

Pittsburgh Section of the American Chemical Society Volume CX, No. 2 September 2023

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Get to Know A Member – Samuel Leung



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

ACS: Secretary, ACS Pittsburgh Local Section Work: Catalyst Research Specialist, Braskem America

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

2

3. What is the biggest benefit of ACS Membership?

ACS provides so many opportunities for members to connect not just within their own field, but also with the wider community of chemists. It helps foster connections between industry, academia, and the local community it serves. ACS also allows professionals to perform outreach and serve the communities where they are located.

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

Serendipitously, a chemical engineer! (not that I knew what that meant at the time)

5. What made you fall in love with Chemistry?

When I was first introduced to chemistry in high school, I was astounded by the sheer number of compounds that make modern life possible. I loved chemistry lab so much that I bought my own lab coat. What cemented my love for research in the chemical sciences was the opportunity to join university research labs in high school and working on advancing the field in real, tangible ways.

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

The people I work with are the fantastic on both a scientific and personal level. The problems we work on every day are relevant and challenging, and I feel like I am making an impact in the field.

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

Linus Pauling. The field of chemistry has changed drastically over the past few centuries, and Pauling's contributions to chemical bond theory and ability to go beyond the thinking of his time is an inspiration to all scientists.



October 15-21 | 2023 | #NationalChemistryWeek





Pittsburgh Local Section NCW activities for 2023

Join us for a series of events throughout the entire week. Watch for emails and check our Facebook page and website for updates! For additional information regarding any of these events, contact NCW Coordinator, Evonne Baldauff, at ebaldauf@waynesburg.edu. Scan the code to the right to join our Facebook group:



Event 1: "Gene-age Dream" Wet-lab experiments at the Carnegie Science Center.

We are collaborating with the CSC to host a series of wet chemistry labs on October 16, 18, and 19. Teachers from local schools will bring groups of 24 students to participate in a full laboratory experience that they may not get in their schools. Volunteers are needed to serve as lab assistants and will work directly with participants.

Multiple daily lab sessions run from 10:15-11:15 AM and 11:30-12:30 PM. Up to 8 volunteers are needed each day. To sign up, contact Evonne Baldauff (ebaldauf@waynesburg.edu).

Event 2: SciTech Days: Health and Medicine demonstrations and Career Panel at the Carnegie Science Center.

A traditional exposition-style event, schools from the Pittsburgh region and surrounding communities will bring students to experience hands-on demonstrations and activities on October 20th. Volunteers are needed to host demonstration tables and serve as career panelists. Volunteer through the following form: https://forms.gle/DLFNBsiFcC3pfvvW6

Event 3: ACS Student Chapter Mini-ChemFest Events

Exclusive for undergraduate chapters, host your own ChemFest outreach event for local schools in your geographic area using the NCW 2023 theme. Funding of up to \$200 is available. To sign up, contact Evonne Baldauff (ebaldauf@waynesburg.edu) or Marsha Grimminger (MAG246@pitt.edu).





October 15-21 | 2023 | #NationalChemistryWeek



Greetings ACS Student Chapters and Chapter Advisors in the Pittsburgh region!

This year the Pittsburgh ACS Local Section is aiming to partner with student chapters in the area to host a wide-spread celebration for National Chemistry Week to reach a broader range of participants. The theme of NCW 2023 is "The Healing Power of Chemistry." Instead of only doing one event at the Carnegie Science Center, as we have done in the past, this new approach will allow us to impact participants and involve student chapters that are located further outside of the city of Pittsburgh.

We are seeking student chapters to commit to hosting an NCW event for elementary and/or middle school students in their geographical region that includes demonstrations and/or hands-on activities utilizing this year's theme.

- The Pittsburgh ACS Local Section will provide a list of suggested activities designed for grades 3-6, copies of the ACS publication "Celebrating Chemistry," advertising templates, and a stipend of \$200 for supplies.
- Each student chapter that chooses to participate will be in charge of finding a venue, getting volunteers, purchasing supplies, and staging the event (ideally during the week of October 15 – 21). We will also ask each participating chapter for a short summary report of their event details.

If your chapter is interested in participating, has questions, or would like to know more, please respond to this email. We ask that student chapters commit to hosting an event by September 15th, 2023.

There will also be an opportunity to volunteer at the Carnegie Science Center during the week of October 16th. More information to follow on that event soon.

Most sincerely, Evonne & Marsha

Evonne Baldauff Marsha Grimminger NCW 2023 Coordinators Pittsburgh ACS Local Section

Report on: ACS FALL 2023 NATIONAL MEETING – San Francisco, CA (Hybrid)

Four of ACS Pittsburgh Section Councilors participated in the Council Meeting - Hybrid (San Francisco)

The meeting attracted approximately 15,019 registrations (13,363 in person and 1,656 virtual)

The Committee on Nominations and Elections announced that Council elected Martha G. Hollomon, Elizabeth M. Howson, Jeanette M. Van Emon and Lydia M. Hines for three-year terms (2024-2026) on the Council Policy Committee (CPC). James C. Carver was elected for a one-year term 2024-2025.

The Committee on Nominations and Elections announced that Council elected Linette M. Watkins, Arlene A. Garrison, Zaida C. Morales-Martinez, Amber F. Charlebois, and Jetty L. Duffy-Matzner for three-year terms (2024-2026) on the Committee on Nominations and Elections (N&E). Kevin J. Edgar was elected for a one-year term from 2024-2025.

The Committee on Nominations and Elections announced that Council elected Anna G. Cavinato, Andrea B. Twiss-Brooks, Thomas R. Gilbert, Jeanne R. Berk and W. Matthew Reichert (2024-2026) for a three-year term on the Committee on Committees (ConC).

On the recommendation of the Committee on Committees, and the concurrence of the Council Policy Committee, Council approved the Petition to Amend the Duties of the Committee on International Activities (IAC), providing the Committee with the same authority permitted to its unit counterparts to assist International Chemical Sciences Chapters with issues arising from officer turnover and other administrative difficulties.

On the Recommendation of the Council Policy Committee, Council approved the Petition to Amend the Council Executive Function. This amendment codifies the current practice in the Standing Rules, removing the oral reporting requirement for non-elected Society Committees. CPC

welcomes oral reports from all Society Committees including those without action before Council.

CPC voted to discontinue the Councilor Travel Expense Program, effective December 31, 2023, and replace it with the Councilor Attendance Incentive Allotment, effective January 1, 2024. This new approach will provide a single payment of \$2,000 per Councilor, per meeting, directly to Local Sections and Divisions that opt in to the program.

CPC also voted to move oversight for the Non-Councilor Reimbursement Program to the Committee on Committees with the recommendation that it be renamed the "Volunteer Committee Reimbursement Program".

On the recommendation of the Committee on Nominations and Elections, and with the concurrence of the Council Policy Committee, Council approved the Petition to Add International Representation to the Board of Directors, decreasing the total number of Directors-at-Large from six to five and creating an International District Director. Following approval by the Board of Directors, the amendment to the ACS Constitution will require the support of two-thirds (2/3) majority of voting members.

On the recommendation of the Committee on International Activities, Council approved the creation of the Singapore International Chemical Sciences Chapter.

The Committee on Constitution and Bylaws (C&B) reported the certification of bylaws for six Local Sections in 2023: Cornell, East Tennessee, Idaho, Puerto Rico, Tennessee-Virginia Highlands, and Wooster.

Chief Executive Officer Albert Horvath honored the memory of our newly-appointed Editor-In-Chief of C&EN, Mohammed Yahia, who passed away on the way to the San Francisco meeting. Our thoughts go out to his wife Ola and their two young children.

ACS President Judith Giordan introduced and led a special discussion on "ACS Council Equitable Governance for the Future." She sought Councilor input on ideas to improve representation, broadly defined, on Council and across ACS governance.

Three specific prompts were posed to Councilors for their input and suggestions:

- 1. Ideally, for ACS Council to equitably represent all members we would...
- 2. The key areas where we need to ensure greater equity and inclusion in Council are...
- 3. I wish ACS Council would/could ... to engender greater equity and inclusion.

Councilors provided their ideas and thoughts, and relevant Society units will receive this input within the next several weeks. Please share further input with secretary@acs.org.

The Council passed several resolutions:

- 1. In memory of two deceased Past Presidents, Ned D. Heindel and Paul H. L. Walter.
- 2. In memory of deceased Councilors.
- 3. Expressing thanks to the officers and members of the California and Silicon Valley Sections, host Sections for the fall 2023 ACS meeting, the Divisional program chairs, symposium organizers and the ACS staff for the planning and execution of the meeting.
- 4. Acknowledging Judith C. Giordan service as ACS President and presiding officer of Council.

We should all be proud of the involvement, commitment, and outstanding work that the members of the Pittsburgh Section exhibit! Thanks to all for your great work.

Pittsburgh Section
Councilors

Respectfully submitted,
Richard S. Danchik (Author)
Kim Woznack
Haitao Liu
Kristin Nuzzio

Daniel Ye

August 20, 2023

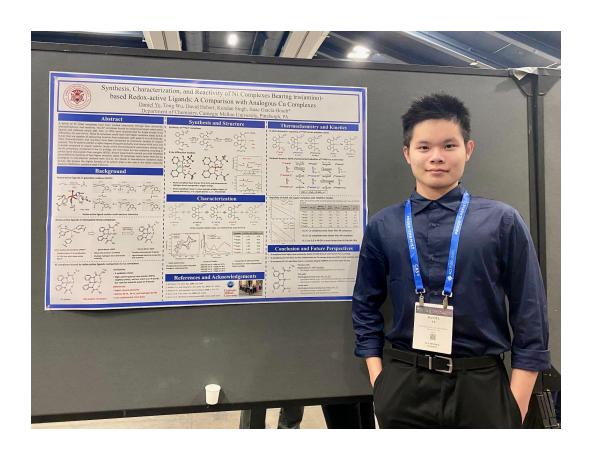
ACS Meeting Travel Report for Pittsburgh Local Section

Before summarizing my trip to San Francisco for attendance at the ACS national meeting, I would like to thank the ACS Pittsburgh Local Section for the travel grant. It helped tremendously with the cost of travel and ensured my ability to present my research, meet professionals, and attend events without outstanding financial obstacles.

My poster, titled "Synthesis, Characterization, and Reactivity of Ni complexes Bearing tris(amino)-based Redox-active Ligands: A Comparison with Analogous Cu Complexes," was presented in the Coordination Chemistry (Inorganic Chemistry) section. I received some ideas for my work, and likewise shared and communicated my research findings on this novel system to others in chemistry. I learned of a group in particular, which uses redox-active ligands on metalloids, instead of 3d metals. Another graduate student discussed work in a similar ruthenium system. The many conversations I had with graduate students and professors alike made me more aware of how interconnected yet different the work we do truly are. The two-hour poster session was overall a very enriching and informative experience.

One of the hallmarks of this trip experience was the oral presentations that various professors and graduate students gave. I attended speaker sessions that had a direct connection to my research, and thus I gained additional knowledge and parallels that I can learn to incorporate to my work. Speakers discussed redox-active ligands, hydrogen atom transfers, and tuning thermochemistry of reactions, all of which are direct corollaries to my work. I also attended sessions where the chemistry was relevant yet distinct from my background, such as computation and catalysis. The latter exposed me to a plethora of ideas and subfields in chemistry, ones that I didn't know existed, prompting me to expand my scope of thinking.

My travel and participation in the ACS Fall 2023 National Meeting was an overall exhilarating and fruitful experience. I was able to communicate and learn chemistry to and from others, and I look forward to attending more ACS meetings in the future.





Mackenzie Riley Pittsburgh ACS Travel Grant Report

Upon arriving in San Francisco, I had a few hours to sleep in my hotel before I had to make my way to the Moscone Convention Center to check in and set up for my poster presentation. The Moscone was packed with chemists of varying backgrounds, and I set up my poster in the designated exhibition hall with hundreds of others before grabbing a quick lunch and preparing for my poster presentation.

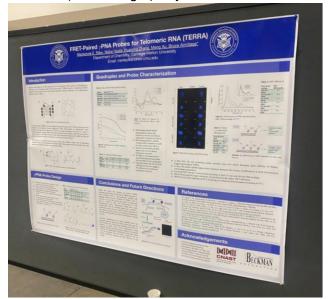
Through the duration of the two-hour session, I spoke to professors, students, and industry professionals from a variety of locations and expertises and got wonderful feedback on my own project. After the poster session, I made my way to the graduate school fair being held for students to talk to representatives for different programs. I spoke with a few schools before heading to the Biological Chemistry Division's session "Emerging Areas and New Methods in Biological Chemistry" to watch some technical programming. There were many interesting techniques and findings which were presented during this session! After the conclusion of the talks, I made my way back to the hotel for the evening.

The next morning, I met up with an alumnus of Carnegie Mellon from my lab group for coffee, then we made our way to the Organic Chemistry Division session "Nucleic Acids, Carbohydrates, Peptides, and Lipids". These talks covered a large swath of research, some of it particularly close to my own work. I explored a bit in the expo hall (and got some free swag!), then took a quick trip to the San Francisco Museum of Modern Art which was located across the street from the convention center where the conference was being held. The last event which I participated in during my stay was the Arnold and Mabel Beckman Foundation alumni reception, held for recipients of a grant program which I participated in over the course of the last 15 months. There was a small reception held for members participating in ACS, allowing us to network with others at the conference.

I flew out of SFO early the next morning back to Pittsburgh. While I only was able to stay for two days of the conference, I am grateful to the Pittsburgh Section of the American Chemical Society for providing me with the financial support to allow me the opportunity to participate in ACS Fall 2023's programming.



Pictured (Left to Right): Myself after check-in and the Moscone South Lobby.



Pictured: Poster hung up during the CHED poster session.



Pictured: Arnold and Mabel Beckman Foundation Alumni Reception

SACP/SSP Joint Meeting Tuesday, October 10, 2023 Duquesne University Power Center



5:00 PM - Social Hour

6:00 PM - Dinner

6:45 PM – Business Meeting

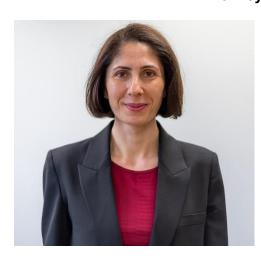
7:15 PM – Technical Program

SSP Technical Program

"Addressing the Plastic Waste Challenge: The Vital Role of Analytical Chemistry and Spectroscopy - A Chemical Engineer's Perspective"

Dr. Hilal Ezgi Toraman, Wilson Faculty Fellow and Assistant Professor,

Pennsylvania State University



Biography:

Dr. Hilal Ezgi Toraman, Wilson Faculty Fellow is an Assistant Professor of Energy Engineering and Chemical Engineering at The Pennsylvania State University. Dr. Toraman is the Elected Director for the American Institute of Chemical Engineers (AICHE) Catalysis and Reaction Engineering Division and Elected President of Pittsburgh-Cleveland Catalysis Society (PCCS). She is the member of the International Editorial Board for Fuel Communications and ACS Engineering Au. Dr. Toraman's research is in the field of chemical reaction engineering and catalysis with a focus on developing new processes,

materials and technologies for efficient and sustainable use of non-traditional feedstocks such as shale gas, biogas, biomass and plastic waste. Dr. Toraman has received prestigious recognition and awards from prominent organizations in the field of chemistry and chemical engineering. She has been selected to receive the Virginia S. and Philip L. Walker Jr. Faculty Fellowship in Materials Science and Engineering and the Fuel Science Program at Penn State University. She has been acknowledged as a Rising Star by the American Chemical Society's Division of Energy & Fuels, and was recently selected as one of the 2023 Pioneers of Catalysis and Reaction Engineering (CRE) in the honorary session by the CRE division of the American Institute of Chemical Engineers (AIChE). Additionally, Dr. Toraman has been honored by being recognized in Chemical & Engineering News' esteemed list of Talented 12 in 2023. Toraman was selected for her research in technologies that turn waste into fuels, chemicals and other products.

Prior to joining the Penn State faculty, Dr. Toraman served as a postdoctoral researcher with the Department of Chemical and Biomolecular Engineering and Delaware Energy Institute at the University of Delaware. She received her B.S. and M.S. degree in Chemical Engineering from Middle East Technical University, Türkiye (Turkey). She received her Ph.D. degree in Chemical Engineering from Ghent University, Belgium.

Abstract:

The worldwide production and consumption of synthetic polymers have increased steadily over the last few decades with an estimated 380 million metric tons (MMT) in 2015

compared to 2 MMT in 1950 [1]. The generation of plastic waste is increasing at an alarming rate due to the extensive usage of plastics. Plastics are one of the major contributors to the waste management problem on land and in oceans. It is thus imperative to improve ways to efficiently recycle the post-consumer plastics. Currently only 10% of waste plastic generated world-wide is being recycled. To achieve sustainability and promote circularity of plastics, it becomes imperative to recycle the post-consumer plastics. Pyrolysis being a promising chemical recycling technology is in the forefront to recycle mixed plastic waste streams due to its economic viability and robustness.

The separation of pyrolysis products is typically carried out using one-dimensional gas chromatography (1D-GC) coupled to different detectors such as mass spectrometry, flame ionization detector, etc. Nevertheless, 1D-GC does not necessarily provide accurate and comprehensive information related to all the pyrolysis compounds due to relatively lower resolution and overlapping peaks. Alternately, two-dimensional gas chromatography (GC×GC) enables higher resolution of products using selected two different packing types and minimizes coelution of compounds. The GC×GC method development is essential to obtain accurate characterization data for analyzing pyrolyzates produced during the pyrolysis of polymers and hence to develop efficient and reliable recycling and upcycling strategies for valorization of plastic waste.

In this talk, Dr. Toraman will show how GC×GC coupled to time-of-flight mass spectrometer detector (TOF-MS) and flame ionization detector (FID) can provide detailed characterization of pyrolysis oil composition, to identify possible contaminants and help to refine process design.

For complete details and to make a dinner reservation, please visit our society's website. Deadline for dinner reservations is Tuesday, October 3, 2023 by noon.

https://chemistryoutreach.org/meeting/

SACP/SSP 2023–2024 MONTHLY MEETING CALENDAR

5:00 – 6:00 Social Hour

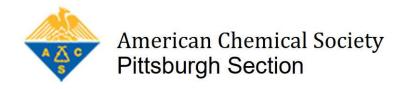
6:00 – 6:45 Dinner

6:45 – 7:15 Business Meeting

7:15 – 8:15 Technical Program

Date	Speaker/Institution/Topic	Host
Wednesday	Dr. Jack Kaye, NASA, Associate Director for Research	SACP
September 6,	Earth Science Division, Science Mission Directorate	Ronghong
2023	"How Chemistry Helps Us View and Understand Our	Lin
2025	Home Planet and Its Future"	
Tuesday	Dr. Hilal Ezgi Toraman, Wilson Faculty Fellow and	SSP
October 10, 2023	Assistant Professor, Pennsylvania State University	Joanne
,	"Addressing the Plastic Waste Challenge: The Vital Role of	Smith
	Analytical Chemistry and Spectroscopy - A Chemical	
	Engineer's Perspective"	
Monday	Dr. Olexandr Isayev, Associate Professor of Chemistry	SACP
November 13,	Carnegie Mellon University	Manny
2023	"Navigating Chemical Experiments with AI and	Miller
	Automation"	
December 2023	No meeting 30%	
	Happy Holidays!	
Wednesday	Dr. James P. Grinias, Rowan University	SSP
January 17, 2024	"Diverse Applications of Compact Capillary LC"	John Baltrus
February 24-28,	D:LL	Melinda
2024	Pittcon	Stephens,
		President
	>>>>>> Leading in the Lab	Trestaent
Monday	Dr. Carrie McDonough, Assistant Professor	SACP
March 11, 2024	Carnegie Mellon University	Logan Miller
171011011121) 2021	"Sifting Through Thousands of "Forever Chemicals"	
	Using Ion Mobility-High Resolution Mass Spectrometry	
	and Total Organofluorine Techniques"	
Wednesday	Dr. Brooke Kammrath, Professor of Forensic Science	SSP
April 24, 2024 University of New Haven "Application of Particle Correlated Raman Spectroscopy		Chuck
, ,	Gardner	
-	(PCRS) for the Forensic Examination of Soil Minerals"	
Wednesday	Awards Banquet	SACP, SSP &
May 22, 2024	Duquesne University Union Ballroom*	ACS

^{*}All monthly meetings will be held in the Duquesne University Power Center, unless otherwise noted.



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 (<u>hljuzwa@shimadzu.com</u> or <u>heather sapko@hotmail.com</u>) 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



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

лате от Applicant:
lame of Institution:
Undergraduate Student / Year
Graduate Student / Year
Nailing Address to Receive Payment if Awarded:
mail: Phone:
'l:
ACS Membership No.*:
If you do not know your ACS number, please email <u>hljuzwa@shimadzu.com</u> to receive it by email.
Meeting Location: Meeting Date:
Paper Presentation Poster Presentation
Please attach a copy of your project abstract to the application.
las your project been accepted? Yes No
Attach documentation regarding acceptance if received at point of application.
Vill this be your first presentation at an ACS national or regional meeting? Yes No
f no inlease 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 https://hitzburgh.nih.gov/hit



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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2023 Pittsburgh Section Officers

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ezovinka@francis.edu

Chair- Alysia Mandato
Elect <u>atm75@pitt.edu</u>
Secretary Samuel Leung

samuel.leung@braskem.com

Treasurer Matt Price

price@pennwest.edu

Treasurer- Niharika Botcha

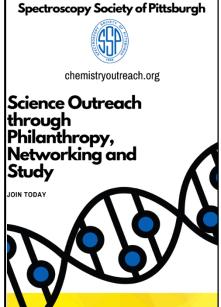
Elect <u>nbotcha@andrew.cmu.edu</u>

Directors David Waldeck

Heather Juzwa Evonne Baldauff Logan Miller Toby Chapman Ronghong Lin

Councilors Kim Woznack

Rich Danchik Haitao Liu Kristin Nuzzio



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