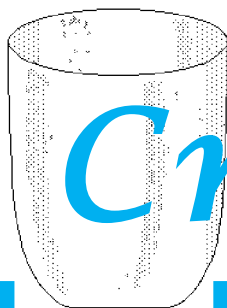


The Crucible



Volume CV, No. 1

September 2019



NATIONAL CHEMISTRY WEEK IS COMING!

Join the Pittsburgh Section of the American Chemical Society as we celebrate 21 years of NCW/ChemFest at the Carnegie Science Center!

Where: **Carnegie Science Center**

When: **Friday, October 25th (9 AM to 3 PM)**

Saturday, October 26th (10 AM to 4 PM)

Over 25 tables of hands-on experiments, activities, demonstrations, and special programming to accompany the theme "Marvelous Metals"

The ACS Pittsburgh Section can use your help to make this year's NCW celebration a success!

Do you have an organization that would like to conduct a hands-on activity at the event?

Are you interested as an individual in volunteering to help during the event?

If you, or your organization, are interested in participating please contact Evonne Baldauff at ebaldauff@waynesburg.edu or 724-852-7617.

For more information about the NCW celebration in Pittsburgh, visit the Pittsburgh Local Section's website at <http://www.pittsburghacs.org/outreach/national-chemistry-week/> or look us up Facebook at Pittsburgh ACS NCW.

You can also find additional information about NCW on the ACS National's website at <https://www.acs.org/content/acs/en/education/outreach/ncw.html>

The Pittsburgh Section's 2019 NCW activities are sponsored in part by The Society for Analytical Chemists of Pittsburgh, The Spectroscopy Society of Pittsburgh, PPG Science Education Council, and the PPG Foundation.

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National Chemistry Week/ChemFest 2019

Event Information

Where: Carnegie Science Center

When: Friday, October 25th (9 AM to 3 PM)

Saturday, October 26th (10 AM to 4 PM)

The ACS Pittsburgh Section will provide:

- One (1) six-foot table with table cloth and two (2) chairs (additional table and chairs available upon request).
- A table sign with your organization's name.
- A National Chemistry Week logo sticker and name badge that serves as "general admission" to the Carnegie Science Center during the two-day event for each volunteer.
- An \$8 lunch voucher for the Carnegie Science Center's River View Café for each volunteer.
- Free parking for NCW volunteers at Carnegie Science Center.

Your organization will need to provide:

- Safety Goggles and any other safety equipment to protect both your volunteers and the general public participating in your activity - this is a must!
- AV Equipment, Easels, Extension Cords and Power Strips, etc.
- Volunteers and all materials related to your hands-on activity or demonstration. When purchasing supplies keep in mind average attendance is 2,200 on Friday and 1,800 on Saturday.

Special Note:

Due to health and safety issues with allergies, etc. please do not hand out or give away candy or any other edible items to visitors.

Available Set-Up Times:

- Thursday, October 24 (4:00 PM - 6:00 PM)
- Friday, October 25 (8:00 AM - 9:00 AM)
- Saturday, October 26 (9:00 AM - 10:00 AM)

Volunteering Information:

We recommend that you divide up your volunteers to work two half-day (3 hour) shifts each day, as tables must be staffed at all times. All volunteers are to report to the NCW Registration Table (1st floor lobby, next to the main entrance) prior to the start of their shift, to register and receive their name badge, lunch voucher, parking voucher, etc.

Questions? Contact the NCW Coordinator:

Evonne Baldauff

ebaldauff@wvnesburg.edu

724-852-7617

The Pittsburgh Section's 2019 NCW activities are sponsored in part by The Society for Analytical Chemists of Pittsburgh, The Spectroscopy Society of Pittsburgh, PPG Science Education Council, and the PPG Foundation.



Tristan Layfield

Saturday 09/28/19 at 1:00 pm
Room 150 Chevron Science Center
(219 Parkman Avenue ♦ Pittsburgh, PA 15260)

The Building Your Professional Brand workshop is focused on those looking to pursue career opportunities outside of academia.

The discussion will be lead by Tristan Layfield. He is an acclaimed career coach that provides professional branding for resumes, cover letters, and LinkedIn profiles. He approaches career development with clients by combining their own personal branding with their career field. He helps them identify their interests and develop a plan to hone those skills in their careers. More information on Tristan and his services can be found at layfieldresume.com.



RESUME CONSULTING

Workshop will include:

- Professional branding for resumes and LinkedIn profiles.
- A photographer will be available to take “professional” headshots for your LinkedIn profile.
- Representatives from local companies will also be available for Q&A.



For more information on how to register, visit www.pghWCC.org

This event is open to all genders from any institution.



Department of Chemistry



Join the Greater Pittsburgh Area Women Chemists Committee in raising funds for Breast Cancer Awareness...

In years past we were able to donate over \$2000 to the Young Women's Breast Cancer Awareness Foundation at Magee Hospital thanks to the generosity of those participating in our fundraising events and sales.

Due to popular demand, we are selling our t-shirts again – with all net proceeds donated! The t-shirts will have the logo shown below.

Orders will be taken through October 1st.

\$15/shirt

Save the

5	10.81	8	15.999	8	15.999	83	208.98	99	(252)
B		O		O		Bi		Es	
Boron		Oxygen		Oxygen		Bismuth		Einsteinium	

support breast cancer awareness

\$1/shirt delivery

Receive a free "Save the TaTaS" tote with every 2 shirts purchased while supplies last.

Please make check payable to *WCC* and mail along with this order form to:
 Dr. Michelle Ward / Room 107 / 219 Parkman Avenue / Pittsburgh, PA 15260.

You can also use the online form and link available on our website: www.pghwcc.org.
 (You will be contacted when shirts are ready for pick-up or for delivery information.)

Name: _____

Email: _____ Phone: _____

small: _____

XL: _____

medium: _____

2XL: _____

large: _____

shirts shipped: _____

total enclosed: \$ _____

Younger Chemists Committee (YCC) Holds Summer Picnic

On July 17, 2019, the YCC held a summer picnic for food, fun, and networking!



Congratulations to ACS Pittsburgh Section Member Paulette Vincent-Ruz Featured in Chemical and Engineering News Named 2019 CAS Future Leader

CAS is a division of the American Chemical Society, which publishes C&EN. The Future Leaders program offers PhD students and postdocs the opportunity to gain leadership skills and learn about the chemical information industry. Participants will visit CAS in Columbus, Ohio, and attend the fall ACS national meeting in San Diego. Congratulations, Paulette!

Paulette Vincent-Ruz

Postdoc at the University of Pittsburgh

Education: BS, chemical engineering, National Autonomous University of Mexico; PhD, learning sciences and policy, University of Pittsburgh

Research: Understanding the systemic disadvantages that hinder the success of minoritized students

Career goals: "I want to focus my research on improving the environment of chemistry learning for marginalized populations. We often talk about this in terms of sex and race, but we really need to acknowledge that students with different gender identities, disabilities, and sexualities experience learning and belonging in our classroom in different ways."



Credit: Courtesy of Paulette Vincent-Ruz.

Paulette Vincent-Ruz



Society for Analytical Chemists of Pittsburgh
Spectroscopy Society of Pittsburgh



September Meeting

Wednesday, September 18, 2019

8:00 PM Duquesne University

5:30 PM Social Hour — Power Center Ballroom

5:30 PM SSP Technology Forum – Power Center Ballroom

6:30 PM Dinner – Power Center Ballroom

Student Affiliate Meeting – Shepperson Suite

7:45 PM Business Meeting – Power Center Ballroom

8:00 PM Technical Program – Power Center Ballroom

"Two-Dimensional Correlation Spectroscopy and Development of Bioplastics Nodax™"

Isao Noda, Ph.D. University of Delaware

Two-dimensional (2D) correlation spectroscopy is a versatile spectral data analysis technique which has gained wide popularity over the last 30 years in both academic and industrial laboratories. It is used in many different fields, including inorganic and organic chemistry, life science and medicine, as well as polymer and materials science applications. In 2D correlation spectroscopy, spectral maps defined by two independent variables, such as IR wavenumbers, are generated by applying a form of cross correlation analysis to the variations in spectral intensities induced by an external perturbation, such as temperature, pressure, concentration, or even electromagnetic field. Notable features of 2D correlation spectra are: the simplification of complicated spectra consisting of many overlapped peaks, enhancement of spectral resolution by spreading peaks over the second dimension, and establishment of unambiguous assignment through correlation of bands selectively coupled by various interaction mechanisms. Some of the interesting applications of 2D correlation spectroscopy will be briefly presented to show its utility.

2D correlation spectroscopy has played a key role in the materials development effort in my laboratory, especially in the molecular design and characterization of a class of bio-based and fully biodegradable plastics, which is now commercialized by Danimer Scientific in Bainbridge, GA under the trade name of Nodax™. Danimer's Nodax™ belongs to a very interesting class of aliphatic polyesters called poly(hydroxyalkanoates) or PHAs, which are found as intracellular inclusion bodies in various microorganisms. Certain microbes accumulate PHAs as an energy storing medium, and many types of PHAs have been known. Because they are made by bacteria, PHAs are fully biodegradable under right conditions. However, most of PHAs known in the past unfortunately had serious shortcomings in their physical

[Continued on Page 7](#)

SACP/SSP September Meeting

Continued from Page 7

properties to be a useful material. 2D correlation spectroscopy provided a critical insight into a way to modify the molecular structure of PHA to make this class of biomaterials much more useful and inexpensive to become a viable replacement for conventional petroleum-based plastics. This talk will cover the background and applications of 2D correlation spectroscopy, as well as the earlier development and subsequent fundamental scientific research effort carried out on Nodax™ PHAs using this versatile spectroscopic technique.

BIOGRAPHY:

Isao Noda was born in Tokyo, Japan, came to the United States in 1969 graduated from Columbia University in the City of New York in 1974 with a B.S. degree in chemical engineering. He received his M.S. in bioengineering (1976), as well as M.Phil. (1978) and Ph.D. (1979) in chemical engineering from Columbia. In 1997 he also received D.Sc. degree in chemistry from the University of Tokyo. He worked for the Procter and Gamble Company in Cincinnati, Ohio from 1978 to 2012.

After the retirement from P&G, he became an Affiliated Professor at the Department of Materials Science and Engineering, University of Delaware and also holds the position of Chief Science Officer and Senior Vice President at Danimer Scientific in Bainbridge, GA. His research interest is in the broad area of polymer science and spectroscopy. He is known for the development of a novel class of bio-based biodegradable plastics Nodax™ and also a versatile analytical technique called two-dimensional correlation spectroscopy.

Dinner Reservations:

To make dinner reservations, please complete the online reservation form at <http://www.ssp-pgh.org/dinner-rsvp/> by **Wednesday, September 11, 2019**. Should you not have internet access, please call 412-825-3220, ext. 200. Dinner will cost \$10 (\$5 for students) and checks are to be made out to the SSP. If you have any dietary restrictions, please let us know when you leave a message.

Parking:

Duquesne University Parking Garage entrance is on Forbes Avenue. Upon entering the garage, you will need to get a parking ticket and drive to upper floors. Bring your parking ticket to the dinner or meeting for a validation sticker. Please contact Duquesne University, if any difficulties should arise.



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

(hjuzwa@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

Student Travel Grant Application

www.pittsburghacs.org

<i>Application Deadline</i>	<i>Travel Completion Date</i>
December 1 st	June 30 th (subsequent year)
June 1 st	December 31 st (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 hlijuzwa@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 hjuzwa@shimadzu.com and heather_sapko@hotmail.com. Be sure to place "Pittsburgh Section ACS Travel Grants" in the subject line.

Business Directory

Services

Pittsburgh Section Officers

Chair

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724-852-3376

bdavis@waynesburg.edu

Secretary

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5626 Beacon Street

Pittsburgh, PA 15217

mbaker1@andrew.cmu.edu

Treasurer

Amy Rupert

350 Sunset Rd.

Pittsburgh, PA 15237

treasurer@pittsburghacs.org

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 October 2019 issue must be to the editor by September 15, 2019.

Services

Volunteers Needed!

There are a number of volunteer opportunities in the Pittsburgh ACS section! If you are interested in volunteering, please contact Heather Juzwa at hlijuzwa@shimadzu.com!



Society for Analytical Chemists of Pittsburgh CALLING NEW MEMBERS

Dues Only \$10.00, Call the SACP

Administrative Assistant at

412-825-3220 Ext. 200 **Right Now!**

The Crucible

The Crucible is published monthly, August through May. Circulation, 2,500 copies per month. Subscription price, six dollars per year. 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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Services

Get Connected!

Stay up-to-date on all the happenings of the Pittsburgh Section ACS

Section's Website:

www.pittsburghacs.org

Facebook Page:

Pittsburgh Section of the
American Chemical Society

Linked In:

Pittsburgh Section of the
American Chemical Society

Spectroscopy Society of Pittsburgh

- Professional Networking within the Spectroscopy Community
- Monthly Symposia by Prominent Researchers
- Promoting Science Education



To Join Call the Administrative Assistant:
412-825-3220 ext 200

The Crucible

A newsletter of the Pittsburgh Section of the American Chemical Society

124 Moffett Run Rd.

Aliquippa, PA 15001

Change of Address

If you move, notify the American Chemical Society, 1155 Sixteenth Street, N.W., Washington, D.C. 20036.

To avoid interruption in delivery of your CRUCIBLE, please send your new address to Traci Johnsen, 124 Moffett Run Rd., Aliquippa, PA 15001. Allow two months for the change to become effective.

Pittsburgh Area Calendar

Wednesday, September 12

Society for Analytical Chemists of Pittsburgh and the Spectroscopy Society of Pittsburgh

"Two-Dimensional Correlation Spectroscopy and Development of Bioplastics Nodax™"

Isao Noda, Ph.D. University of Delaware

Saturday, September 28

Greater Pittsburgh Area Women Chemists Committee

"Building Your Professional Brand "

Tristan Layfield

Room 150 Chevron Science Center, 219 Parkman Ave., Pittsburgh, PA

October 25-26

National Chemistry Week 2019

Carnegie Science Center, Pittsburgh, PA