Annual Section May Social (Virtual Format)

Cheese Chemistry!!

(with suggested wine pairings)

Join Jeanne Berk of Cedar Crest College as we learn about cheese making chemistry, the steps involved and the texture and the flavors of cheese. Of course, we’ll be covering some of the important chemical compounds which give one of our favorite foods its unique taste!

Jeanne will also introduce us to a few cheeses as examples of the diversity which is produced from a simple natural process. If you would like to pick up some cheese for tasting, we recommend 5 types: a cheddar, a blue cheese, a soft cheese like Brie, a Gouda and, if you can find it, a Spanish sheep’s-milk variety called Manchego (Queso Manchego). We will also suggest some ways to elevate your cheese appreciation with wine and other accompaniments.

Tuesday, May 18th / 7:00 pm
Online Zoom Link: here
CONTACT: Jeanne Berk [mailto:jrberk@cedarcrest.edu]

C_{12}H_{22}O_{11} + H_{2}O \rightarrow 4 \text{CH}_3\text{CHOHCOOH}
LVACS Events Calendar

May 2021
Section Social (Virtual Format)
Cheese Chemistry! (with suggested wine pairings)
Speaker: Jeanne Berk, Cedar Crest College
Tuesday, May 18th / 7:00 pm
Online Zoom Link here
CONTACT: Jeanne Berk [mailto:jrberk@cedarcrest.edu]

Also In This Issue...

3. After School Chemistry Program:
   Wrap-up report on a unique and highly successful LVACS program!

4. April 15 meeting report:
   Undergraduate Research Presentations and Undergraduate Senior Awards

5. CCEW 2021 reports: Panel Discussion; Greglynn Gibbs co-hosts 2021 Spring Meeting Virtual Kids Zone.

6-7. 2021 LVACS Scholarships and Awards Announced.

8. Chemagination gets HS students fired up about future science.

9. Reading Science Center and Berks Community TV celebrate CCEW with PSU/Berks Student Chapter.

10. Chemistry Olympiad final report; ACS Committees: Members are invited to complete interest survey.

11. Virtual 2021 MARM is June 9-11.

12. 2021 Executive Committee.

GET VACCINATED, HAVE A SAFE SUMMER AND WE HOPE TO SEE YOU ALL NEXT FALL... WITHOUT ZOOM!

DID YOU KNOW...??
Besides our always content-rich website https://www.lvacs.org LVACS has a YouTube channel:
https://www.youtube.com/channel/UCHO2OlchPLDnKItOeXNRRZQ
where you can catch up on virtual meetings you've missed.
See our Diversity, Equality, Inclusion and Respect page https://www.lvacs.org/diversity, for the latest on our online After School Chemistry Partnership Program!

CONTACT: Nigel Sanders, LVACS secretary and newsletter editor, nigel53.sanders@gmail.com
After School Chemistry Partnership Program: It’s a Wrap!

The LVACS After School Chemistry Virtual Outreach Program completed thirteen weeks on April 28th with a wrap-up feedback session with students and teachers. In April, we asked ‘What’s it Like to Work in Science?’ and then we had three weeks devoted to CCEW: Cool Casein/Edible Bioplastics Chemistry Experiments; Engineering Solutions to Climate Change for Sustainable Fuel, Food, and Water including methods to convert CO₂ into alternative fuels and Demonstrations from the ACS Kids Zone program.

The feedback will help us plan a continuation Program for next fall, likely on a monthly basis.

Besides the science content, the program provides students with an opportunity to make new friends while meeting and connecting with scientists and college STEM students from across the vibrant local chemistry community. Check out a recent news report about our impact on the LV-area community.

Greglynn Gibbs, Project Coordinator
Jeremy Heyman
Nigel Sanders

Keep up with us at: http://lvacs.org/after-school-chemistry-partnership-
APRIL 15TH VIRTUAL SECTION MEETING: UNDERGRADUATE RESEARCH PRESENTATIONS

Date / Time: April 15, 2021 / 5:15-8:00 pm – Online/Zoom

Undergraduate Research Presentations

515pm-525pm: Welcome and Orientation, Lindsey Welch, Chair
525pm-630pm: Flash Talks followed by Q&A (two serial sessions)
Ten of our LVACS undergraduate researchers gave 5-minute summaries of their work completed over this past, pandemic-impacted year. The abstracts book may be downloaded from our website. The presentation recording may be viewed on our LVACS YouTube channel.

Undergraduate Senior Awards

630pm-700pm: Undergraduate Senior Award Ceremony
Raffle for undergraduate research presenters
Thirteen of our local chemistry scholars, representing all of LVACS colleges and universities, were honored for their academic excellence (view recording) and listed in the April Octagon.

700pm-800pm: LVACS Business Meeting

Organic Scholarship (Mike Bertolucci).
- Scheduled for Saturday, April 24th – advertised by email blast, Octagon, etc.

Upcoming Events:
- CCEW April 18-24 (Lindsey Welch, Nigel Sanders). Panel discussion scheduled for Tuesday, April 20th 7-8pm. Speakers: Lindsey, Sherman Cox. Poetry contest due April 25th.
- May 18th (Tuesday) wine and cheese chemistry virtual celebration (Jeanne Berk): need start time and cheese/wine listings.

Awards Committee updates (John Freeman, Lorena Tribe, Nigel Sanders).
- Foundation in Chemistry (John Freeman). One candidate applied – awarded.
- HS teacher of the Year (John Freeman). No candidate nominated.
- Small College teacher of the Year (Lorena Tribe). One nominee- awarded.
- Chemagination (John Freeman). Submissions received and being evaluated by May 1st.

After School Chemistry Partnership Program updates through week 12 are posted regularly on the website and in the Octagon (Greglynn Gibbs, Jeremy Heyman, Nigel Sanders). Ends April 28th.

Chemistry Olympiad: 19 students took the section online test March 27 (Gail Marsella). The top 4 took the 1st National test April 17 – none advanced to the 2nd round (boo-hoo!).

METT Grant update (Greglynn Gibbs, Caroline Multari, Roger Egolf). Demo of Owl equipment through ESU April 15th (Nigel): not suitable for us. Swivl demo to be arranged soon (Roger).

Treasurer’s Report (Lorena Tribe). Lorena presented the 2021 budget items and asked for input from the group in attendance. M&T account (John Freeman) will be consolidated with Wells accounts.

Councilors’ reports (Jeanne Berk, Kelley Caflin). ACS Council met virtually Wednesday, March 24th. Jeanne and Kelley discussed the minutes which had appeared in the April Octagon.

Respectfully submitted, Nigel Sanders, secretary (nigel53.sanders@gmail.com)
LVACS Marks Chemists Celebrate Earth Week in Pandemic Year II

In this second year of the COVID-19 pandemic, LVACS presented a CCEW virtual panel discussion on Tuesday, April 20th focusing on how our members are “reducing their footprint through chemistry” by making individual choices that contribute to a more sustainable world. Lindsey Welch, Associate Professor, Cedar Crest College and Sherman Cox, Technical Advisor, Specialty Minerals Inc., told their stories about building your own EV, creating a sustainable college campus, encouraging recycling at home/work and being wise about food choices. See the video recording on the LVACS YouTube channel.

Greglynn Gibbs co-hosts ACS Kids Zone on Earth Day, April 22nd

Kids and parents participated in Chemists Celebrate Earth Week and Earth Day 2021 by joining chemists across the world for a virtual #ACSKidsZone event, hosted by Sam Jones, science communicator and host of Reactions. One of the three hands-on activities, focusing on the educational theme, "Reducing Our Footprint with Macromolecular Chemistry," was presented by LVACS’ very own Greglynn Gibbs, Chemistry Research Technologist & Lab Manager, Penn State Berks. Entitled ‘Reduce Your Footprint with Shrinky Dinks,’ Greglynn used common #6 recycled plastic (styrenics) to demonstrate how these materials are stretched for packaging applications by re-shrinking them with heat. Download the activity. The kids saw how they can reduce their plastic waste by making their own shrinky dink crafts using the leftover polystyrene food packaging.
LEHIGH VALLEY ACS ANNOUNCES 2021 AWARDS AND SCHOLARSHIP COMPETITION WINNERS

ORGANIC CHEMISTRY SCHOLARSHIP
The Lehigh Valley Section of the American Chemical Society has awarded its annual Scholarship for Organic Chemistry to Juliana Haddad! The value of the scholarship is $1000. Juliana is a sophomore at Moravian College, majoring in Biochemistry and Business Management. She entered the competition with strong references: "Juliana always seems to be just a little further ahead of the rest of the class with her content understanding. With this understanding, she is a strong contributor during group work and routinely poses and answers some of the most difficult questions in class. Juliana is focused and driven. She puts in the work to stay ahead of the curve and takes advantage of opportunities as they arise outside of the classroom."

Abbey Pettenati, a sophomore Chemistry major at Lafayette, has won the $100 award for top essay in the competition with her essay on The Importance of Sertraline. Abbey is minoring in Mathematics and hopes to attend Optometry school to become a Doctor of Optometry (OD). Her essay tells the story of the synthesis of Zoloft, a popular antidepressant of the Selective Serotonin Reuptake Inhibitor (SSRI) category. Discovered by Pfizer organic chemist Kenneth Koe in 1977 from an earlier psychoactive molecular series based on tetralone, the Sertraline derivative turned out to have the desired reuptake properties. After simplifying the synthetic scheme for the substituted tetralone from 5 steps to 1, the Pfizer team was able to commercially produce (S,S)-resolved Sertraline-HCl. Approved by the FDA in 1991, Zoloft was an immediate success in treating depression and a wide range of other mental disorders. Koe and his colleagues were recognized by the ACS Committee on Corporation Associates with the 2006 Award for Team Innovation.

To be eligible for this competition, students should be below the junior level, currently enrolled in organic chemistry at an institution in the section, and a chemistry, biochemistry, or chemical engineering major. The competition entails taking the ACS Organic Chemistry Examination (45%), a brief, one-page letter of recommendation from the student's organic chemistry professor (10%), and an essay on a topic in organic chemistry (45%).

Organic Chemistry Scholarship Coordinator: Michael Bertucci (bertuccim@moravian.edu)

FOUNDATION IN CHEMISTRY SCHOLARSHIP
Lehigh Valley ACS is pleased to award our annual Foundation in Chemistry Scholarship to Andrea Vaupel of Nativity BVM High School in Pottsville. The award, designed to promote the chemical sciences at the college level, is given to a high school senior who will be majoring in chemistry, biochemistry, or chemical engineering and attending a college or university in the Lehigh Valley Section. This scholarship award consists of $1000 and a certificate. Andrea plans to attend DeSales University in the fall, majoring in Chemistry with a minor in Forensics. She comments that chemistry was not always easy for her, even though her mother is a chemical engineer: “The concepts didn’t come naturally to me like I thought they would: I had to vigorously study them in order to get it right...chemistry was so interesting, and all the more because I actually had to learn it. It was the moment of something finally clicking in my head that made me enjoy it so much.” Andrea, LVACS looks forward to many more of those ‘clicking’ moments as you begin your university career in chemistry!

Foundation in Chemistry Scholarship Coordinator: John Freeman (jcf2@rcn.com)
LEHIGH VALLEY ACS ANNOUNCES 2021 AWARDS AND SCHOLARSHIP COMPETITION WINNERS

SMALL COLLEGE TEACHER OF THE YEAR

We are thrilled to announce that Dr. Marsha R. Baar of Muhlenberg College is the 2021 LVACS Small College Teacher of the Year! In addition to this LVACS recognition, Marsha has been nominated by the Section for the prestigious E. Emmet Reid Award of the Mid-Atlantic Region of ACS, awarded each year at the Mid-Atlantic Regional Meeting (MARM) in June. Receiving a BS in Chemistry at SUNY Stony Brook in 1975 and a Ph.D. in Organic Chemistry from the University of Pennsylvania in 1981, she was the first woman to be hired in a tenure line (and the first to earn tenure) in a science department at Muhlenberg. Her colleagues at 'berg regard Marsha as a model of teaching pedagogy and a mentor and role model for faculty and students over her 40 years of tenure.

Christine Ingersoll, Professor and Chemistry Department Chair, notes: “Her passion for her subject, Organic Chemistry, is obvious, and her clarity and patience presenting material that is difficult for many of our students is commendable. Marsha teaches beyond the subject matter in her organic courses, taking a holistic approach to teaching scientific writing and keeping electronic laboratory notebooks.”

Dr. Ingersoll continues: “Marsha singlehandedly explored and successfully implemented the use of microwave-enhanced organic reactions to advance our teaching laboratories, improving safety, environmental impact, time efficiency and student learning. Students and faculty have benefitted from her expertise and initiation of several microwave systems for the department. It is worthwhile to note that Marsha’s scholarship in this area has always prioritized the advancement of pedagogy and teaching effectiveness, rather than her own research agenda. She has presented this work at the Biennial Conference on Chemical Education (BCCE) and has offered workshops for faculty at other institutions and at professional meetings through the vendors who manufacture the microwave systems.”

“Marsha’s teaching has not been limited to organic chemistry, though. Marsha developed and taught an upper-level course for chemistry and other science majors titled ‘Green Chemistry: Benign by Design’, building on her knowledge and growing expertise in making chemistry more environmentally-friendly through the use of microwave (and other) technologies.” “Marsha has also developed and taught a class for non-science majors in the chemistry of art materials, which led to a several-year partnership with Winterthur Museum in Delaware, and collaborative research projects in the chemistry of art materials with our students. When our general education curriculum changed several years ago to require a two-course 'cluster' (linked courses approaching a common issue from two disciplines), Marsha developed another class ‘The Science of Creativity,’ partnering with a Psychology professor who taught perception and creativity.”

The Lehigh Valley Section salutes Professor Baar for her untiring dedication to small college teaching over her distinguished career.

"I treasure the experience I gained in Dr. Baar’s organic chemistry classes. She always encouraged and allowed me to use my chemical intuition to reach my own conclusions about lecture material and results from laboratory experiments. Her commitment to creating space for self-designed projects in undergraduate teaching labs propelled me to become interested in synthetic chemistry research, which led me to pursue multiple undergraduate research opportunities and to apply for graduate school in chemistry,” Chemistry Major, class of 2021.

‘Greener Organic Reactions Under Microwave Heating’ Chapter 8 in Green Organic Chemistry in Lecture and Laboratory, Andrew P. Dicks, ed, 2011

Small College Teacher-of-the-Year Award Coordinator: Lorena Tribe (lut1@psu.edu)
Chemagination Students ‘Look Back’ from 2046 as They Describe the Future They See...

In Chemagination, high school students are asked to imagine that they are living 25 years in the future, 2046 and are writing for ChemMatters, a magazine for high school students that focuses on the role of chemistry in everyday life. The editor chooses them to write the cover article for the next issue of the magazine describing a recent breakthrough or innovation in chemistry and its applications that improve the lives of those living in 2046. Along with the article they have the honor of designing the magazine’s cover. The subject of the article is: “Describe a recent breakthrough or innovation in chemistry (and/or its applications) that has improved the quality of people's lives today.” The article must be written to fit in one of four categories: Alternative Energy, Environment, Medicine/Health, or New Materials. 20 teams of local HS students submitted entries for this year's Chemagination competition ranging from superconductors to lunar greenhouses to hydroelectric cars! The 1st and 2nd place winners in each category are listed below. See their articles on our website. The 1st place teams are invited to compete at the Mid-Atlantic Regional level in June. Best of luck to our future futurists and thanks to their teachers for coaching them!

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<th>Authors</th>
<th>School</th>
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<tbody>
<tr>
<td>Maddox Moyer, Manny Lorenzo and Logan Kimma</td>
<td>Muhlenberg High School</td>
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<td>Joal Ponce and Sarah Love</td>
<td>Muhlenberg High School</td>
<td>The Hydroelectric Car</td>
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<td>Asher Landrum and Sydney Gring</td>
<td>Muhlenberg High School</td>
<td>Filtered Water of the Future</td>
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<td>Jack Davis, Sherylann Smith, and Yasire Hidalgo</td>
<td>Muhlenberg High School</td>
<td>Lunar Greenhouses</td>
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<td>Frances Ramirez and Bobby Cornelius</td>
<td>Muhlenberg High School</td>
<td>The secrets of the Brain Unlocked</td>
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<td>Darius Jackson and RF Schaeffer</td>
<td>Muhlenberg High School</td>
<td>The Evolution of the Artificial Kidney</td>
<td>2</td>
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<td>Rebecca Hawks, Sakura Helm, and Casimir Morgan</td>
<td>Stroudsburg High School</td>
<td>A Not So Cool Way to Conduct</td>
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<td>Summer Mease and Jordyn Naber</td>
<td>Muhlenberg High School</td>
<td>Nanotechnology Could Be the Cure</td>
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- 2021 Awards Committee: John Freeman (Chair), Joe Yanchnas, Mark Witmer, Kelley Caflin, Ian Rhile, Nigel Sanders, Lorena Tribe, Sarah Hayik, Julie Himmelberger
Visitors to Reading Science Center got a highly visual demonstration of “suppressing their carbon shoe sizes” from Greglynn Gibbs and the Berks Chemical Society on Saturday, May 1st with the program "Reduce Your Footprint with Shrinky Dinks." While teaching about making individual choices about foods and packaging that contribute to a more sustainable world, Greglynn and her students showed how a common recycled plastic can be transformed by heat.

The Reading Science Center is Berks County's new hands-on museum focusing on Science, Math, Engineering and Technology for youth between the ages of 5-18+. The center has opened with 30 exhibits providing a fun, educational experience to encourage our next generation of leaders to explore careers in the STEM fields. In a world filled with technology, access to STEM education is critical today more than ever. Reading Science Center is not just a science museum for students to learn about sciences. It also serves as a central location for informal science education, providing space for schools, non-profit organizations, and youth groups to hold their STEM activities. The Center also serves to advance literacy, problem solving, and critical thinking skills in both children and adults.

PSU/Berks and Berks Community TV “Chemistry Fun” goes CCEW

Watch as host Greglynn Gibbs celebrates Earth Day by talking about reusable and recyclable plastics and uses heat to make fun artwork out of it on Chemistry Fun with the Berks Chemical Society. This is the third episode of their public outreach series “Chemistry Fun” with more cool science to come!

BCTV is on Comcast Reading Channel 2, Comcast-Southern Berks Channel 965, and Service Electric Channel 19.

https://www.youtube.com/watch?v=Ut7DdsL3p5M&t=136s
2021 LV scholars compete in National Chemistry Olympiad Exam

Gail Marsella of Muhlenberg College, LVACS Chemistry Olympiad Coordinator, reports that four high school students selected from an initial group of 12 took the first round of the National Exam on April 17th. The local student finalists were Liang Dong and Colby Snyder from Wilson HS (Park Lawn, PA) and Humza Imam and Prince Patel from Parkland HS. Although no one made it to the second round, a couple were close. All student contestants will receive a participation certificate. The topics covered on the test are stoichiometry/solutions, descriptive/laboratory, states of matter, thermodynamics, kinetics, equilibrium, oxidation-reduction, atomic structure/periodicity, bonding/molecular structure, and organic/biochemistry. *We thank teachers Beth Levan of Wilson School District and Patricia Metz of Parkland HS for coaching our competitors!*

ACS Society Committees: Member Opportunities to Serve

Another way to participate in ACS governance is to join a society committee. ACS Committees provide advice to the ACS Board and Council. If you are interested in serving on an ACS Committee, the online committee preference form for committee assignments is the best way to let us know your committee preferences and your background. The online preference form is open until July 1, 2021 at [https://www.yellowbook.acs.org](https://www.yellowbook.acs.org). If you have not served on an ACS committee or held an elected office in your local section and/or division, please contact secretary@acs.org to request that a Yellow Book database record be created for you. The online preference will allow you to select no less than two, but no more than four of the Society Committees on which you would prefer to serve. Attending an open meeting of a Committee is also an excellent way of learning more about these Committees. Mark a committee preference only if you feel that you can attend and actively participate in a committee’s meetings either virtually or in-person. ACS committees are working committees; attendance (virtually or in-person) and participation at committee and subcommittee meetings are important.

Click on a committee title to learn more about its goals and functions:

- Analytical Reagents
- Chemical Safety
- Chemists with Disabilities
- Constitution and Bylaws
- Economic and Professional Affairs
- Environmental Improvement
- International Activities
- Meetings and Expositions
- Minority Affairs
- Patents and Related Matters
- Project SEED
- Publications
- Senior Chemists
- Women Chemists
- Budget and Finance
- Chemistry and Public Affairs
- Community Activities
- Divisional Activities
- Education
- Ethics
- Local Section Activities
- Membership Affairs
- Nomenclature, Terminology and Symbols
- Professional Training
- Public Relations and Communications
- Science
- Technician Affairs
- Younger Chemists
Driving Innovation...MARM 2021 is virtual! Co-hosted by the University of Delaware and the Delaware ACS, MARM 2021 will showcase the richness of chemistry in the Middle Atlantic and beyond. Bringing together scientists in a virtual format, MARM will be a premier event for scientific discussions and networking. The conference is June 9–11, 2021. Chemagination will be on June 12, 2021. Explore the Middle Atlantic Regional Meeting (MARM) schedule-at-a-glance to see what’s taking place during the virtual event.

FREE ACS Membership with Registration for Undergrads!

MARM is dedicated to equity, justice, diversity, and inclusion. We strive to provide a harassment-free experience for everyone. All communication should be professional.

Link to the MARM Board: https://marmacs.org
LEHIGH VALLEY SECTION OF THE AMERICAN CHEMICAL SOCIETY
2021 EXECUTIVE COMMITTEE

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ALTERNATE COUNCILORS

The Octagon Newsletter is published by the Lehigh Valley Section of the American Chemical Society to provide information to section members and the public about activities and programs which support the section mission “To promote the chemical sciences in the Lehigh Valley section for the benefit of our members and our community.” Send all queries to the editor at: nigel53.sanders@gmail.com