



The Crucible

Pittsburgh Section of the American Chemical Society
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Get to Know A Member – Kim Woznack, Ph.D.



1. What is your work and ACS (if applicable) title?

Professor, Pennsylvania Western University - California
Councilor for the Pittsburgh Local Section, Member of the LSAC (Local Section Activities Committee)
and Chair of LSAC Committee on Grants & Awards

2. How many years have you been in the ACS?

26 years

3. What is the biggest benefit of ACS Membership?

Connecting with other chemists locally and around the world

4. What did you want to be when you were a child?

When I was a child, I wanted to be a surgeon, but I found myself too squeamish!

5. What made you fall in love with Chemistry?

I think I fell in love with chemistry, when I realized that all the objects (and people) I interacted with in everyday life were made up of atoms from the elements on the periodic table.

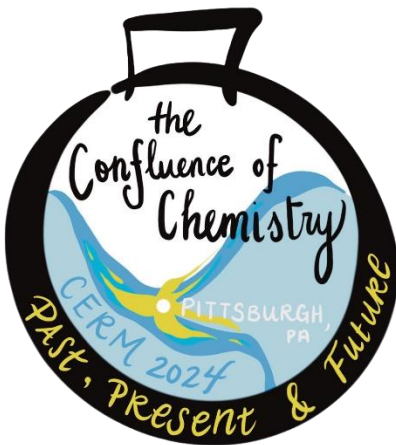
6. What is your favorite part of your career or job?

My favorite part of my job is helping students learn chemistry when they don't think they can at first.

7. Which chemist, past or present, would you like to meet and why?

If I could meet any chemist, past or present, I would like to meet Dr. Marie Maynard Daly. Dr. Daly was the first African-American woman to earn her Ph.D. in chemistry in 1947. While she passed away in 2003, I would have enjoyed hearing about her experiences, including struggles and successes as she was a pioneer overcoming societal barriers.

Do you want to be our featured member? Please email hjuzwa@shimadzu.com to get onto the schedule!



2024 ACS Central Regional Meeting Call for Award Nominations

Stanley C. Israel Regional Award for Advancing Diversity in the Chemical Sciences

The purpose of this award is to recognize individuals and/or institutions who have advanced diversity in the chemical sciences and significantly stimulated or fostered activities that promote inclusiveness within the region.

E. Ann Nalley CERM Region Award for Volunteer Service to the American Chemical Society

The purpose of this award is to recognize the volunteer efforts of individuals who have served the American Chemical Society, contributing significantly to the goals and objectives of the Society through their Regional Activities.

DivCHED High School Teaching Award

The purpose of this award is to recognize, encourage, and stimulate outstanding teachers of high school chemistry in the Central Region.

All applications are due by August 1, 2024. More information about each award, including application instructions, can be found at acscerm2024.org.

Environmental Forensics - Past, Present and Future

March 6, 2024, 12:00-1:00pm (EST)



R. Paul Philp, Ph.D.
Professor
School of Geology and Geophysics
The University of Oklahoma

Abstract: The concept of environmental forensics has evolved significantly over the years but is primarily concerned with establishing the relationship between contaminant(s) in the environment and suspected source(s), or points of release. A wide variety of techniques exist to characterize and establish their potential relationship between contaminants and possible sources or points of release. Anyone involved in interpreting environmental forensic data must have the ability to interpret the analytical data as well as an understanding of processes that can impact the contaminants after release into the environment. Forensic investigations typically use a tiered approach in terms of fingerprinting tools. Preliminary characterization is undertaken by gas chromatography (GC) followed by more detailed analyses using gas chromatography-mass spectrometry (GCMS). However, there are many cases where the GC and GCMS data are ambiguous and possibly misleading. In such cases, it is possible to go to a more specialized tier of analyses and utilize the stable isotope composition of individual contaminants. The potential for using the forensic approach to evaluate the origin and fate of emerging contaminants and micropollutants such as PFAS components will also be discussed along with limitations for certain compounds.

Bio: Dr. Paul Philp is an Emeritus Prof. of Petroleum and Environmental Forensic Geochemistry at the University of Oklahoma. Prior to arriving there in 1984, he had worked as a Principal Research Scientist at C.S.I.R.O., Sydney, Australia for seven years and Associate Research Chemist at the University of California, Berkeley for four years. He received D. Sc. (1998) and Ph.D. (1972) degrees from the University of Sydney, Australia, and a B.Sc. degree (1968) from the University of Aberdeen, Scotland. His research interests include petroleum, environmental, and forensic geochemistry with the emphasis on molecular and isotopic characterization of oils, gases, rock extracts and contaminants for the purposes of source determination, characterization of depositional environments, maturity, biodegradation and for correlation purposes. He has published over 400 articles and presented papers at numerous international meetings and conferences. In addition, he has taught a number of Petroleum and Environmental Geochemistry courses to many companies in four continents including Africa, Asia, Australia, and South American.

[Click here to register](#)

Any questions, contact dr.Ronghong.lin@gmail.com

Or scan to
register



Call for Nominations

Pittsburgh Award

The Pittsburgh Award was established in 1932 by the Pittsburgh Section of ACS to recognize outstanding leadership in chemical affairs in the local and larger professional community. This Award symbolizes the honor and appreciation accorded to those who have rendered distinguished service to the field of chemistry. The Award consists of a plaque presented annually at a section dinner. Members of the Pittsburgh Section, or in exceptional cases, nonmembers, who have done work worthy of recognition toward increasing chemical knowledge, promoting the chemical industry, benefiting humanity, or advancing the Pittsburgh Section, are eligible for consideration.

Distinguished Service Award

The Distinguished Service Award was established in 2007 by the Pittsburgh Section of the ACS to expand and replace the predecessor Chairman's Award of the section. Both recognize outstanding volunteer service to the Section. The Award, consisting of a plaque, is presented annually at a Section dinner, which is open to the public. Members of the Pittsburgh Section, past or present, who have provided outstanding service in advancing the Pittsburgh Section, are eligible for consideration.

Nominations for both awards are solicited from the membership of the Pittsburgh Section. Nomination packets and more information about the awards, including information on past winners, can be found on the Pittsburgh ACS website: <https://pittsburghacs.org/awards/>

Please send all nominations (or questions about nomination process) to Pittsburgh Section Chair-Elect, Samuel Leung, sleung@berkeley.edu.

ACS Leadership Institute – Report

Members of the ACS Pittsburgh local section executive committee Kim Woznack and Samuel Leung attended the ACS Leadership Institute in late January.

Sam attended the local section leaders track workshops and learned about resources available for local sections at the national level. He also participated in event planning and leadership training while interacting with the leaders of other local section.



Sam shares that he had a great time and hopes to implement ideas on increasing member participation and involvement at the local level.



Photos courtesy of Sam Leung

Donald J. Plazek, 92, of Pittsburgh, Pennsylvania, died July 17, 2023.

“Donald was the 1995 Bingham Medal recipient. While polymer physics was his main passion, he was also an avid mushroom hunter, a tropical fish breeder, a zealous tennis player, and a lover of jokes, among other things. His warm heart, gentle manner, and sense of humor will be greatly missed. Over the course of Donald’s professional lifetime, his fields of specialization included the viscoelasticity of polymers and organic glasses, the structure-property relations of polymers, and rheology. He also developed a magnetic-suspension creep apparatus. Donald wrote 146 refereed publications in the field of polymers and glass-forming liquids.”— *Caroline T. Plazek, daughter*



Most recent title:

Professor emeritus of materials science and engineering, University of Pittsburgh

Education:

BA, chemistry, 1953, and PhD, physical chemistry, 1957, University of Wisconsin–Madison

Survivors:

Children, Mary V. Taylor, Cynthia Plazek, Caroline T. Plazek, Daniel Plazek, John Plazek, David Plazek, and Anne Taylor; 23 grandchildren; 10 great-grandchildren; sister, Estelle Skoumbouris

**SACP/SSP Joint Meeting
Monday, March 11, 2024
Duquesne University Power Center**



5:00 PM – Social Hour
6:00 PM – Dinner
6:45 PM – Business Meeting
7:15 PM – Technical Program

SACP Technical Program

“Sifting Through Thousands of “Forever Chemicals” Using Ion Mobility-High Resolution Mass Spectrometry and Total Organofluorine Techniques”

**Dr. Carrie McDonough, Assistant Professor
Department of Chemistry, Carnegie Mellon University**



Biography:

Carrie McDonough is an Assistant Professor in the Department of Chemistry at Carnegie Mellon University. She received her B. Sc. from the Massachusetts Institute of Technology and her Ph.D. from the University of Rhode Island Graduate School of Oceanography. Her research resides at the intersection of environmental analytical chemistry, environmental health engineering, and chemical biology. She is interested in understanding how organic contaminants impact aquatic ecosystems and human health, with an emphasis on chronic

exposures to complex environmentally-relevant mixtures. She is currently working on several projects focused on the toxicokinetics of PFAS mixtures and comprehensive high-resolution mass spectrometry approaches to PFAS biomonitoring.

Abstract:

Humans and all other living things are continuously exposed to mixtures of per/polyfluoroalkyl substances (PFASs) via drinking water, diet, indoor dust, and commercial products (e.g., textiles, food wrappers, and cosmetics). Over time, these exposures have led to widespread accumulation of PFASs in human serum, and in the tissues and fluids of virtually every other animal investigated. Biomonitoring efforts have successfully established the global occurrence of perfluoroalkyl acids (PFAAs) and several other PFASs in human blood. However, despite considerable efforts to expand analyte lists to encompass more of the thousands of known PFASs, studies continue to report a significant gap between total organofluorine and total quantifiable PFASs in human blood. Identifying the PFASs contributing to this unidentified organofluorine (UOF) gap is essential to understand predominant exposure pathways, and will enable a more complete understanding of total body burden and associated health impacts. Here I will discuss progress toward characterizing PFAS mixtures in biological samples, including high-resolution mass spectrometry (HRMS) efforts and bioanalytical approaches for the identification and prioritization of novel PFASs.

For complete details and to make a dinner reservation, please visit our society's website. Deadline for dinner reservations is Monday, March 4, 2024 by noon.

<https://chemistryoutreach.org/meeting/>

**SSP/SACP Joint Meeting
Wednesday, April 24, 2024
Duquesne University Power Center**



5:00 PM – Social Hour
6:00 PM – Dinner
6:45 PM – Business Meeting
7:15 PM – Technical Program

SSP Technical Program

“Application of Particle Correlated Raman Spectroscopy (PCRS) for the Forensic Examination of Soil Minerals”

Dr. Brooke W. Kamrath

Professor, University of New Haven

Assistant Director, Henry C. Lee Institute of Forensic Science



Biography:

Brooke W. Kamrath, Ph.D., ABC-GKE is a Professor of Forensic Science at the University of New Haven and the Assistant Director of the Henry C. Lee Institute of Forensic Science. She teaches a range of both undergraduate and graduate forensic science courses and has a varied research agenda that includes the uniting of microscopy with spectroscopy, applications of field portable instrumentation, the identification and characterization of microscopic samples of forensic interest, the statistical analysis of trace, pattern and impression evidence, and investigations into the significance of physical evidence. Additionally, she works as a consulting criminalist, where she is a qualified expert in both state and federal courts. She is a member of several professional organizations, and is the past-president of the New York Microscopical Society (NYMS), and on the Governing Boards of the Society for Applied Spectroscopy (SAS) and the Eastern Analytical Symposium (EAS). Dr. Kamrath also serves as an Associate Editor for the Journal of Forensic Sciences and for *Applied Spectroscopy Practica*. Dr. Kamrath is the co-editor of the two-volume book *Portable Spectroscopy and Spectrometry* and the co-author of the books *Blood Traces* (2021) and *Solving Problems with Microscopy: Real-life Examples in Forensic, Life and Chemical Sciences* (2023). She has also co-authored 2 laboratory manuals, 9 book chapters, 4 encyclopedia articles, over 20 journal articles, and over 100 professional conference presentations.

Abstract:

Soil is a valuable trace which, when properly recognized, analyzed and interpreted, has the potential to provide investigative leads and to associate an unknown specimen with a collected known. Although this is widely recognized by criminalists with a plethora of case examples, criticisms of forensic soil analysis as being subjective, too labor-intensive, and too time-consuming have resulted in a considerable decline in its use in forensic investigations. As a result, exemplar soil samples are not being collected in the field which eliminates the possibility of later laboratory analysis. Further, forensic laboratories are not equipped with criminalists who are currently capable of performing a comprehensive forensic soil

examination. Thus, the potential of soil traces is not being realized. The purpose of this presentation is to share our research steps and progress in developing a statistically-supported, automated, and objective analytical method for forensic soil analysis using particle correlated Raman spectroscopy (PCRS). PCRS, also known as particle driven or morphologically directed Raman spectroscopy (MDRS), is a novel yet reliable analytical technique that is capable of delivering particle size distribution and microscopic morphological characteristics for the particles present within a sample (e.g., minerals), and at the same time provides secure chemical identification. To develop PCRS for inclusion in a forensic soil workflow, the limitations and advantages of the method (e.g., dispersion, sample imaging and analysis, Raman spectroscopic analysis and interpretation) need to be evaluated, which has been the goal of the research that will be presented.

For complete details and to make a dinner reservation, please visit our society's website. Deadline for dinner reservations is Wednesday, April 17, 2024 by noon.

<https://chemistryoutreach.org/meeting/>



The Crucible

The Crucible is published monthly, August through May. All statements and opinions expressed herein are those of the editors or contributors and do not necessarily reflect the position of the Pittsburgh Section.

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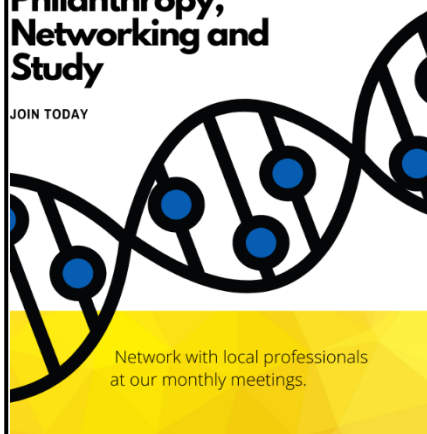
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3.5" x 2"	\$50	\$45	\$25	\$20

Volunteer with Us!

We are always looking for new people to join the Pittsburgh Section Executive Committee. Email our Chair to inquire about opportunities.

The Crucible Deadline

The deadline for items submitted to The Crucible is the 25th of the month prior to publication. For example, all items for the February 2024 issue must be to the editor by January 25th, 2024.

ACS Regional Awards – Apply Today!

More information can be found [here](#)