American Nuclear Society Student Section at The Ohio State University

April Newsletter

This Month's ANS Events:

Nuclear Night Under the Stars

Join us on **April 14th** in Smith Lab 5033 in the Arne Slettebak Planetarium at 4 PM for a night under the stars and pizza and refreshments after the show! To attend this event please register via the registration link.

Reading Day Event & Grad School Info Session

Stop by our reading day event and learn more about all things grad school! The event will be on **April 28th** in Scott Lab E525 from 4 to 7 PM!

For more information about our upcoming events take a look at our website!

Stay Connected with the "Nuclear World" at OSU!

Nuclear Engineering Minor Classes

Are you starting to plan classes for Fall 2026? Well take a look at the classes the Nuclear Engineering Minor has to offer on their webiste!

ANS Announcements:

Nuclear and Emeriging Technologies for Space Conference

If you're interested in attending a national ANS event register for the NETS 2026 conference that is taking place in Dayton, OH at the Dayton Convention Center. Look at the ANS website to learn more about the event!

ANS GroupMe

For more information about all things ANS and a platform to connect with ANS members, join our new GroupMe platform!

ANS-Chicago Great Lakes Meeting

If you are interested in attending a ANS Chicago Great Lakes Section Meeting on April 23rd with Craig Gerardi from Kairos Power at 6 PM CT, please look out for an email with more details to come about attending this event!

Faculty Spotlight

Dr. Anne Co



Dr. Co is a Dow Professor in the Chemistry and Biochemistry Department. Her areas of expertise are Electrocatalysis, Analytical Chemistry, Physical Chemistry, and Battery Research. Currently her research interests include catalyst design for the efficient separation and speciation of tritiated compounds, mechanisms and kinetics of phase transition and ion transport in energy storage materials, and electrochemical conversion pathways of CO2 and CO. To learn more about Dr. Anne Co, visit the Department of Chemistry and Biochemistry's website and The Co Research Group website.

What are some projects that you are currently working on that you are most excited about, and what can you tell us about them?

I am currently excited about a project involving nuclear depth profiling (NDP). Which is a method that allows us to quantify and watch lithium transport in real time when applying a bias. This nondestructive method is important because it is a powerful technique that allows us to look inside batteries without taking them apart.

You and your lab have been taking on more projects related to tritium and nuclear in the last year. Why did tritium research pique your interest?

I think tritium is an interesting isotope. My lab first encountered tritium with the NDP project, and I am currently involved in a project alongside Dr. Cao to detect trace tritium in the environment by converting tritiated water to tritiated gas to be detected by Dr. Cao's detector based on a modified proportional counter. Our lab has actually been studying water reduction for years, and recently kinetic isotope effects (KIE) to separate H_2 and D_2, and soon T_2 (or HT).

Have you had any future projects in mind that you are hoping to purse related to nuclear?

I'm hoping to eventually pursue research related to nuclear waste recycling. I think it would be interesting to investigate electrochemically driven ion separation for waste, including nuclear and battery waste. And how we do so most efficiently.

How are you connected to the nuclear field currently?

Currently I am collaborating with different faculty in the nuclear engineering department on projects related to the nuclear field. I have also used the Nuclear Reactor Lab (NRL) and the NIST Center for Neutron Research (NCNR) in Maryland for certain projects and experiments.

What inspired you to pursue a career in chemistry?

The field of Chemistry is exciting. Everything in life is chemistry and if you really think about it a lot of day-to-day processes are related to chemistry, and I was and still am excited to learn about them.

How did you first become interested in your specific research area?

I first became interested in my specific research area, the field of electrochemistry during one of my internships in my undergraduate career. This internship was focused on development of an electrochemical method to determine the types and locations of pipeline corrosion.

How does your work connect to real-word applications or industry needs?

My research focuses on batteries for energy storage and sensors for environmental detection of trace elements. Which pertains to the automobile industry, the environmental stewardship, energy efficiency, consumer electronics, defense and aerospace.

What is your favorite class to teach and why?

My favorite classes to teach are General Chemistry and Electrochemistry. I enjoy teaching Electrochemistry because it pertains to my field. And I love teaching General Chemistry because I find it a lot of fun to help students realize how much chemistry is in their daily lives.

What is one piece of advice you would give to someone pursuing a career in the nuclear field or science in general?

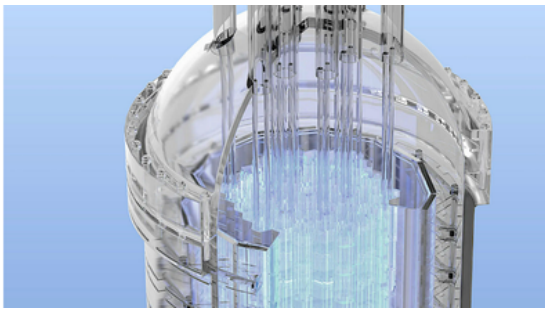
One piece of advice I would give would be to get hands on experience as early in your career as possible. It's important to connect theoretical framework that you learn in class or from a textbook to real world applications.

Do you have a favorite element or isotope?

I would have to say hydrogen. It is a very versatile element that can hold a positive, negative, or zero charge. The isotopes of hydrogen are double and triple the mass of the most abundant form, which causes huge effects in kinetics. And it's the first element on the periodic table.

What's New with Nuclear?

Texas A&M and ZettaJoule Reactor



Texas A&M University's Engineering Experimental Station (TEES) is collaborating with ZettaJoule, a Houston based start up company, to explore possible construction of a nonpower research reactor at College Station. The university believes that by hosting ZettaJoule's ZJ high-temperature. gass cooled reactor, more money, industrial partnerships, funding, and research collaborations would result.

The ZettaJoule ZJ proposed for the university campus is a 30-MWt TRISO-fueled and helium-cooled, high temperature gas cooled reactor (HGTR), which could be deployed as a single module or multiple modules totaling up to 600 MWt. By collaborating with ZettaJoule and the possible construction of this HTGR, it would make Texas A&M the only U.S university hosting more than two research reactors on campus, considering they already have two.

To learn more about this collaboration visit the article by NuclearNewswire.

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