



# The Crucible

## 2017 Earth Day Poem Contest Winners

As part of the American Chemical Society's (ACS) 2017 Chemists Celebrate Earth Day (CCED) celebration, the Pittsburgh Section ACS sponsored an illustrated poem contest for students in grades K-12. Students could pick topics related to the 2017 CCED theme "Chemistry Helps Feed the World." Poems could be any style (free verse, limerick, haiku, etc.). Entries were judged based upon relevance to and incorporation of the theme, word choice and imagery, colorful artwork, adherence to poem style, originality and creativity, and overall presentation.

Each 1<sup>st</sup> place winner will receive a check for \$50 and their winning poem has been entered into the national ACS CCED poetry contest sponsored by the ACS's Committee on Community Activities.

And the winners of the 2017 Pittsburgh Section ACS's CCED poetry contest:

### ***K-2<sup>nd</sup> Grade***

No entries received

### ***3<sup>rd</sup>-5<sup>th</sup> Grade***

Ananya T. (5<sup>th</sup> Grade), Boyce Middle School  
Teacher: Mrs. Susan Fleckenstein

### ***6<sup>th</sup>-8<sup>th</sup> Grade***

Thomas P. (6<sup>th</sup> Grade), Home School  
Teacher: Susan P.

### ***9<sup>th</sup>-12<sup>th</sup> Grade***

Michaela P. (11<sup>th</sup> Grade), Ringgold High School  
Teacher: Mrs. Kim Leasure

***Winning Poems featured on Pages 8-10.  
Congratulations to all our winners!***

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## *National Chemistry Week is Coming!!!*

Join the Pittsburgh Section of the American Chemical Society as we celebrate National Chemistry Week/ChemFest 2017 with the theme

### **“Chemistry Rocks!”**

**Where:** Carnegie Science Center

**When:** Friday, October 27<sup>th</sup> (9 AM to 3 PM)

Saturday, October 28<sup>th</sup> (10 AM to 4 PM)

**What’s Happening:** Over 20 tables of hands-on experiments, activities, demonstrations, and theater shows.

The Pittsburgh Section ACS could use your help to make this year’s NCW celebration a success. Are you interested in volunteering to help with the event? Do you have an organization that would like to sponsor a hands-on activity at the event?

If you, or your organization, are interested in participating in this year’s NCW event, please contact:

Michael Mautino

Phone: 412-413-4792

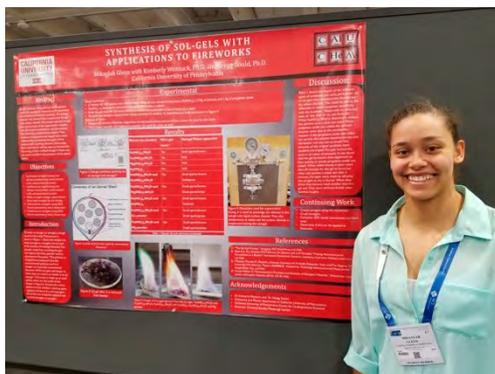
E-mail: [michael.mautino@covestro.com](mailto:michael.mautino@covestro.com)

For more information about the NCW celebration in Pittsburgh, visit the Pittsburgh 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’s website at <http://www.acs.org/content/acs/en/education/outreach/ncw.html>

**The Pittsburgh Section's 2017 NCW activities are sponsored in part by The Society for Analytical Chemists of Pittsburgh, The Spectroscopy Society of Pittsburgh, PPG Science Education Council, PPG Industries Foundation, Covestro LLC, and the Carnegie Science Center.**

## Spring 2017 Travel Award Recipient, Mikaylah Glenn, Reports on National Meeting Experience

The 2017 American Chemical Society National meeting in San Francisco is an experience that I will never forget. I not only got to spend time with very intelligent people, but I got to meet students my own age and discuss our similar interests. I was impressed by the size of the event, not only the large Moscone Center, but the amount of people that I saw. It was great to spend time with people who have similar interests.



There were many different events to choose from and so little time to do everything that I wanted to do. I was able to attend the Undergraduate Awards Ceremony where California University of Pennsylvania was recognized. We received Honorable Mention for our chemistry club. While there, I was able to see the pride students had about their school. The students that stuck out to me were the ones from Puerto Rico. They were being loud, playing music and just enjoying their time. It was fun to watch. After the ceremony, I attended the after party. There was great music, food, and people to get to know. It was a great start to my week.

The following day was my undergraduate poster presentation. I was very impressed by the amount of people that presented. Not only that, but the Moscone Center provided plenty of room to accommodate everyone. At my presentation, quite a few people were interested in my poster and asked thought provoking and interesting questions. Later on that evening, I presented at Sci-Mix. This session allowed anyone from students to pro-

professionals to present posters. Anyone and everyone could come to it and it was late at night, so many people were able to attend. At this session I was asked more in depth questions that I hadn't thought of before. My research

has been improved based on suggestions from both poster sessions. I also attended the exposition and got lots of free goodies.

Mikaylah Glenn at the Undergraduate Research Poster Session.

I was also able to

attend a Luncheon sponsored by the Women's Chemist Committee. They honored Barbara J. Finlayson-Pitts for her research on Atmospheric Aerosols. I sat at a table with many board members and I learned a lot from them.

On my last day in San Francisco, I got to explore the city. I walked to the Fisherman's Wharf and saw a wonderful view of the bay bridge. I went to the shops to buy souvenir and also got a free ice cream cone from Ben & Jerry's.

For my first ACS National Meeting, it was amazing. I hope to attend more meetings in the future. This made me excited about chemistry and my future in chemistry. I cannot wait to attend more meetings in the future.

Written by Spring 2017 ACS Travel Award recipient Mikayla Glenn

## Congratulations to Todd M. Przybycien 2017 ACS Fellow



Dr. Todd Przybycien from Carnegie Mellon University was one of only 65 ACS Fellows named in 2017.

This honor is bestowed upon members for their outstanding accomplishments in scientific research, education, and public service. Congratulations, Todd!

## Congratulations to our Latest Travel Grant Winners!

We had a record number of applications this round, but 3 students rose to the top of the stack! Undergraduates Caelin Celani and Halie Tucci from Washington and Jefferson College and Graduate Julia Cuthbert from Carnegie Mellon University will represent the section at the fall national meeting in Washington D.C. from August 20-24! Congratulations, Julia, Halie, and Caelin!

## Interested in a Piece of Pittsburgh Section History?

Thank you to Carlow University's ACS Student Affiliate Chapter, we can now enjoy past issues of our section newsletter, The Crucible. Thank you to Carlow as they continue to scan historic issues. We will post them on our website as they become available! Enjoy!



**Left** - Bidwell Director Michelle Blanken at the registration table of 2001 NCW

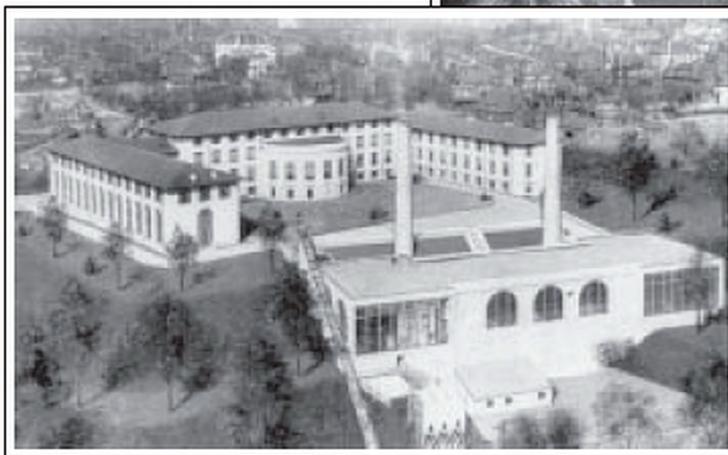
**Below** - 2001 NCW Coordinator V. Michael Mautina and his committee



**Left** - Attila Pavlath, President of the National ACS, presents plaque recognizing commercialization of the Hall process as an ACS National Historic Landmark to Robert Slagle, Executive Vice President of Human Resources and Communication, ALCOA



**Right** - P.J. Pique at the SACP Table of 2001 NCW



**Left** - Old Bureau of Mines Building in Pittsburgh (Oakland)

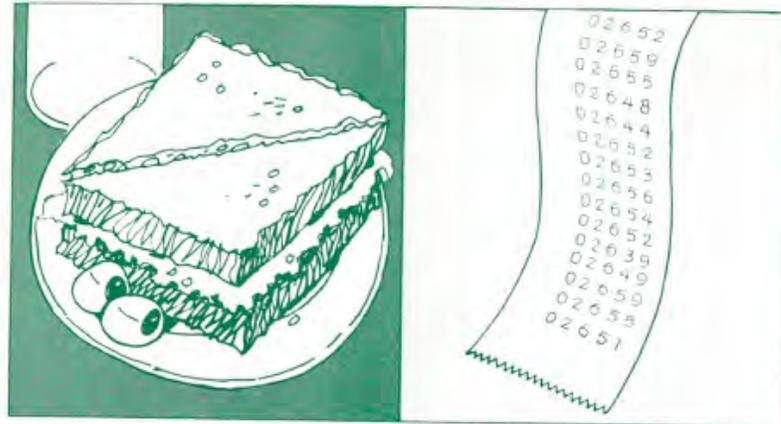
## 2017 50, 60, and 70 Year Member Celebration Luncheon



**Dave Waldeck, Richard Henderson, Evonne Baldauff**

On Monday June 26, the Pittsburgh Local Section celebrated our 50, 60, and 70 year members with a luncheon at Mitchell's Fish Market at the Galleria in Mt. Lebanon. 50-year member Richard Henderson and his wife Mary Beth enjoyed reminiscing with members of our Executive Committee about the evolutions of Mobay, Bayer, Covestro and our career paths. For entertainment, we reviewed the January 1967 issue of The Crucible newsletter, the year Richard joined the organization! So interesting that our section used to have many contributors to the newsletter and that we used to wear tuxedos to the Pittsburgh Award dinner! We got a great chuckle at the Titralyzer advertisement and the fact that we could have one running in our lab a while we enjoyed our meal!

Thank you to Carlow University for making these past newsletter issues available electronically! And, Congratulations to our 2017 50, 60, and 70 year members!



### While Charlie Higgins is having lunch his new Fisher Photometric Titralyzer is performing 15 colorimetric titrations—automatically.

When he gets back to the lab, the printed results will be waiting for him. The new Fisher Photometric Titralyzer increases the efficiency of your lab by doing as much work as any technician. Just fill the buret and reservoir with titrant, set the controls, and place up to 15 repetitive samples in the turntable. You are free to do other work.

The Titralyzer is sensitive to color variations imperceptible to the eye. It also eliminates human errors caused by differences in color vision or fatigue. The print-out tape does away with misreading of burets and transferring figures incorrectly.

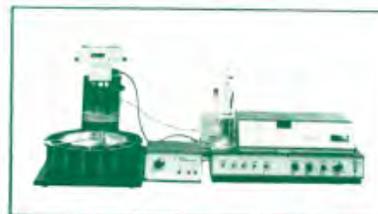
With the Photometric Titralyzer there is no "new chemistry" to learn. We'll send you copies of procedures for Water Hardness (Total) by EDTA Titration (APHA proce-

dure); Water Hardness (Calcium) by EDTA (APHA); P & M Alkalinity/Acidity (also APHA); and Neutralization Numbers of Petroleum Products (ASTM procedures). There are more to come.

The Fisher Photometric Titralyzer costs \$3300. Just call or write for more details.

(A photometric titration accessory is available for the Fisher Potentiometric Titralyzer.)

S-599



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 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](mailto:hjuzwa@shimadzu.com) or [heather\\_sapko@hotmail.com](mailto: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](http://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.

## "Tracking Lithium Ions Via Wide Field Fluorescence Microscopy For Battery Diagnostics"

### ACS Sensors

Lithium-ion batteries have become an indispensable power source for our proliferating gadgets. They have also, on occasion, been known to catch fire. To yield insight into what goes wrong when batteries fail and how to address the safety hazard, scientists report in the journal ACS Sensors that they have found a potential way to track lithium ions as they travel in a battery.

In essence, rechargeable batteries work by shuttling ions back and forth between electrodes through an electrolyte. Often, failure occurs when lithium ions stray from their intended path. To better understand how this happens, scientists have looked for ways to track the ions. Several methods have been proposed, but so far, they have been limited for various reasons, including poor spatial resolution. Fluorescence microscopy, which is often used to probe materials and biological systems, could potentially fill this void. But first, scientists would need to find a fluorescent label that is sensitive to lithium ions. Randall H. Goldsmith and colleagues at the University of Wisconsin-Madison set out to do this.

The researchers worked with 2-(2-hydroxyphenyl)naphthoxazole, or HPNO, a molecule that fluoresces when it attaches to lithium ions. They added a "visible pump" to help prevent photobleaching and other damage. In a battery-like environment, the system could image and track lithium ions. The researchers note that their next step would be to test the molecule in a more realistic analog of a battery cell.

*The authors acknowledge funding from a University Research Project grant from Ford Motor Company.*



<i>Application Deadline</i>	<i>Travel Completion Date</i>
December 1 <sup>st</sup>	June 30 <sup>th</sup> (subsequent year)
June 1 <sup>st</sup>	December 31 <sup>st</sup> (same year)

Name of Applicant: \_\_\_\_\_

Name of Institution: \_\_\_\_\_

Undergraduate Student / Year: Choose your year

Graduate Student / Year: Choose your 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](mailto: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: \_\_\_\_\_

\_\_\_\_\_

**C**orn will always have an even number of rows

**R**ice ball day is April 19<sup>th</sup>

**O**ranges are berries

**P**apaya tree bark is used to make rope

**S**oybeans replaced coffee during the civil war



**3<sup>rd</sup>-5<sup>th</sup> Grade**

Ananya T. (5<sup>th</sup> Grade), Boyce Middle School  
Teacher: Mrs. Susan Fleckenstein



### Photosynthesis

Water comes through the roots and sunlight through the leaves  
Creating food for all to be pleased.  
CO<sup>2</sup> we exhale absorbed by plants and grain  
The process of Photosynthesis starts once again.

**6<sup>th</sup>-8<sup>th</sup> Grade**

Thomas P. (6<sup>th</sup> Grade), Home School  
Teacher: Susan P.



Fertilizer.  
Inorganic; Organic.  
Added to soil,  
Provider of nutrients,  
Essential for growth.  
In so many ways,  
Beneficial to our way of life...  
It is evident that modern agriculture  
Bets on,  
Depends on,  
Relies on,  
Fertilizer.

**9<sup>th</sup>-12<sup>th</sup> Grade**

Michaela P. (11<sup>th</sup> Grade), Ringgold High School  
Teacher: Mrs. Kim Leasure

# Business Directory

## Services

### PITTSBURGH SECTION OFFICERS

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#### Treasurer

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Pittsburgh, PA 15236  
443-617-6792  
kelley.colopietro@gmail.com

## 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 [hljuzwa@shimadzu.com](mailto:hljuzwa@shimadzu.com)!

### Crucible Deadline

The deadline for items submitted to The Crucible is the 15<sup>th</sup> of the month prior to publication.

For example, all items for the September 2017 issue must be to the editor by August 15, 2017.

### 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



**SOCIETY FOR ANALYTICAL CHEMISTS OF PITTSBURGH**  
**Calling New Members**

Dues Only \$5.00, Call [Julianne Diddle](mailto:Julianne.Diddle)  
412-825-3220 Ext. 204 **Right Now!**

### Spectroscopy Society of Pittsburgh

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



To Join Call Amy: 412-825-3220 ext 212

### Get Connected!

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

#### Section's Website:

[www.pittsburghacs.org](http://www.pittsburghacs.org)

#### Facebook Page:

Pittsburgh Section of the American Chemical Society

#### Linked In:

Pittsburgh Section of the American Chemical Society

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# 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

### August 20-24

Fall 2017 ACS National Meeting and Exposition

**Chemistry's Impact on the Global Economy**

Washington, D.C.

### Friday and Saturday, October 27 & 28

National Chemistry Week

**Chemistry Rocks!**

Carnegie Science Center, Pittsburgh, PA