The background features a large, semi-transparent green molecular structure, possibly a protein or RNA complex, with a complex, interconnected network of lines and surfaces. The text is overlaid on this background.

AMERICAN CHEMICAL SOCIETY

PITTSBURGH

Three molecular models are arranged in a triangular pattern, connected by dashed black lines. The top model is a blue, irregularly shaped surface. The bottom-left model is a yellow, irregularly shaped surface with a grey ribbon structure inside. The bottom-right model is a purple, irregularly shaped surface with a grey ribbon structure inside.

THE CRUCIBLE

**RNA BRIGHTS
EDITION**

**CXI No. 9
APRIL 2025**



Letter from the Chair

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

<https://pittsburghacs.org/>

Dear Pittsburgh Local Section,

I hope everyone is enjoying the warmer weather around Pittsburgh as Spring has arrived! In the meantime, your local section executive committee has been hard at work!

First, to share some news from our last monthly meeting in March. 1) We completed and reviewed our committee assignments, and we are all very excited to get to work on this year's proposals and improvements to the local section. 2) Some of you may have heard news that there were possible new territories being added to the local section. While we would have been happy to welcome any and all ACS members, these territories were ultimately added to other sections closer to home, as recommended by the national Committee on Local Section Activities (of which our very own Dr. Kim Woznack is a proud member)! 3) The WCC have been working hard on their career workshop, which will take place on Saturday, April 12th. If you haven't registered yet and are interested in attending, please see this [link](#). 4) Finally, we have begun planning on our annual ACS summer BBQ. Please be on the lookout for this in the upcoming newsletters!

Other upcoming events include our support of the Pittsburgh Regional Science and Engineering Fair, which is taking place the first week on this month. For those unaware, our section awards two students in the senior division each year for their outstanding work in a chemistry-related topic. I encourage everyone to go out there and support these young scientists in their endeavors.

I would also like to formally announce the revival of our Committee on Younger Chemists (YCC), headed by Dr. Biswanath Dutta. We are planning a fantastic kickoff event in the near future, so be on the lookout for announcements on that as well. And if you would like to get involved with YCC, please contact me, and I will get you in touch with Dr. Dutta!

Finally, I want to share that our section is working hard on streamlining our social media, website, and communication efforts. Please be on the lookout for these updates!

As always, I welcome any comments or feedback you may have for me or the committee. You can reach me via email at sleung@berkeley.edu.

Warm (Spring) regards,
Sam

American Chemical Society

1155 Sixteenth Street, N.W. Washington, D.C. 20036
T [123] 123 4567 F [123] 123 4567 www.acs.org

**SSP/SACP Joint Meeting
Monday, April 7, 2025
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

“Nanoelectronic Detection of Opioids with Carbon Nanotube-based FET Sensors”

Dr. Alexander Star, Professor of Chemistry, Bioengineering, and Clinical and Translational Science, University of Pittsburgh



Biography:

Dr. Alexander Star is a Professor of Chemistry, Bioengineering, and Clinical and Translational Science at the University of Pittsburgh. The primary focus of his Sensor Technology Advanced Research (STAR) laboratory is the development of chemical sensing applications of carbon nanomaterials. Professor Star received his B.Sc. and Ph.D. degrees in chemistry from Tel Aviv University in 1994 and 2000, respectively. After doing a postdoc at UCLA (2000-2002) and serving as Senior Scientist at Nanomix, Inc., he joined the Chemistry Department at the University of Pittsburgh in 2005. During his academic career, Professor Star has co-authored 157 peer-reviewed publications, four book chapters, and was listed as a co-inventor on 15 issued patents. His research has been recognized by various awards including the Intel Award, five

University of Pittsburgh Innovator Awards, Chancellor’s Distinguished Research Award, NSF CAREER Award, and NIEHS Outstanding New Environmental Scientist (ONES) Award.

Abstract:

The opioid crisis, driven largely by synthetic opioids like illicit fentanyl, remains a severe public health challenge, with over 100,000 annual overdose deaths in the U.S., nearly 70% of which are linked to fentanyl. Addressing the urgent need for sensitive, portable detection tools, we have developed single-walled carbon nanotube (SWCNT)-based field-effect transistor (FET) sensors for opioid detection.

SWCNTs, with their one-atom-thick structure and exceptional sensitivity to molecular adsorption, are highly suited for chemical sensing applications. My research group utilizes these properties to design ultrasensitive, low-power, and cost-effective sensors functionalized with metal nanoparticles, metal-organic frameworks (MOFs), and antibodies. By integrating machine learning algorithms with nonspecific sensor arrays and addressing limitations of antibody cross-reactivity, we enhance the

sensitivity, selectivity, and reliability of these sensors for detecting synthetic opioids and their metabolites.

This presentation will detail our progress toward building SWCNT-based sensing platforms, highlighting their potential to transform the detection and monitoring of opioid exposure in the ongoing fight against the opioid crisis.

For complete details and to make a dinner reservation, please visit our society's website. Deadline for dinner reservations is Thursday, March 27, 2025 by noon.

<https://chemistryoutreach.org/events/monthly-meeting/>



2025 CCEW Illustrated Poem Contest Hot Topic, Cool Chemistry!

The Pittsburgh Local Section of the American Chemical Society (ACS) is sponsoring an illustrated poem contest for students in kindergarten through 12th grade.

Contest Deadline: Sunday, April 27, 2025 by 11:59 PM EST

<https://forms.gle/EzTWb5j8VHPVCq177>

Prizes: \$50 for 1st place winners in each of four grade categories: K-2, 3-5, 6-8, and 9-12

Contact: Alysia Mandato, CCEW Coordinator, ccew@pittsburghacs.org

Winners of the Pittsburgh Local Section's Illustrated Poem Contest will advance to the National Illustrated Poem Contest for a chance to be featured on the ACS website and to win prizes!

Write and illustrate a poem using the CCEW theme, **"Hot Topic, Cool Chemistry!"**
Your poem must be **no more** than 40 words and in the following styles to be considered:

HAIKU - LIMERICK - ODE - ABC POEM - FREE VERSE - END RHYME - BLANK VERSE

Possible topics related to the glacier theme include:

- | | |
|------------|----------------|
| • Climate | • Preservation |
| • Drill | • Reservoir |
| • Prism | • Fossil Fuels |
| • Ice Core | • Drought |

Entries will be judged based upon:

- Artistic Merit - use of color, quality of drawing, design, and layout
- Poem Message - fun, motivational, and inspiring about the yearly theme
- Originality Creativity - unique, clever, and/or creative design

Contest rules:

- All poems must be no more than 40 words, and in one of the following styles to be considered: Haiku, Limerick, Ode, ABC poem, Free verse, End rhyme, and Blank verse.
- Entries are judged based upon relevance to and incorporation of the CCEW theme, word choice and imagery, colorful artwork, adherence to poem style, originality and creativity, and overall presentation.
- All entries must be original works without aid from others. Poems may be submitted by hand on an unlined sheet of paper not larger than 11" by 14" or scanned and sent via email. Illustrations may be created using crayons, watercolors, other types of paint, colored pencils, or markers. The illustration may also be electronically created by using a digital painting and drawing app on a computer, tablet, or mobile device.
- The text of the poem should be easy-to-read and may be typed before the hand-drawn or digital illustration is added, or the poem may be written on lined paper, which is cut out and pasted onto the unlined paper with the illustration.
- No clipart or unoriginal images can be used.
- Only one entry per student will be accepted; all entries must include an entry form.
- If the illustration is created using a digital painting or drawing app, the name of the program must be included on the entry form (No AI).
- Acceptance of prizes constitutes consent to use winners' first name and last initial, along with the name of the ACS Local Section, on the ACS web pages and, in the magazine, Chemical & Engineering News



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, Dr. Ronghong Lin, at Dr.ronghong.lin@gmail.com, by August 15, 2025.

Spring Career Panel

– hosted by the ACS Pittsburgh Women Chemists Committee –

Meet our speakers!



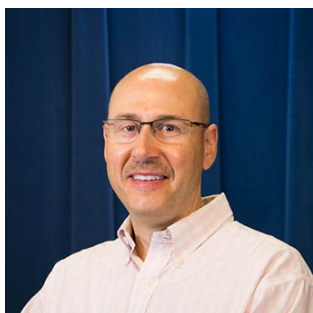
Jennifer Reeger
Director of Communications
& Media Relations
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Dr. Alice Deckert
Professor of Chemistry
Allegheny College



Dr. David Jaffer
Retired Partner
Pillsbury Winthrop
Shaw Pittman



Dr. Edward Zovinka
Professor of Chemistry
Saint Francis University



**Dr. Amalene
Cooper-Morgan**
Associate Professor of Chemistry
Seton Hill University



Dr. Li Li
Catalysis Researcher
Braskem



Saturday, April 12th, 2025

10am – 6pm

Scan or [click here](#) to register
& for more information!

Space is limited!

Please RSVP
by April 6th



Spring Career Panel

– hosted by the ACS Pittsburgh Women Chemists Committee –

Meet our panelists!



Dr. Sara Smith
Associate Director of R & D
Revvity Omics



Dr. Tamika Madison
TA Professor & Director of
General Chemistry Labs
University of Pittsburgh



Dr. Lauren Burrows
Research Physical Scientist
**National Energy
Technology Laboratory**



Dr. Holly Penefsky
Senior R & D Group Leader
Sherwin-Williams



Dr. Zoe Vaughn
ORISE Postdoctoral Research Fellow
**US Army Medical Research
Institute of Chemical Defense**



Dr. Li Li
Catalysis Researcher
Braskem



Saturday, April 12th, 2025

10am – 6pm

Scan or [click here](#) to register
& for more information!

Space is limited!

**Please RSVP
by April 6th**



Annual Awards Dinner

Tuesday, May 13, 2025

Co-Sponsored by

THE SOCIETY FOR ANALYTICAL CHEMISTS OF PITTSBURGH
THE SPECTROSCOPY SOCIETY OF PITTSBURGH
PITTSBURGH LOCAL SECTION OF THE AMERICAN CHEMICAL SOCIETY



DUQUESNE
UNIVERSITY



Duquesne University
Power Center

Registration and Social Period – 5:00 PM

Dinner – 5:45 PM

Awards Ceremony – 6:45 PM

Entrée Choices

Chicken Parmesan

Eggplant Parmesan

Each member may bring one guest. Seating is limited and will be handled on a first come, first served basis.

Dinner Reservations must be made before noon on April 30, 2025 by using the following link: <https://chemistryoutreach.org/awards-members/>

Parking: For parking, please use the Duquesne University Parking Garage on Forbes Avenue. Please bring your parking ticket to the registration desk for a parking validation sticker.

GLACIERS

HOT TOPIC  **COOL CHEMISTRY**

April 20-26, 2025 | #CCEW

Join us in April for Chemists Celebrate Earth Week! We are collaborating with [Pittsburgh Parks Conservancy at their Earth Month celebration events](#).

We will perform demonstrations and activities for children and the general public! Bring your friends and families.

Saturday, April 5 from 2 PM – 5 PM at Westinghouse Park in the Point Breeze neighborhood

Saturday, April 19 from 2 PM – 5 PM at McKinley Park in the Beltzhoover neighborhood



**Pittsburgh
Parks
Conservancy**



ACS
Chemistry for Life®

AMERICAN CHEMICAL SOCIETY





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: Hailee Vizyak and Frederick Grinfeld, crucible@pittsburghacs.org

2025 Pittsburgh Section Officers

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Chair-Elect	Ronghong Lin dr.ronghong.lin@gmail.com
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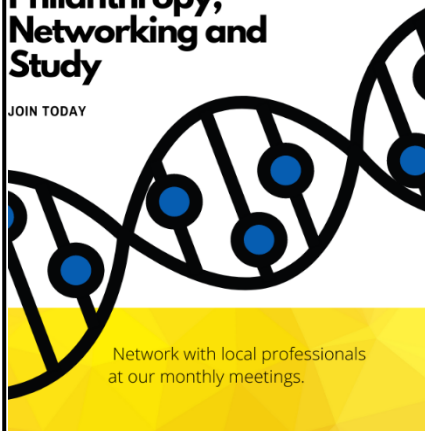
Spectroscopy Society of Pittsburgh



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Network with local professionals at our monthly meetings.

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Advancing Analytical Chemistry through Science Education

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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.

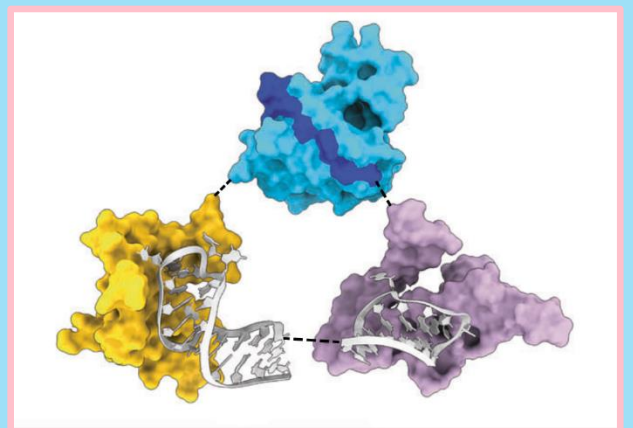
The Crucible Deadline

The deadline for items submitted to The Crucible is the 15th of the month prior to publication. For example, all items for the March 2025 issue must be to the editor by February 15th, 2025.

ACS Regional Awards – Apply Today!

More information can be found [here](#)

COVER image



Halbers et al. Nat Commun 15, 9992 (2024)