



Chemistry Department Newsletter

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Welcome to the Chemistry Department's spring semester newsletter. We hope you enjoy reading about the exciting things going on in the department.

Staying Connected: Today it seems like there are an ever increasing number of ways to connect with people through various forms of social media. For an organization like an academic department it can be a daunting task to identify what tools to use and to stay on top of sharing information. So here is where I get to ask for your assistance. As someone who is not the most savvy in the realm of social media I can use your help getting our newsletter out. So if you to have received this newsletter by email, followed a link from the Department's Facebook page, or perhaps found the newsletter on the Department's website (<https://www.csupueblo.edu/chemistry/newsletters.html>) where the newsletters are archived, and you happen know someone who might like to know what is going on in the Chemistry Department at CSU-Pueblo please pass it on. And if you are someone who would like to receive the newsletter directly by email just contact the Department (contact info on the last page of this newsletter) and let us know. We will add you to the distribution list. We only send out 2 newsletters and perhaps another email or two a year. So I promise we will not fill your inbox.

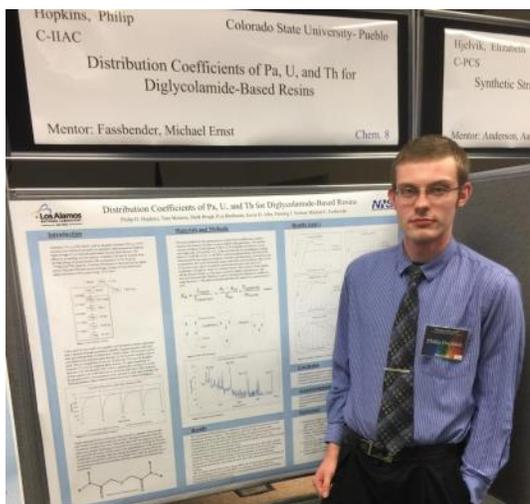
If you have read past newsletters you will notice that we like to highlight what our alums are doing. This newsletter is no different. So if you are a proud alum of the Chemistry Department we want to know what you are up to and perhaps highlight the wonderful things you are doing in a future newsletter. You can always contact myself or another favorite faculty member in the Department to share where you are at, how you are doing, and what you are doing. As a faculty member there are few things as joyful and rewarding as hearing from our former students. Help us stay connected. -- Chad Kinney

Alumni Notes

Mr. Robert Troudt - Drug Chemist: CSU—Pueblo Chemistry Department Alum Robert “Bobby” Troudt had the opportunity to complete an internship at the Colorado Bureau of Investigation (CBI) while a student at CSU-Pueblo. And even after graduation Bobby was able to continue shadowing as an intern at CBI. According to Bobby he was able to learn about packaging of evidence, understanding chain of custody, using presumptive color tests, analytical methods to make identifications in the drug chemistry discipline through his time with CBI.

Now as a drug chemist at the Wyoming State Crime Lab (WSCL), he is able to apply and expand on the things he learned as a student and an intern. While the training plan in his new position is still very rigorous, his experiences from CBI and CSU-Pueblo have helped him adapt to the professional lab environment relatively easily. Currently, he is preparing for his moot court (mock trial scenario), and once he gets through that he will be able to work marijuana cases independently. He is also on the crime scene team at WSCL, so he has had the opportunity to assist other law enforcement agencies with their crime scenes.

While it made his life difficult during his time at CSU-Pueblo, the high expectations that faculty, like Dr. Matthew Cranswick, set for undergraduates really helped him develop the work ethic that is expected in the forensics workforce. Bobby is thankful to Dr. Cranswick for helping him prepare to go from semi-pro to the big leagues!



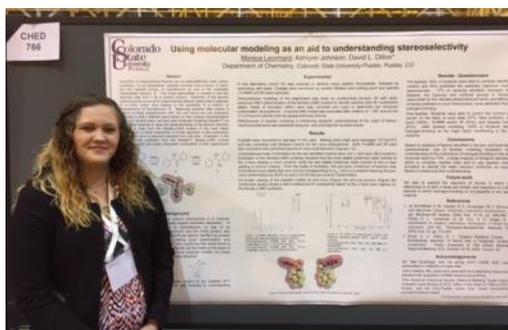
Mr. Philip Hopkins - Nuclear Chemist: Philip Hopkins graduated from CSU-Pueblo just this past fall and is on his way to graduate school pursuing research in nuclear chemistry. While a student at CSU-Pueblo Phil had the opportunity to complete a summer internship at Los Alamos National Laboratory (LANL) that influenced his future direction. Phil noted that his time at LANL gave him insights that were very different than his University experience. Being in an environment that was solely research oriented, he really enjoyed the meetings where many brilliant minds would come together and discuss the research. He found himself enjoying the time in the lab- this further solidified his desires to go to graduate school, and perform more research similar to his work at LANL.

Out of his work as an intern at LANL Phil is an author on two scientific journal articles including one as first author. This includes [“Separation of \$^{103}\text{Ru}\$ from a proton irradiated thorium matrix: A potential source of Auger therapy radionuclide \$^{103\text{m}}\text{Rh}\$ ”](#) published in the journal *PLOS ONE* and [“Synthesis and radiometric evaluation of diglycolamide functionalized mesoporous silica for the chromatographic separation of actinides Th, Pa, and U”](#) published in the journal *Dalton Transactions*. It is a great opportunity for an undergraduate student to participate in research and the publication process and remarkable for an undergraduate student to be the first author on a scientific journal article.

EARTH DAY: Happy belated Earth Day! Traditionally, the Chemistry Department hosts an event for local middle school students to celebrate Earth Day (chemistry style) on or around the actual Earth Day. This year the Department has elected to hold a late Earth Day celebration on May 10th to avoid some potential scheduling conflicts. We will be following the theme adopted by the American Chemical Society for Earth Day this year, “Dive into Marine Chemistry” as the theme for our celebration. Several faculty will be hosting hands-on activities for students from 5 local middle schools that revolve around this theme. The titles of the activities include “**Ocean Acidification**”, “**Oh, Buoyancy! The effect of salt in the ocean and other waters?**”, “**Why the Dead Sea is called ‘Dead’**”, and my personal favorite title for an activity “**A Song of Fire and Metal**”. The event will end with some chemistry demos and a pizza lunch for all the participants. Unfortunately, since our Earth Day celebration is occurring after this newsletter goes out, we do not have any fun photos to include here, but look for some photos on the Department’s Facebook page shortly after the event.

National ACS Meeting in New Orleans

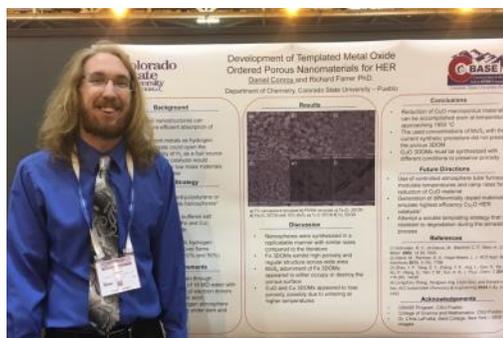
The 255th American Chemical Society (ACS) National Meeting was held March 18-22 in New Orleans, LA. The Chemistry Department was again well represented at the National ACS Meeting with several faculty and students attending. Students include undergraduate students Monica Leonhard and Daniel Conroy,



Monica Leonhard presenting her research poster titled "Using molecular modeling as an aid to understanding stereoselectivity".

both presenting research posters, and graduate student Amanda Mayes who also presented a research poster.

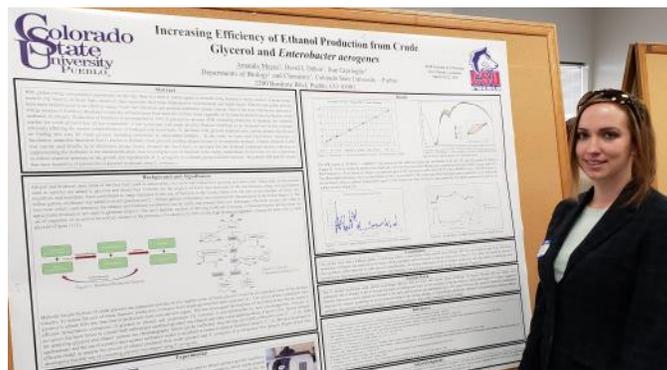
Daniel is a graduating senior who is looking to attend graduate school in the fall. Daniel reflected on the meetings stating that, "The 2018 ACS conference in New Orleans not only provided me with the opportunity to present my research, it also provided me with a venue that exposed me to a lot of novel science. To such an extent that I was influenced in my choice of graduate programs." He also noted that attending the ACS



Daniel Conroy presenting his research poster titled "Development of Templated Metal Oxide Ordered Porous Nanomaterials for HER".

Meeting gave him the opportunity to venture outside of his primary area of interest and attend talks in areas as diverse as atmospheric chemistry, polymer chemistry, and bioconversion. Scientific meetings are a great experience for stu-

dents to gain a broader perspective of their chosen field and their future career trajectory.



Amanda Mayes presenting her research poster titled "Increasing Efficiency of Ethanol Production from Crude Glycerol and *Enterobacter aerogenes*".

Amanda Mayes, who previously completed her BS in Chemistry at CSU-Pueblo, has been pursuing an MS in Chemistry and will be defending her graduate thesis in May. Her presentation at the National ACS Meeting represented the culmination of her graduate research under the direction of Dr. David Dillon. In addition to being Amanda's thesis research advisor, Dr. Dillon is the research advisor for Monica who, as noted earlier, presented a research poster at the meeting.

In addition to the students attending and presenting at the National ACS Meeting several faculty from the department attended and presented. Dr. Sandra Bonetti attended the meeting and participated in the meetings of the Society Committee on Education (SOCED) and was promoted from associate to full member. Drs. Mel Druelinger and David Dillon were coauthors on an invited presentation on the use of ^{19}F NMR spectra in teaching and research labs. Dr. Druelinger had two other presentations, as well as organized and chaired a session titled "Starting a Successful Research Program at a Predominantly Undergraduate Institution."

Faculty Focus

Meet the Newest Tenure-Track Faculty Member to join the Chemistry Department: Dr. Jonathan B. Velasco joined the Chemistry Department at Colorado State University – Pueblo as an Assistant Professor in the Fall 2017 semester. He holds Bachelor of Science and Master of Science degrees from the University of Texas – Pan American, now known as the University of Texas – Rio Grande Valley. He also holds a Ph.D. in chemistry, specializing in chemical education, from the University of Nebraska – Lincoln. In the process of earning these degrees, Dr. Velasco has taught various courses in chemistry and physics at the high school and college levels as a teaching assistant and instructor. He has also served in the University of Nebraska's ACS Project SEED (Summer research experience for low income high school students. CSU-Pueblo is an ACS Project SEED participant.) and Research Experiences for Undergraduate (REU) programs as a mentor and facilitator, the latter for student seminars involving science communication to general audiences.



He is currently a research mentor for the CBASE program, funded by the United States Department of Education. Some of the objectives of CBASE is to create research communities in CSU-Pueblo to support student success and enhance the STEM (Science, Technology, Engineering, and Mathematics) curriculum. His current research addresses these objectives by focusing on the characterization of instructional practices in introductory chemistry laboratory courses at the college level to better align course objectives with teaching practices. This research will also address laboratory teaching practices in other STEM courses at the high school and college levels. His other research interests include students' use of academic and vernacular language in chemistry, an important aspect of chemistry education as these illustrate students' knowledge of the material as well as provide an access point for inclusion in the scientific community.

During his time as Assistant Professor, Dr. Velasco has participated in several outreach activities, including Chemistry Day, Earth Day, and Science Olympiad, the latter at the regional (Southern Colorado) and state competitions. He also keeps a blog, *science.casual* (<http://scicasual.wordpress.com>), which highlights research articles that may pique readers' interests by presenting them in a casual, laid-back fashion.



How can you help support excellence in education and research within the Chemistry Department?

If you are interested in supporting the Chemistry Department with a gift for program enhancement or student scholarships please call the CSU-Pueblo Foundation office at (719) 549-2380 or visit www.csupueblo.edu/foundation/ and simply specify that your gift is to support the Chemistry Department or Chemistry Student Scholarships.

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