



# The Crucible

Pittsburgh Section of the American Chemical Society  
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## Get to Know A Member – Robert Mathers, Ph.D.



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

ACS: Initially, I served the Pittsburgh section as secretary (2 years), alternate counselor (3 years), and then counselor (6 years). Recently, I helped the ACS polymer division (POLY) as a programming chair (3 years) for National ACS Meetings  
Work: Distinguished Professor of Chemistry at Penn State University New Kensington..

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

I learned about becoming a member through local sections and joined in 2002.

### 3. What is the biggest benefit of ACS Membership?

I have met many wonderful people.

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

As a child, I liked taking electrical and mechanical devices apart and trying to rebuild them. Often, a few screws were left over. I also liked woodworking. So, many jobs were interesting.

### 5. What made you fall in love with Chemistry?

Two experiences played a role. First, undergraduate research in the lab of Professor Chris Gorman at NC State University stimulated an interest in materials chemistry. Second, while working as a lifeguard and swim instructor, a scientist from a local company encouraged me to apply for an internship. As an intern, I was fascinated with making adhesive formulations!

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

I like learning about science through a combination of teaching, research, collaborations, and conferences.

**7. What is your favorite book and why?**

Bread Science: The chemistry and craft of making bread. Even though bread making has been around for thousands of years, I'm intrigued by the complexity of this process.



## ACS Pittsburgh Section Welcomes 2024 Chair, Alysia Mandato

Hello everyone,

As the incoming Chair of the Pittsburgh Local Section of the American Chemical Society (ACS), I want to wish you a happy 2024. I am honored to serve as the Pittsburgh ACS Chair this year after serving in different roles since 2019. I am thankful for the support of the greater Local Section and for the special support of Former Chairs Matt Price, Kevin Noonan, Kim Woznack, and Ed Zovinka.

For those who I haven't had the opportunity to meet yet, I am currently a Ph.D. candidate in chemistry at the University of Pittsburgh. I have been involved with the Pittsburgh ACS since I began graduate school in 2019, serving as *The Crucible* newsletter editor, secretary, Chemists Celebrate Earth Week coordinator, and Chair-Elect. The Pittsburgh ACS is an outstanding organization dedicated to serving our members and general community, and I am very grateful to have been a part of it during my graduate school career.

I would like to extend a warm welcome to new officers and committee members who are serving the Local Section this year. This year, we have reinvigorated our social media committee with the help of some talented undergraduate chemistry students. Additionally, we are working to increase our outreach activities by creating a new committee dedicated to outreach. One of my goals as Chair is to implement regularly scheduled outreach at local institutions around the Pittsburgh region. While we currently have exceptional National Chemistry Week and Chemists Celebrate Earth Week programs, I plan to hold more events throughout the year to share chemistry knowledge with the general community. If anyone is interested in being a part of this effort, please feel free to reach out to me.

Notably for 2024, the Pittsburgh Section is hosting the Central Regional Meeting (CERM) of the ACS in early November with the theme "The Confluence of Chemistry: Past, Present, and Future". The committee is working diligently to plan each detail of the meeting, so please be on the lookout for updates in *The Crucible* monthly newsletter, on the Pittsburgh ACS website at [pittsburghacs.org](http://pittsburghacs.org), and on the CERM website at [acscerm2024.org](http://acscerm2024.org).

Finally, we are always looking for new volunteers! If you are a member of the local section and you have ideas or want to become more involved, please reach out and let me know. We would love to include you in our plans for 2024.

Thank you, and best wishes for 2024!

Alysia Mandato ([atm75@pitt.edu](mailto:atm75@pitt.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](http://www.pittsburghacs.org)

## **Congratulations to our Newly Elected Officers for 2024**

The votes are in, and we congratulate the following new officers and wish them all the best!

Chair-Elect: Samuel Leung

Secretary-Elect: Ronghong Lin

Councilor: Haitao Liu

Director: Kevin Noonan

Director: Heather Juzwa

Thank you for participating in our important election process. The election was conducted virtually via Survey Monkey and began on November 9 at 8 AM EST. We had 92 responses from voting members of the Pittsburgh Section of the American Chemical Society.



# Employment Workshop for STEM Professionals

*Presented by:*

Spectroscopy Society of Pittsburgh (SSP)  
Society for Analytical Chemists of Pittsburgh (SACP)  
American Chemical Society, Pittsburgh Section  
Phi Lambda Upsilon, Duquesne University

**Saturday, January 20<sup>th</sup>, 2024**

**Pre-Registration is Required for this Free Event**

Africa Room in Student Union  
Duquesne University  
600 Forbes Ave, Pittsburgh, PA 15282

*Parking is available in Forbes Garage (bring ticket to registration table for validation)*

## **PROGRAM**

9:00 A.M.	Registration
9:30 A.M.	“Career Management for STEM Professionals” Lisa Balbes, Ph.D. Balbes Consultants LLC Career Consultant – American Chemical Society
12:30 P.M.	Networking Lunch
1:30 P.M.	Resume / CV Reviews & Personal Consultations
3:30 P.M.	Close

**Please bring resume and/or CV to participate in the afternoon program**  
(Undergraduates without a resume may participate in the afternoon group resume review)

**Pre-Register for the Employment Workshop Event at the Link Below:**

<https://chemistryoutreach.org/events/workshops/employment-workshop/>

Your pre-registration must be received by **Friday, January 12<sup>th</sup>, 2024**. You will be asked to include your full name, contact information (phone number and email address), and whether or not you expect to participate in the resume review.

# Lunch and Learn

- **Are You Ready to Elevate Your Chemistry Career?**
  - **Join Our Exclusive Lunch Sessions with Pittsburgh Award Recipients**
- 

Are you a junior chemist seeking to kickstart your career? Or a mid-career chemist looking for a fresh direction? Don't miss this opportunity to meet a Pittsburgh Award recipient over a complimentary lunch and gain priceless insights!

- **What to Expect:**
    - Enjoy a FREE work lunch.
    - Engage with a Pittsburgh Award recipient and connect with 1-2 peers who share your passion.
    - Receive valuable guidance for success in both industry and academia.
  - **To Schedule Your Lunch:** Contact Dr. Haitao Liu at [hliu@pitt.edu](mailto:hliu@pitt.edu) with a brief self-introduction and name(s) of the adviser you'd like to meet.
- 

## Meet Our Esteemed Advisers:

### Dennis Simpson

- Experience: A distinguished 41-year career at PPG
- Achievements: Named inventor on 41 U.S. patents
- Influence: Advised countless scientists in industry

### Richard Howe

- Experience: 30 years as Associate Dean at Pitt's School of Arts and Sciences
- Achievements: Coordinated \$300M+ capital projects program
- Leadership: Chair of the Society for Analytical Chemists of Pittsburgh, PITTCO president, and more

### Michael Mautino

- Experience: Over 30 years with Covestro LLC (formerly Bayer MaterialScience)
- Expertise: Formulating polyurethane rigid foam insulation
- Career Path: Product Research, Marketing, and Product Line/Channel Management

### Steve Little

- Position: Department Chair and Distinguished Professor, University of Pittsburgh
- Research: Drug release, biomaterials. 100+ publications, 30+ patents, 2 spin-outs
- Honors: Fellow of AAAS, the National Academy of Inventors

### David Waldeck

- Position: Professor of Chemistry and Director of the Petersen Institute of NanoScience and Engineering, University of Pittsburgh
- Research: Chiral Induced Spin Selectivity, nanotechnology. 260+ publications, H-index: 71.
- Honors: Fellow of AAAS, ACS, and APS

## ACS December meeting at Waynesburg University

The local section committee held their last meeting of the year and celebrated with a dinner and lecture by Dr. Malika Jeffries-El at Waynesburg University, as a part of the Pittsburgh ACS On the Road series. The meeting and dinner had a festive mood as the committee looked back on the successful events of the past year and the events of the year to come. Dr. Jeffries-El presented her STEM journey and lab's work in a well-attended lecture that was open also to the students at Waynesburg University. An award was presented to Dr. Jeffries-El by Waynesburg University for her contributions.





## Seton Hill's Future Scholars Program

Seton Hill's Future Scholars Program, (FSP) is a mutually beneficial partnership between K-12 schools and Seton Hill University. FSP student leaders have an opportunity for experiential learning and to give back to their local community. With STEM college students actively teaching and influencing research and curriculum design, we are helping to build a stronger pipeline of local students, who are excited by STEM topics. Evidence-based practices have shown that peer teaching is incredibly effective! When college students teach younger students, it facilitates middle and high schoolers to envision themselves as STEM majors in college.

The FSP is in its third year and is growing rapidly. We currently work with Jeannette Public Schools, Penn Hills Charter School of Entrepreneurship, and Geibel Junior-Senior Catholic School. FSP student leaders work with their Seton Hill advisors and the K-12 teachers to create curriculum-specific lesson plans and experimental designs. FSP student leaders have demonstrated experiments in biology, chemistry, physics, and forensic science. Recently, FSP advisors Drs. Cooper-Morgan (the founder), Ward, and Joiner were awarded an ACS WCC mini-grant for their "Dare to Lead" information session and certificates of completion ceremony. Seton Hill continues to sustain programs that promote STEM in our community.

Contact Dr. Amalene Cooper-Morgan ([acoopermorgan@setonhill.edu](mailto:acoopermorgan@setonhill.edu)) to learn more about this program and how you can get involved.



**SSP/SACP Joint Meeting  
Wednesday, January 17, 2024  
Duquesne University Power Center**



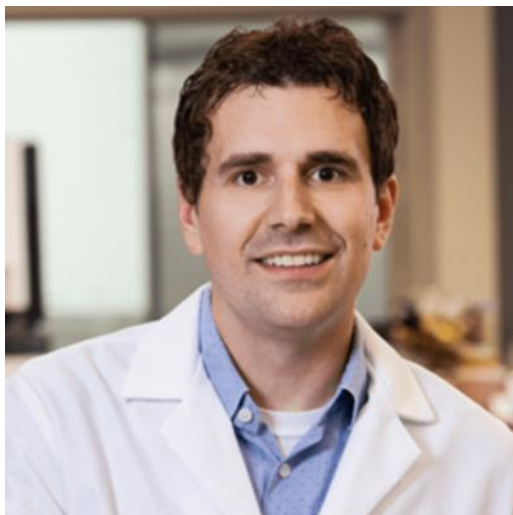
5:00 PM – Social Hour  
6:00 PM – Dinner  
6:45 PM – Business Meeting  
7:15 PM – Technical Program

**SSP Technical Program**

**“Diverse Applications of Compact Capillary LC”**

**Dr. James P. Grinias, Professor**

**Department of Chemistry & Biochemistry, Rowan University**



**Biography:**

James Grinias is a Professor in the Department of Chemistry & Biochemistry at Rowan University in Glassboro, NJ. His research interests include improving the throughput and efficiency of chromatographic separations and the miniaturization of chemical measurement techniques. He received his Ph.D. from the University of North Carolina at Chapel Hill in 2014 and then moved onto a postdoctoral fellowship at the University of Michigan until the end of 2016. James has received a number of awards for his work to date, including the HPLC 2013 Csaba Horváth Award, the 2020 Young Investigator Award from the Chinese

American Chromatography Association, a National Science Foundation CAREER grant, and the 2021 American Chemical Society Satinder Ahuja Young Investigator in Separation Science Award. He was also named to The Analytical Scientist's “Top 40 Under 40” Power List in 2018 and 2022. To date, he has published over 40 articles and given over 100 oral/poster presentations. He is also actively involved in the leadership of the Chromatography Forum of Delaware Valley and the American Chemical Society Subdivision on Chromatography and Separations Chemistry.

**Abstract:**

The use of portable and compact instrumentation has expanded the possibilities of integrating capillary-scale LC techniques into realms typically dominated by analytical-scale methodology. Low-volume detector flow cells and UV-LED light sources allow for improvements in absorbance detection for columns with internal diameters in the 0.1 – 0.3 mm range. Compact single-quad mass spectrometers with integrated vacuum systems also allow for LC-MS measurements when combined with compact capillary LC platforms. Considerations for column selection (in terms of length, internal diameter, particle size, and particle morphology) include pressure limits (both column and instrument), required efficiency for a given separation, and the balance between operating flow rate and the maximum volume that can be delivered from the pumping system in a single method.

We have employed compact capillary LC instrumentation in a wide variety of application areas that will be discussed. The analysis of pharmaceutical compounds has focused on QA/QC methodology (including impurity monitoring) and strategies for on-line reaction monitoring. Compact LC-MS has also been used for targeted screening of illicit drug compounds towards implementation in point-of-care settings. New instrument developments for temperature control along with the ability to connect the instrument to high resolution MS instrumentation have improve the ability to analyze antibody-based biopharmaceutical drugs. The common LC methods used in these and other application areas have the potential to be transformed through this technology that is greener and simpler to operate while still providing efficient chromatographic separations.

For complete details and to make a dinner reservation, please visit our society's website. Deadline for dinner reservations is Wednesday, January 10, 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.

Editor: Sarah Scrivener, [crucible@pittsburghacs.org](mailto:crucible@pittsburghacs.org)

## 2024 Pittsburgh Section Officers

<b>Chair</b>	Alysia Mandato <a href="mailto:atm75@pitt.edu">atm75@pitt.edu</a>
<b>Chair-Elect</b>	Samuel Leung <a href="mailto:samuel.leung@braskem.com">samuel.leung@braskem.com</a>
<b>Secretary</b>	Ronghong Lin <a href="mailto:dr.ronghong.lin@gmail.com">dr.ronghong.lin@gmail.com</a>
<b>Treasurer</b>	Matt Price <a href="mailto:price@pennwest.edu">price@pennwest.edu</a>
<b>Treasurer-Elect</b>	Niharika Botcha <a href="mailto:nbotcha@andrew.cmu.edu">nbotcha@andrew.cmu.edu</a>
<b>Directors</b>	Heather Juzwa Evonne Baldauff Logan Miller Toby Chapman Ronghong Lin
<b>Councilors</b>	Kim Woznick Rich Danchik Haitao Liu Kristin Nuzzio

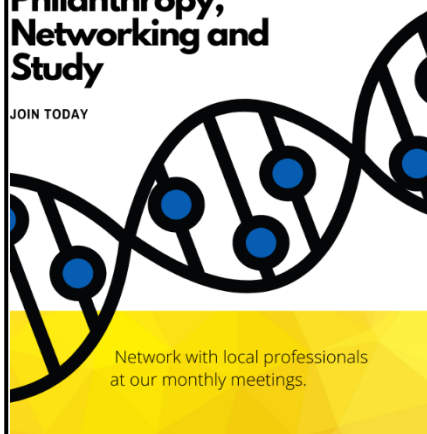
### Spectroscopy Society of Pittsburgh



[chemistryoutreach.org](http://chemistryoutreach.org)

**Science Outreach through Philanthropy, Networking and Study**

JOIN TODAY



Network with local professionals at our monthly meetings.

Society for Analytical Chemists of Pittsburgh  
[chemistryoutreach.org](http://chemistryoutreach.org)



**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 25<sup>th</sup> of the month prior to publication. For example, all items for the February 2024 issue must be to the editor by January 25<sup>th</sup>, 2024.

## ACS Regional Awards – Apply Today!

More information can be found [here](#)