



THE OCTAGON



Summer LVACS Events!



Tuesday, June 27
LVACS at the Iron Pigs
CocaCola Stadium

&

Sunday, July 16
Summer Picnic
Nockamixon State Park

In This Issue:

Iron Pigs	1
Summer Picnic	2
Call for Chairs	2
From the Chair	3
Safety 3D printing	4
Organic Scholarship	5
Leadership Course	5
CMA Event	6
2017 Officers	7



Play Ball!

Lehigh Valley Iron Pigs
vs.
Pawtucket Red Sox



Tuesday June 27, 2017

Join LVACS on the Berks Foods Picnic Patio for all you care to eat buffet and unlimited soft drinks!

First Pitch 7:05 PM

Cost \$20 members (\$28 value)

Contact lawelch@cedarcrest.edu to reserve one of the remaining tickets!



LVACS SUMMER PICNIC

Sunday, July 16th from 1 – 5 pm
Nockamixon State Park
1542 Mountain View Drive, Quakertown, PA

You will reconnect with ACS friends and make new ones in a relaxed, casual and comfortable atmosphere. Activities and entertainment will include food, drinks, music, games and chemistry trivia. Your entire family and friends are invited. Attendees will be asked to bring a picnic dish to share.



Registration: <https://goo.gl/forms/6fwUz5rHoKU8hbsir>

Keep posted to our social media pages and newsletter for further information.

Contact Celia Williams at lvacsls@gmail.com for any additional details.

Call for Committee Chairs

We are seeking to fill the chair positions for:

- Public Relations
- Outreach
- Senior Chemists

If you are interested and need more information please contact Celia Williams at lvacscma@gmail.com





From the Chair



Dear Lehigh Valley ACS members,

The school year comes to end and we look forward to the long days of summer. Always remember to be safe in your activities. We look forward to your continued support of our events and participation in our section.

Thank you to those who attended our April meeting at Desales University for the Undergraduate Research Poster Session and Senior Awards night. The senior awards night recipients and their respective schools are listed below. Congratulations to the winners!

Albright:	Caroline Brittany Endy
Alvernia:	Eunjung Smith
Cedar Crest:	Alison Huber
DeSales:	Michael Ott
East Stroudsburg:	Eric S. Januskiewicz
Kutztown:	GuoZhi Zhang
Lafayette - Chemistry:	Stavros Kariofiliis
Lafayette - Chem. Engineering:	Bach Nguyen
Lehigh - Chemistry:	Jessica Lloyd
Lehigh - Chem. Engineering:	Xu Yan
Moravian:	Swathi Kanakamedala
Muhlenberg:	Mark Panas
PSU Berks:	Cezary Mikoluk

I would like to remind you that the ACS Middle Atlantic Regional Meeting (MARM) is from June 4-6, 2017 at Hershey PA. The theme of the meeting is "Elements of Transition." Please visit the website <http://marm2017.sites.acs.org/> for registration and events details.

The May meeting was a Bowling Night held at Revolutions in Saucon Valley. We had a great time bowling, chatting, and networking with attendees from the local section and family members. Lorena Tribe, our Councilor had a superb night, with good scores although it was her first time bowling. She found out she could bowl with either hand! I was the first to break 100, but overall we had great scores. Chair Elect John Freeman and Treasurer Lindsey Welch showed that experience and youth make a great team! Thanks to all who attended and made it a fun evening.

Our last event for the year will be a family and friends picnic on July 16 at Nockamixon State Park. We look forward to having a fun-filled day with lots of food, drinks and games. Please plan to join us. The registration link is <https://goo.gl/forms/6fwUz51HoKU8hbsi1>

Please contact us at lvacsls@gmail.com, if you would like to be more active in the section, or with any questions. Also follow us on Twitter at <https://twitter.com/lvacsls>.

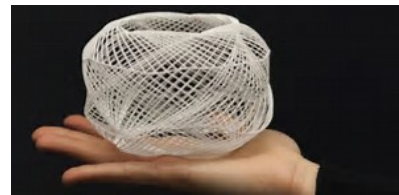
Sincerely,
Celia Williams, *Chair Lehigh Valley ACS*



Safety of 3D printing

Common 3D printer filaments emit volatile organic compounds at printing temperatures

Submitted by Caroline Multari, Safety Chair



Additive manufacturing, or 3D printing, has increased in popularity in recent years for hobbyists as well as industrial manufacturing and prototyping. With this has come questions about its safety, since the process typically involves heating polymeric or metallic materials to high temperatures. New research published in the Journal of Occupational and Environmental Hygiene found that common types of polymeric filaments for 3D printing can release volatile compounds during the printing process.

The authors, Szymon Wojtyła, Piotr Klama, and Tomasz Baran tested the decomposition and accompanying emission of volatile organic compounds (VOCs) from four types of common polymer filaments for fused deposition modeling: ABS, PLA, PET, and Nylon. Fused deposition modeling (FDM) is the most common format of commercial printers. In this process a thermoplastic polymer filament is heated to the temperature at which it can be extruded through a nozzle to be "printed" into a 3-dimensional part.



By measuring the thermal decomposition rate at a range of temperatures, and by using gas chromatography to quantify the emissions, the authors were able to measure the total VOCs emitted from the polymer filament during the printing process. The extrusion temperatures for the polymers in the printer are lower than the temperature for total decomposition, but were found to be high enough for partial decomposition of the materials. The result is that the 3D printing process can be a source of potentially dangerous volatiles.

Printing in a well-ventilated room is recommended to reduce user exposure to VOCs during 3D printing. For further protection against harmful vapors, the authors recommend adding a filter to the printer setup. While HEPA filters will not filter VOCs, photocatalytic filters have shown promise for this use. Choosing a low-emitting polymer will offer protection as well.

Source:

1. Wojtyła, S., Klama, P. & Baran, T. Is 3D printing safe? Analysis of the thermal treatment of thermoplastics: ABS, PLA, PET, and nylon. J. Occup. Environ. Hyg. 14, D80-D85 (2017).



Organic Scholarship Awarded

The Organic Scholarship Committee would like to announce that the overall winner of the scholarship is Mr. Andrew Rice of Muhlenberg College. The award for best essay also goes to Mr. Rice. Mr. Rice will receive an \$1100 award, \$1000 for his overall win and \$100 for the best essay. We would like to congratulate all the participants, which include Ms. Kylie Chichura and Mr. Micheal Galio of Moravian College for making an extra effort to learn and excel outside of the classroom, beyond their normal course requirements. Best wishes to them all, especially in their chemical studies.

John Freeman, Ph.D.
Chair Organic Scholarship Committee

This year's Committee:
John Freeman, Ph.D.
Michael Bertucci, Ph.D. of Moravian College
Danielle N. Ringhoff, Ph.D. of Northampton Community College



The Lehigh Valley local section of the ACS is planning to offer a Leadership Development System® course

Leading without Authority - Learn how to gain cooperation without formal authority and motivate others to accomplish important goals

in Fall 2017.

Additional details will be available in future Octagon publications.

ACS Leadership Development System® courses provide participants with an opportunity to learn essential skills that will strengthen your competitive edge in today's global economy. An ACS member who has been trained and certified to teach the course will be the facilitator.



Lehigh Valley American Chemical Society
Committee on Minority Affairs presents:



Coaster Art

Are you thinking of learning how to draw or paint? Do you want to have fun with art? Explore your artistic talent whether it is abstract, conceptual or photorealism.

Location: Forks Community Center, 500 Zucksville Road, Easton PA

Date, Time & Cost: Saturday, June 10, 2017, 9:00 – 11:30 am, \$20

Facilitator: Jim Pruznick

Deliverables: Design as many coasters as possible and take home a set of four.

Registration: <https://www.eventbrite.com/e/coaster-art-tickets-33298228899>

Menu: Continental Breakfast

For Information Contact: lvacsma@gmail.com



LVACS has a twitter account!

@LehighValleyACS

We also have an email account:
lvacsls@gmail.com

Stay up to date on section events
<https://twitter.com/lehighvalleyacs>





2017 LVACS OFFICERS

Chair:

Celia Williams

Avantor Performance
Materials, Inc.

1904 J.T. Baker Way
Phillipsburg, NJ 08865

lvacscma@gmail.com

Treasurer:

Lindsey Welch

Dept. of Chemical and
Physical Sciences

Cedar Crest College
Allentown, PA 18104
610-606-4666 ext 3615

lawelch@cedarcrest.edu

Secretary:

Seiji Inaoka

sinaoka.chem98@gt
alumni.org

Immediate Past Chair:

Kelley Caflin

Picatinny Arsenal

caflinacs@yahoo.com

Chair Elect:

John Freeman

East Stroudsburg University
East Stroudsburg, PA 18301

jfreeman@esu.edu

Councilor:

Jeanne Berk

Dept. of Chemical and
Physical Sciences
Cedar Crest College
Allentown, PA 18104

610-606-4666 ext 3507

jrberk@cedarcrest.edu

Councilor:

Lorena Tribe

218 Luerssen Bldg
Penn State Berks

Tupelhocken Rd

PO Box 7009

Reading PA 19610

lut1@psu.edu

**Octagon Editor &
Webmaster:**

T. Michelle Jones-Wilson
East Stroudsburg

University

East Stroudsburg, PA
18301

mjwilson@esu.edu