



Pittsburgh Section of the American Chemical Society
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Contents

Get to Know a Member: Alysia Mandato, 2023 Chair-Elect	1
Pittsburgh Local Section January Kickoff Meeting	2
Pittsburgh Local Section Conducts Strategic Planning Retreat	3-4
Back in Time: <i>The Crucible</i> from 1936, 1937, and 1943	5
February SSP/SACP Meeting	6-8
Save the Date: SSP/SACP Sponsored Symposium on Climate Change	9
2023 On the Road Announcement	10
Meeting Registration and Travel Grant Application	11-13
Business Page	14



Get to Know a Member – Alysia Mandato

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

I am a PhD candidate in the Department of Chemistry at the University of Pittsburgh. I am advised by Professor Sunil Saxena, and I study the biophysical chemistry of proteins and DNA using electron paramagnetic resonance spectroscopy. I served as the Secretary of the Pittsburgh Section in 2021 and 2022. I have been *The Crucible* newsletter editor since 2020, but I'm excited to be passing it on to serve in my new role as 2023 Chair-Elect!



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

4 years

3. What is the biggest benefit of ACS Membership?

The biggest benefits are the variety of people I get to meet with interests in science and chemistry – chemists, students, and the general public!

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

A Disney princess!

5. What made you fall in love with Chemistry?

My research experiences in college with a wonderful mentor. He taught me that chemistry gives us the ability to solve large problems at the atomic levels!

6. How did you get into your current position?

I thought I was going to be a medical doctor throughout high school and most of college until I became involved in research with my undergraduate professor. I fell in love with the process of research and loved being in the lab, but I didn't know that graduate school was an option until near the end of my junior year of college! I ended up applying to many PhD programs, and I chose Pitt because I loved being in Pittsburgh. I'm very grateful for the people I've met and experiences I've had by being a part of Pittsburgh.

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

Marie Curie! It would be incredible to hear about her resilience and passion for chemistry. I would be so nervous though!

January 2023 Kickoff Meeting

2023 Chair Ed Zovinka led our first meeting of the year on January 16 at Jaden's Catering in Monroeville. Twenty-five Pittsburgh ACS members gathered to share a meal and learn about the local section's plans for the upcoming year.

Some topics discussed included:

- Results of the Strategic Planning Retreat
- Proposed meeting schedule for the year
- Local Section Committees
- Outreach events

The meeting was a great opportunity to connect with ACS members in person! Thank you to Ed Zovinka and Niharika Botcha for coordinating this event and to Samuel Leung for taking photos!



Pittsburgh Local Section Conducts Strategic Planning Retreat



At the end of 2021, the Pittsburgh local section was awarded a \$2000 grant from the ACS Local Section Activities Committee (LSAC) to conduct a strategic planning retreat (SPR) during 2022. This grant opportunity was limited only to local sections in the medium-large category, based upon the number of members in the local section. The Pittsburgh local section is extremely honored to have been selected as one of six local sections selected. The LSAC grant was in conjunction with a pilot program from the ACS Board of directors. The ACS Board then provided \$5000 in matching funds to cover additional costs associated with the SPR. The goal is to bring the overall estimated cost of an SPR from \$7750 down to about only \$750 for the local section.

The Pittsburgh SPR was held during two sessions in November of 2022. On Saturday, November 5th a nine hour session was held face-to-face at Rec333 in Monroeville, PA. A follow-up three hour virtual session was held on Saturday November 12th. The Executive Board would like to extend a huge thanks to the SPR participants: Niharika Botcha, Christina Holstine, Heather Juzwa, Samuel Leung, Ronghong Lin, Haitao Liu, Alysia Mandato, Logan Miller, Kevin Noonan, Kim Woznack, and Ed Zovinka. We would also like to thank our expert SPR facilitators who made the trip to Pittsburgh to lead us in this effort: Carol Duane and Amber Hinkle.

As a result of this SPR the Pittsburgh local section adopted the following Vision Statement:

“A vibrant and sustainable community through the power of chemistry”

We also updated the Pittsburgh local section’s Mission Statement:

“Engage and Inspire Members to unite the diverse chemistry community and share knowledge to benefit our region and its people”

The next step in the process involved brainstorming, grouping and articulating three specific goals that the local section can tackle within the next 3-5 years.

The goals that emerged from the SPR are as follows:

Goal 1: Attract and retain active members by providing valuable services and experiences.

Goal 2: Implement sustainable programs and activities to engage and unite members with the community.

Goal 3: Effectively and efficiently communicate with our members and the community.

For each of the goals above we have developed three strategies each with a detailed project plan. If you are interested in helping the Pittsburgh Local section to carry out our strategies and strategic plan please reach out to the members of the Executive Committee and we would be happy to match you up with a volunteer opportunity that meets your interests and strengths.

Summary provided by Kimberly Woznack

Back in Time: *The Crucible* from 1936, 1937, and 1943

I received an email back in December from a man who discovered a few fascinating items at an estate sale in Irwin, PA. Henry Novak, now-retired President and CEO of Concast America Inc. (now known as SMS Group), found physical copies of *The Crucible* from 1936, 1937, and 1943, and he wanted to share them with the Pittsburgh ACS Local Section. We got in touch, and he promptly sent the copies over to me so that I could scan them and share them with our members.

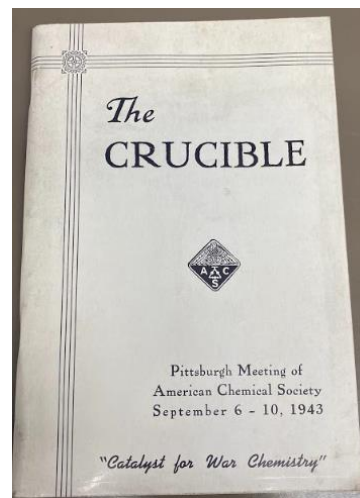
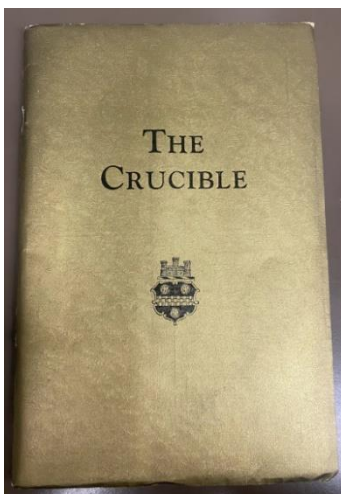
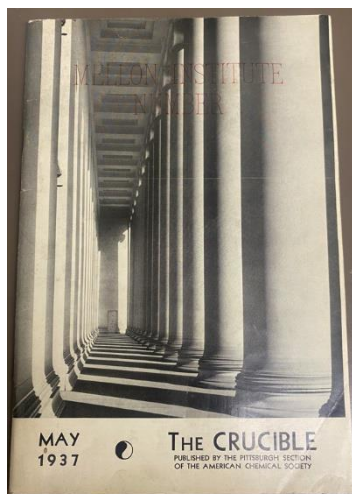
The nearly 100-page issues are filled with editorials from expert chemists, advertisements from local science companies, photos of buildings on university campuses, and invitations to chemistry events.

I have taken photos of each page of the three issues and have them available for anyone interested. I am happy and excited to send a folder of these images to access via Google Drive. Please let me know if you would like access to the folder, and I can make that happen! There are a few select pages provided below.

Thank you to Henry Novak for sharing this amazing find with us!

Alysia Mandato, Design Editor of *The Crucible*

crucible@pittsburghacs.org



SSP/SACP Joint Meeting
Wednesday, February 15, 2023
Duquesne University



5:00 PM – Social Hour
5:30 PM – Technology Forum
6:30 PM – Dinner
7:15 PM – Business Meeting
8:00 PM – Technical Program

SSP Technology Forum

“The Rescue of 9 Miners from Quecreek Mine in Somerset County”

Joseph Sbaffoni, JAS Mine Consulting



Biography:

Joe started working in the mines in 1970 and graduated from Penn State University in 1973, with an Associate Degree in Mining Technology. Joe held a range of management positions in Pennsylvania mines, rising to mine superintendent. In 1982, Joe was certified as a Pennsylvania Bituminous Mine Inspector and in 1984 was appointed to that position. In 1988, Joe was promoted to Bituminous Chief and in 2003 was appointed Director, Pennsylvania Bureau of Mine Safety. In 2015, Joe retired with thirty (30) years of Commonwealth service and over forty-five (45) years in the mining industry. Joe is extremely proud of his participation in updating mine safety and health programs, enacting Mine Families First Legislation in 2007 & Bituminous Mine Safety

legislation in 2008 and the rescue of nine (9) miners at the Quecreek Mine in 2002. Joe presently operates JAS Consulting, LLC, offering services to the mining industry.

Abstract:

On July 24, 2002, the Quecreek mine inadvertently cut into the adjacent Harrison #2 mine releasing millions of gallons of water trapping nine miners working underground. Rescue efforts were immediately started by the mining company, PA DEP and MSHA. This presentation will discuss the decisions and actions that led to the successful rescue of the miners. It was a massive effort that took place over four days that demonstrated sound engineering, surveying, drilling, pumping and a never quit attitude by all involved.

SACP Technical Program

“Reimagining X-ray Vision”

Dr. Jeff Anker, Clemson



Biography:

Jeffrey Anker is a College of Science Dean's Distinguished Professor of Chemistry and Bioengineering at Clemson University. He obtained his BS degree in applied physics at Yale University in 1998 and his doctorate at The University of Michigan in 2005, working with Professor Raoul Kopelman. From 2005-2008, Dr. Anker was an NIH National Science Research Award (NSRA) postdoctoral research fellow at Northwestern University under the guidance of Professor Richard Van Duyne. He joined the Clemson faculty in August 2008. Current research focuses on developing "smart" implanted medical devices with sensors to detect implant infection

and bone healing, as well as imaging and spectroscopy using magnetic, plasmonic, buoyant, and X-ray excited micro- and nano-sensors. He is on a Fulbright Scholar sabbatical at Tampere University in Finland through Dec 2022, with Prof. Jonathan Massera as host focusing on integrated sensors into 3D printed bone scaffolds.

Abstract:

Although implanted medical devices have been a “miracle of modern medicine,” improving patient quality of life and extending life expectancy, complication from non-union and infection are often devastating. We are developing sensors to measure the local biochemical and mechanical environment on implants both to detect clinical complications at earlier stages when treatments are less invasive, and to elucidate the underlying pathophysiology preclinically to guide methods to better address the problems. The challenge is to deliver such sensors and non-invasively read their signals through tissue. Our approach is to attach passive sensors to the orthopedic implant surface prior to implantation and read chemical and mechanical signals using optical and X-ray sensing. X-rays are ubiquitously used to image anatomy especially for orthopedic patients, but interact mostly with inner shell electrons of atoms in a sample, and are thus usually blind to biochemical information. To visualize chemical information (e.g., local pH or oxygen concentration during infection), we have two approaches, the first involves converting X-ray energy into visible light using an X-ray scintillator coated on the implant surface. The light then passes through indicator dyes that modulate its spectrum acquired through tissue. The use of focused X-ray beams provides a low background signal with high spatial resolution and the ability to distinguish spectral references. Our second approach uses chemically responsive hydrogels with embedded radiodense markers so that one can measure the extent of hydrogel swelling by the position of the markers. We also developed spectral rulers based on

the same approach. Overall, these techniques provide new abilities to see molecules and study biomechanics to detect, monitor, and study pathologies.

For complete details and to make a dinner reservation, please visit our society's website. Deadline for dinner reservations is **Wednesday, February 8, 2023** by noon.

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



Coming Soon!



Photo by Mark Spiske

**Society for Analytical Chemists of Pittsburgh (SACP) &
Spectroscopy Society of Pittsburgh (SSP) Sponsored Symposium:**

Consequences of Climate Change and the Challenge for Pennsylvania

Featuring:

Dr. Josef Werne Professor & Chair, Geology & Environmental Science, University of Pittsburgh

Dr. Roger A. Pielke Sr., Professor Emeritus, Univ. of Colorado (Virtual presentation)

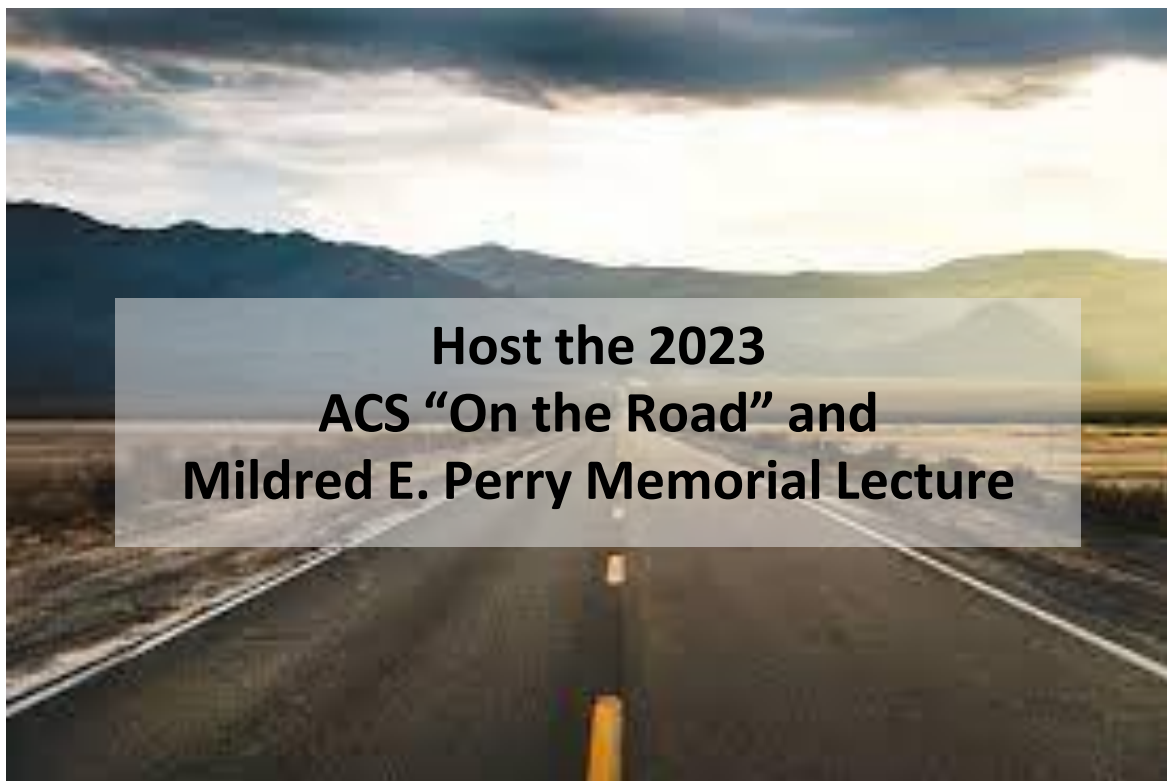
Dr. Maureen Lichtveld (MD, MPH), Dean School of Public Health, University of Pittsburgh

Mr. Jeff Jumper, EM Program Manager – Resiliency, PA Emergency Management Agency

**Both in-person and virtual attendance
Saturday, April 22, 2023 9 AM – 12:30 PM
Registration starting in early March**



ACS Local Section
Pittsburgh



**Host the 2023
ACS “On the Road” and
Mildred E. Perry Memorial Lecture**

Each year, the Pittsburgh local section features an “On the Road” event, which has the Mildred E. Perry Memorial Lecture. This is a great opportunity for local section chemists to visit your site or campus. The organizers choose the speaker and program details. Past organizers would be happy to share our experiences and websites if the host location is interested. We encourage hybrid events if necessary! If your institution is located in the Pittsburgh Local Section and you would like to host the 2023 ACS “On the Road” event, please contact ACS Chair, Ed Zovinka (EZovinka@francis.edu).

American Chemical Society Pittsburgh Local Section

Engage and inspire members to unite the diverse chemistry community and share knowledge to benefit our region and its people.
www.pittsburghacs.org



American Chemical Society Pittsburgh Section

www.pittsburghacs.org

Dear Academic ACS Pittsburgh Section Members,

The Pittsburgh Section of the American Chemical Society has budgeted funds to help encourage undergraduate/graduate student participation in national and regional ACS meetings. The awards are intended to help defray meeting registration and travel-related expenses (lodging, transportation, per diem) for eligible students. Awards will be made based on the scientific merit of the paper/poster to be presented, financial need, and preference will be given to ACS members.

To apply for the funds, applicants should complete the attached application and return it by the relevant deadline. The deadlines for receipt of applications are as follows:

- **06/01 (for travel to be completed by 12/31)**
- **12/01 (for travel to be completed by 06/30)**

As noted on the application, students should include an abstract and confirmation (if received) of the paper/poster being accepted for the Meeting. In addition to the application form, applicants should include a recommendation letter from the PI of the project being presented and/or a recommendation letter from another and a personal statement as to the anticipated benefits of meeting attendance.

Applications can be made electronically (*preferred*) by emailing the application to Heather Juzwa (hljuzwa@shimadzu.com or heather_sapko@hotmail.com) or by mailing a hard-copy application (Pittsburgh Section ACS Travel Grants / Heather Juzwa / Center / 321 Winners Circle / Canonsburg, PA 15317).

Since 2013, the Pittsburgh Section of the ACS has awarded up to four \$500 grants each year to aid our undergraduate/graduate student members in presenting papers or posters at ACS Meetings. This is an ongoing program in our Section, and details will be updated on our website (www.pittsburghACS.org) as necessary.

Applicants will be notified via email that their application was received. All efforts will be made to announce awards within two weeks of the application deadline, and all applicants will be notified of the final committee decisions. Our Section is looking forward to helping increase the participation of local students in ACS conferences. If you have any questions, please do not hesitate to contact me.

Sincerely,

Heather Juzwa, ACS Pittsburgh Section Student Travel Grants, Chair
Senior Field Sales Engineer, Shimadzu Scientific Instruments, Inc



American Chemical Society
Pittsburgh Section

www.pittsburghacs.org

Application Deadline	Travel Completion Date
December 1	June 30 (subsequent year)
June 1	December 31 (same year)

Name of Applicant: _____

Name of Institution: _____

_____ Undergraduate Student / Year

_____ Graduate Student / Year

Mailing Address to Receive Payment if Awarded:

Email: _____ Phone: _____

PI: _____

ACS Membership No.*: _____

**If you do not know your ACS number, please email hljuzwa@shimadzu.com to receive it by email.*

Meeting Location: _____ Meeting Date: _____

Project Title: _____

_____ Paper Presentation _____ Poster Presentation

**Please attach a copy of your project abstract to the application.*

Has your project been accepted? Yes No

**Attach documentation regarding acceptance if received at point of application.*

Will this be your first presentation at an ACS national or regional meeting? Yes No

If no, please list conferences at which you have presented: _____

Purpose of grant: _____

Other funding sources (if any): _____

Personal Statement of anticipated benefits of meeting attendance: _____

Has the applicant received a travel grant from the ACS Pittsburgh Section in the past? Yes No

If your application was selected, the Pittsburgh Section of the ACS would like you to write a short (one page) description of your activity upon completion of the conference for publication in our monthly newsletter, The Crucible, and on our website. The description is due within 30 days of the meeting attended. Photos are welcomed and encouraged.

I am willing to complete this report: Yes No

Signature: _____

Date: _____

Send completed hard-copy applications and supporting documentation to:

Pittsburgh Section ACS Travel Grants

Heather Juzwa, 321 Winners Circle, Canonsburg, PA 15317

Electronic copies of completed applications should be sent to hljuzwa@shimadzu.com and heather_sapko@hotmail.com. Be sure to place "Pittsburgh Section ACS Travel Grants" in the subject line.



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.

Editors: Alysia Mandato and Niharika Botcha, crucible@pittsburghacs.org

2023 Pittsburgh Section Officers

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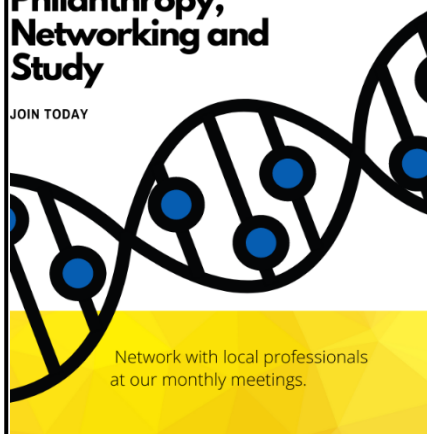
Spectroscopy Society of Pittsburgh



chemistryoutreach.org

Science Outreach through Philanthropy, Networking and Study

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Network with local professionals at our monthly meetings.

Society for Analytical Chemists of Pittsburgh
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Advancing Analytical Chemistry through Science Education

JOIN TODAY



Network with local professionals at our monthly meetings.

Advertise in The Crucible

	1X	3X	6X	10X
Full Page	\$120	\$115	\$100	\$75
Half Page	\$75	\$70	\$60	\$45
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 2023 issue must be to the editor by January 25th, 2023.

ACS Regional Awards – Apply Today!

More information can be found [here](#)