyan Jain & Madeleine Breshears

Bellevue College, WA
Carole Berg
Miwako Ito & Dariga Tugan

Benedictine University, Lisle, IL
Scott Meyer
Jonathan Bell

Blinn College - Bryan Campus, TX
Hanan Abdou
Molly McKinsey & Rachael Lahar

California Polytechnic State University-San Luis Obispo
Gregory Scott
Sierra Durham & Sierra Gandolfo

California State Polytechnic University-Pomona
Laurie Starkey & Michael Keith
Chidozie Olumba & Michael Torres

California State University-Long Beach
Michael Schramm & Paul Buonora
Annabelle Cantu & Lori Digal

California University of Pennsylvania
Kimberly Woznack & Gregg Gould
Christopher Chamberlain & James Novobilsky

Cameron University, Lawton, OK
Elizabeth Nalley & Gary Buckley
Pasang Hyolmo & James Lutz

Carroll University, Waukesha, WI
Kent Molter & Michael Schuder
Samaun Khan

Centenary College of Louisiana, Shreveport
Thomas Ticich
Rebecca Thompson & Haley Deshautelle

Chabot College, Hayward, CA
Laurie Dockter
Francisco Navarro & Jessica Valverde

Clarion University of Pennsylvania
Amanda Lockwood
Warren Huey

College of William & Mary, Williamsburg, VA
Douglas Young & Kristin Wustholz
Allison Kelley & Christina Howard

Concord University, Athens, WV
Darrell Crick & Kimberly Chambers
Madison Crank & Adam Cook

Drury University, Springfield, MO
Madhuri Manpadi & Albert Korir
Abby Delawder & Alex Schrader

Eastern Illinois University, Charleston
Edward Treadwell & Rebecca Peebles
Sarah Banister

Elmira College, NY
Corey Stilts & Betsy Smith
Diana Lutz

Emory University, Atlanta, GA
Douglas Mulford & Jeremy Weaver
Jieming Fu & Shruti Gupta

Essex County College, Newark, NJ
Nidhal Marashi
Jonelle Evans

Ferris State University, Big Rapids, MI
Pasquale Di Raddo
Shane Douglas

Framingham State University, MA
Catherine Dignam
Paulina Regan

Frostburg State University, MD
Peggy Biser
Steven Lowery & Brian Day

Furman University, Greenville, SC
Brian Goess
Hazel Davis

Georgia State University, Atlanta
Jyotsna Thota
Christina Fischer & Christofer Brown

Grand Valley State University, Allendale, MI
Scott Thorgaard
Emily Ingalls & C'arra Miller

Grove City College, PA
Harold Conder & Susan Cramer
Rachel Schmidt & Joscelyn Seaton

Gustavus Adolphus College, Saint Peter, MN
Amanda Nienow
Charles Fossey & Josh Portner

Hartwick College, Oneonta, NY
Andrew Piefer
Sarah Thompson & Alexander Hanse

Henderson State University, Arkadelphia, AR
Bradley Rowland & David Bateman
Wade Garrett & Sarah Holt

Hood College, Frederick, MD
Christopher Stromberg
Samantha Norris & Angela Mansfield

Houston Baptist University, TX
Saul Trevino
Christopher Ha

Illinois Institute of Technology, Chicago
Courtney Sobers
Nick Politis & Andrew Shahidehpour

Indiana University-Purdue University Indianapolis
Keith Anliker & Lin Zhu
Jessica Muldoon

Kennesaw State University, GA
Kimberly Linenberger
Skyler Mize

Knox College, Galesburg, IL
Diana Cermak
Alejandro Beltran & Zoya Stepanenko

Lake Forest College, IL
Elizabeth Fischer & Dawn Wiser
Samantha Miller

Lewis University, Romeoville, IL
Jason Keleher & Pierre St. Raymond
Richard Wiencek

Lincoln Land Community College, Springfield, IL
Jennifer Ramm & Michael Ramm
Kyle Kieffer & Jacob Montgomery

Linfield College, McMinnville, OR
Brian Gilbert
Brenna Gomez & Tanner Corrado

Lipscomb University, Nashville, TN
John Smith
Lincoln Shade

Lock Haven University, PA
Kevin Range
Scott Shreiber & Tyler Adams

Loras College, Dubuque, IA
David Oostendorp & David Speckhard
Emily Gudenkauf

Los Angeles Trade-Technical College, CA
Renee Madyun
Richard Fernandez & Chris Cusack

Loyola University New Orleans, LA
Clifton Stephenson
Mary Claire Kramer

Manchester University, North Manchester, IN
Susan Klein
Stephanie Wheeler

Meredith College, Raleigh, NC
Alexandra Ormond
Vanessa Cupil-Garcia

Miami University, Oxford, OH
Dominik Konkolewicz
Brant Center & Claudia Worley

Minnesota State University Moorhead
Asoka Marasinghe
Taysir Bader

Missouri State University, Springfield
Matthew Siebert
Jacob Blankenship

Muhlenberg College, Allentown, PA
Kathleen Herrera
Jacqui Hamati & Mark Panas

Murray State University, KY
Kevin Miller
Abbey Adler

New Jersey City University
Kenneth Yamaguchi & Robert Aslanian
Andrea Giraldo

New Jersey Institute of Technology, Newark
Bhavani Balasubramanian & Miriam Gulotta
Nandini Isaac & Hana Almahdy

New Mexico Highlands University, Las Vegas
Brooks Maki
Johnny Tuineau & Michelle Tuineau

Olivet College, MI
Susanne Lewis
Zachary Kitzmiller & Casey Lamp

Oral Roberts University, Tulsa, OK
Lois Ablin & Robert Stewart
Hannah White & Cora Skjaerlund

Pace University, New York, NY
JaimeLee Rizzo
Kevin Symczak & Dustin Lee

Pacific Lutheran University, Tacoma, WA
Neal Yakelis & Andrea Munro
Inga Christensen & Alice Henderson

Park University, Parkville, MO
Donna Howell & Gregory Claycomb
Jessica Pham & Adrianna McMullen

Penn State Berks, Reading, PA
Greglynn Gibbs
Mikayla DeLuca & Katelyn Leets

Pennsylvania State University Park, PA
Lori Van Der Sluys & Jacqueline Bortiatynski
Geno Leone

Portland State University, OR
Theresa McCormick
Teagan Neal & Gabriella Villicana

Presbyterian College, Clinton, SC
Evelyn Swain
Ethan Casey

Purdue University Calumet, Hammond, IN
Harold Pinnick
Seidu Mahama & Ellis Moore

Purdue University, West Lafayette, IN
Beatriz Cisneros
Emily Soltys

Ramapo College of New Jersey, Mahwah
Sarah Carberry
Thanuka Udumulla

Regis University, Denver, CO
Kellen Sorauf
Zoe Platt & Jolee Espinosa

Ripon College, WI
Colleen Byron
Nicholas Luedtke & Robert Enright

Roanoke College, Salem, VA
Gary Hollis
Caitlin Donahue & Dana Layo

Sacramento City College, CA
William Miller
Rhoda Micah Bongo & Nicole Ackerman

Saint Anselm College, Manchester, NH
Nicole Eyet
Catherine Muldoon & Elizabeth Lomuscio

Saint Martin's University, Lacey, WA
Arwyn Smalley
Anna Agloro

Sam Houston State University, Huntsville, TX
Darren Williams
Lucelly Mendez & Joie Games

San Joaquin Delta College, Stockton, CA
Julius Hastings
Edgar Hernandez

San Jose State University, CA
Naghmeh Esfandiari & Karen Singmaster
Alexia Perryman

Savannah State University, GA
Pascal Binda & Jannie Baker
Tiffany Villanueva

Seton Hall University, South Orange, NJ
Cecilia Marzabadi
Christine Koestler & Ewa Leszczynski

Simmons College, Boston, MA
Changqing Chen
Kirsten Vickey

Skidmore College, Saratoga Springs, NY
Kara Cetto Bales
Lauren Soong & Justin O'Sullivan

Slippery Rock University of Pennsylvania
Thaddeus Boron
Cory Bontrager & Ashley Roland

South Dakota School of Mines and Technology, Rapid City
Justin Meyer
Tyler Ryther & Hannah Leppert

South Dakota State University, Brookings
Nicole Grove
Alexandria Kub

Spelman College, Atlanta, GA
Shanina Sanders
Jada Hoyle-Gardner & Brooke Ross

Spring Hill College, Mobile, AL
Leslie Bordas
Kyle Halstead & Morgan Davis

St. Ambrose University, Davenport, IA
Kelly Giddens & Joshua Stratton
Alyssa Daniel

Stark State College, North Canton, OH
Amy Sanders
Victoria Narby & Ashley Fick

State University of New York at Stony Brook
Joseph Lauher & Katherine Aubrecht
Nicholas Marcella & Dawood Rashid

State University of New York College at Cortland
Katherine Hicks & Andrew Roering
Tariq Hussain & Oni Johnson-Hackle

State University of New York College of Environmental Science and Forestry, Syracuse
Neal Abrams
Rudolf Hanz & Jordan Pitt

Stern College for Women-Yeshiva University, New York, NY
Donald Estes & Chaya Rapp
Adi Cohen & Leah Zerbib

Stonehill College, Easton, MA
Cheryl Schnitzer & Marilena Hall
Alycen Harney & Emily Zygiel

Temple University, Philadelphia, PA
Steven Fleming
Joseph Musco & Emily Laughlin

Texas Lutheran University, Seguin
Alison Bray & William Davis
Megan Sweeney & Madison Berger

Texas Woman's University, Denton
Nasrin Mirsaleh-Kohan & Kerri Slavens
Daniel Hernandez & Shaquisha Scott

The Evergreen State College, Olympia, WA
Dharshi Bopegedera & Rebecca Sunderman
Larisa Harding & Megan Keating

The University of Memphis, TN
Richard Petersen & Nathan Deyonker
Bobby Bradley & Sean Guthrie

The University of Texas Rio Grande Valley, Edinburg
Tulay Atesin & Kenneth Smith
Reymundo Gonzalez & Sarah Kowalski

Thiel College, Greenville, PA
Christopher Stanisky & Anna Reinsel
Chandler Daugherty

Tiffin University, OH
Mark Sabo
Lindsay Parsons & Katalina Estright

Towson University, Baltimore, MD
Keith Reber
Ana Morales

Triton College, River Grove, IL
Rudy Gostowski
Agnieszka Krupa & Sarah Hamilton

Tuskegee University, AL
Michael Curry
Kiana Burgin

Union College, Schenectady, NY
Andrew Huisman
Samuel Kleinberg & Aude Bechu

United States Merchant Marine Academy, Kings Point, NY
Ping Furlan

University of Alaska Fairbanks
Brian Rasley
Ruth Osborne

University of Central Oklahoma, Edmond
Dana Rundle & Cheryl Frech
Christian Fleming & Allison Arnold

University of Colorado, Colorado Springs
David Weiss
Clairelise Post

University of Connecticut, Storrs
Edward Neth
Christopher Chapman & Hamze Mah

University of Louisiana at Lafayette
Ryan Simon & August Gallo
Victoria Meiklejohn & Alyssa Bienvenu

University of Maryland, Baltimore County
Stephen Mang & Tara Carpenter
Natalie Steenrod & Bhavna Jois

University of Maryland, College Park
Philip DeShong & Efrain Rodriguez
Christopher Ma & Hector Vivanco

University of Massachusetts, Amherst
Nathan Schnarr
Thomas Barrasso & Michael Bresnahan

University of Minnesota-Morris
Joseph Alia
Margareta Nivison & Garrison Komaniecki

University of Nebraska at Kearney
Hector Palencia & Mahesh Pattabiraman
Nizar Khayat

University of North Georgia, Dahlonega
Ryan Meier
Whitney King & Kaylee Todd

University of Northern Iowa, Cedar Falls
Melisa Cherney & Colin Weeks
Allison Wold & Cassara Higgins

University of Portland, OR
Angela Hoffman
Jake VanCampen

University of Puerto Rico at Arecibo
Maiella Ramos & Vanessa Montalvo
Barbara Ramos Sanfiorenzo & Luis Rodriguez

University of Rochester, NY
Thomas Krugh
Merjema Purak

University of South Alabama, Mobile
Matthew Reichert & Diane Roe
Forrest Edhegard & Kaitlyn Roberts

University of South Florida, Tampa
Kimberly Fields & David Merkler
Connor Applegate

University of Texas at Austin
Lauren Webb
Elise LeBovidge & Doran Pennington

University of Texas at El Paso
James Becvar & Bonnie Gunn
Jacob R. Prat & Isabel Barraza

University of Texas at San Antonio
Hector Aguilar
Nicolas Diaz & Eliot Wilde

University of Texas of the Permian Basin, Odessa
Kyle Beran
Jason Snitker & Cassidy Taylor

University of Wisconsin-La Crosse
Nadia Carmosini & Basudeb Bhattacharyya
Katherine Lucas & Hannah Piper

University of Wyoming, Laramie
Elliott Hulley & Brian Leonard
Kasey Trotter & Jonathan Kephart

Utah State University, Logan
Lisa Berreau
Gunnar Wolfe & Raquel Boonstra

Valdosta State University, GA
Linda De La Garza & Tolulope Salami
Gloria De La Garza & Carlis Hand

Vanderbilt University, Nashville, TN
Tara Todd & Alissa Hare
Hope Pan & Carson Bryant

Washington & Jefferson College, Washington, PA
Deborah Polvani
Joseph Goltz & Alexander Krol

West Texas A&M University, Canyon
Nick Flynn
Jason Ray & Kyle Drinnon

Western Carolina University, Cullowhee, NC
Carmen Huffman & Jamie Wallen
Jenny Collins & Walter Rice

Western Kentucky University, Bowling Green
Stefanie Bragg
Frankie Wallace & Cory Owens

William Jewell College, Liberty, MO
Jason Morrill
Emily Daniel & Trevor Nicks

William Paterson University of New Jersey, Wayne
Bhanu Chauhan & Mihaela-Ortansa Jitianu
Kelly Moran & Glory Nkak

Williams College, Williamstown, MA
Christopher Goh
Dylan Freas & Carly Schissel

Wittenberg University, Springfield, OH
Raymond Dudek
Sophia Melnyk & Phuc Vo

Xavier University, Cincinnati, OH
Barbara Hopkins
Kiera Gazica & Ashley Reinert

York College of Pennsylvania
Kathleen Halligan
Jonathan Denney & Ryker Kern

Certificate of Achievement awardees, University of Massachusetts Boston and the University of Michigan-Ann Arbor, also received the Green Chemistry Student Chapter Award.

2016–2017 COMMUNITY INTERACTION GRANT AWARD RECIPIENTS

KEY: ***Chapter*** **Project Title** *Faculty Advisor*

ACS is pleased to announce the recipients of the 2016-2017 Community Interaction Grant. These ACS student chapters were selected by the Society Committee on Education for project proposals involving interactions that help improve the science learning experience of African American, Native American, Hispanic/Latino, and Pacific Islander students, as well as economically disadvantaged students in grades K–12. Awardees will receive up to $500 to support their projects.

Barry University
Science Outreach
George Fisher

Catawba College
Battle of the Sciences
ChaMarra Saner

Pace University
Brooklyn Bridging the Gap
JamieLee Rizzo

Rhodes College
Chemistry in the Community
Larryn Peterson

Saint Louis University
Chemistry Parnership with North Campus
Brent Znosko

Stern College for Women
Fun with Food
Donald Estes

SUNY Geneseo
Chem Club Mole Day Celebration
Amber Charlesbois

The University of Toledo
Hands-On Chemistry
Edith Kippenham

University of Alabama
Central Elementary STEM Outreach Program
Silas Blackstock

University of California-Davis
Classroom Chemistry Workshop
Kyle Crabtree

University of Ilorin
Chemistry and You
Joshua Obaleye

University of Iowa
Chemistry at the Farmers Market
Scott Shaw

Wayne State University
MiSci Chemistry Week
Andrea Matti

West Virginia State University
Enriching Science Education
Micheal Fultz

Xavier University of Louisiana
Chemistry ConeXuions & the XU Xperience
Michael Adams

2016–2017 NEW ACTIVITIES GRANT AWARD RECIPIENTS

KEY: ***Chapter*** **Project Title** *Faculty Advisor*

The New Activities Grant supports new and innovative chemistry-related projects implemented by ACS student chapters. Awardees will receive up to $500 in matching funds to support their projects.

Blinn College
Biodiesel Making
Hanan Abdou

California State University, Stanislaus
Warrior's Chemistry Club
Elvin Aleman

Kansas State University
1st Annual ACS Research Forum
Dan Higgins

Pennsylvania State University
Nittany Chemical Society
Lori Van Der Sluys

Saint Francis University
Girl Scout Badge University
Edward Zovinka

Saint Xavier University
Tye-Dye Event
Bindhu Alappat

Technical University of Munich
Inter-chapter meeting Modena/Munich
Thomas Hofmann

University of Alabama, Birmingham
Think Like a Chemist
Jacqueline Nikles

Waynesburg University
College Chem Connection
Evonne Baldauff

West Virginia State University
Forensic Chemistry and the Arts
Micheal Fultz

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