



50/60/70 Year Member Luncheon



~ Dr. Thomas Connelly, Jr. ~ **Executive Director and Chief Executive Officer** American Chemical Society

"The Future of ACS and Chemistry Professions"

Friday, May 26th 11:30 am-2:00 pm Matthew's 1600 Restaurant 1600 Frederick Rd. Catonsville, MD 21228

May, 2017



Volume 74, Number 3, May, 2017

2017 Section Officers:

Chair 2017 - Stephanie J. Watson, N.I.S.T., stephanie.watson@nist.gov

Vice-chair (chair 2018) - Beatrice Salazar, beatricesalazar1@gmail.com

Chair-elect (chair 2019) - Dana Ferraris, McDaniel College, dferraris@mcdaniel.edu

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2015-2017	Dana Ferraris, McDaniel College, dferraris@mcdaniel.edu
2015-2017	lan Kolakowski, LIS Army Edgewood Chemical Biological Center, jan e kolakowski civ@mail mil

Alternate Councilors:

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2017-2019	Sandra Young, RDECOM, sandra.k.young26.civ@mail.mil
2017-2019	Pumtiwitt McCarthy, Morgan State University, Pumtiwitt.McCarthy@morgan.edu
2017-2019	Charles M. Zapf, retired, smzsail@verizon.net

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Sara Narayan, Stevenson University, snarayan@stevenson.edu

Suzanne Procell, Edgewood Chemical Biological Center, suzanne.a.procell.civ@mail.mil

Rose Pesce-Rodriguez, RDECOM, <u>rose.a.pesce-rodriguez.civ@mail.mil</u>

Sandra Young, RDECOM, sandra.k.young26.civ@mail.mil

Award Committee Chairs:

Student Awards - George Farrant, Retired, gfarrant@yahoo.com

Remsen Award – Dana Ferraris, McDaniel College, <u>dferraris@mcdaniel.edu</u>

Braude Award – Louise Hellwig, Morgan State University, louise.hellwig@morgan.edu

Maryland Chemist Award—Angela Sherman, Notre Dame of Maryland University, asherman@ndm.edu

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Energy/Environtmental Issues- Richard Love, ralove100@gmail.com

Finances – Jan Kolakowski, US Army Edgewood Chemical Biological Center, jan.e.kolakowski.civ@mail.mil

LSAC, USNCO, Earthy Day Events - Beatrice Salazar, beatricesalazar1@gmail.com

Women Chemist Committee – Sara Narayan, Stevenson University, snarayan@stevenson.edu; Kelly M. Elkins, Towson University, kmelkins@towson.edu

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Pumtiwitt McCarthy, Pumtiwitt.McCarthy@morgan.edu contact-us@mdchem.org

Message from the Chair:

This past month has been a busy one for the Science Community. We saw area scientists come forth to be heard at the March for Science held on April 22, Earth Day. *We need to keep the momentum moving and make our voices heard!* Our Section has also continued our Earth Day outreach for high school students to the Baltimore Water Treatment Plant. In May, we will host a tour of the Heavy Seas Brewery in Halethorpe, MD on May 20. On May 26, we will celebrate 16 members in the 50/60 and 70! Year group at our annual luncheon on May 26th.

Hope to see you there! Stephanie Watson Chair and Councilor

~ Dr. Thomas Connelly, Jr. ~

Executive Director and Chief Executive Officer American Chemical Society

"The Future of ACS and Chemistry Professions"

Friday, May 26th 11:30 am-2:00 pm Matthew's 1600 Restaurant 1600 Frederick Rd. Catonsville, MD 21228



Speaker Abstract: Dr. Thomas M. Connelly, Jr. ACS Executive Director & Chief Executive Officer will present the ACS Board of Directors latest thinking on issues related to the ACS Strategic Plan. One of our four strategic goals at ACS is to 'Empower Members'. By broadening the value we provide to our members, ACS can strengthen our position as a lifelong resource to chemists, chemical engineers and related scientists. Dr. Connelly will provide examples of how we are achieving this for scientists at all stages of their careers,

whether they work in academia, industry or government—in the US, or beyond.

Speaker Info: Dr. Thomas M. Connelly, Jr. is the Executive Director and CEO of the American Chemical Society. Dr. Connelly retired from DuPont in December 2014, where he was Executive Vice President, Chief Innovation Officer. At DuPont, Dr. Connelly led businesses and R&D organizations, while based in the U.S., Europe, and Asia.

Dr. Connelly graduated with highest honors from Princeton University with degrees in Chemical Engineering and Economics. As a Winston Churchill Scholar, he received his doctorate in chemical engineering from the University of Cambridge. He has served in advisory roles to the U.S. Government and the Republic of Singapore.

Price	Free to honorees; \$20 guests; \$10 students. Payable at event.
11:30-11:45 am	Reception
11:45-12:30 pm	Luncheon
12:30-1:30 pm	Presentation by Dr. Connelly
1:30-2:00 pm	Remarks by 50/60/70 Year members
RSVP*	pjsmith@umbc.edu

^{*}Please put "ACS Luncheon" in subject line

Recent Events 2017 MD ACS Student Award Luncheon











On Sunday, April 9th eighty-six people attended the annual ACS Awards ceremony where the Maryland section of the ACS recognized the best students of chemistry from nineteen area universities, colleges, and community colleges. We honored the students, their families, and their mentors at a luncheon at the Notre Dame of Maryland University campus. At a brief post lunch ceremony the students received certificates and gifts. Dr. Glenn Gates, Senior Scientist at the Walters Art Gallery gave a fascinating lecture about the science involved in conserving art objects from antiquity to the present time. He showed examples of the kinds of problems he and his collaborators solve, and the sophisticated tools he uses in investigating various problems involved in conservation authentication, including how to spot fakes! Dr. Gates' background in physical chemistry and material science led him to his interest in art conservation. We look forward to celebrating our future scientists again next year.

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2017, A Year to Celebrate Education, Community Involvement and Professional Relationships

Mergenthaler Vocational Technical High School Joined the Local Section of the American Chemical Society (ACS) in a second year-tour of the Montebello Water Filtration Plant-I. April 21, 2017

Chemists of the

ACS Maryland Local

Section Celebrate

EARTH DAY Each

Year in April.

Friday, April 21,2017 was a cloudy day but this did not stop students from Mergenthaler Vocational High School to

walk toward the Water
Filtration Plant located in
Montebello (Baltimore,
Maryland) just a couple of
blocks away from the high
school. "I have lived in this
area all my life and I did not
know this existed..." Said one

student as he admired the engineering of the plant.

The plant was built in 1915 to purify water for Baltimore and neighboring towns. It is still going after all these years and although it has changed to improve efficiency, the plant conserves most of its original building and materials.

Two tours were organized for this day to celebrate Earth Day. We did not plant trees this time but we were planting knowledge

and consciousness of the need to purify water for daily consumption.

The plant produces 265 million gallons of

clean water daily to serve a population of more than 1.8 million residents.

At the entrance of the Plant we were greeted by Dr. Richard Nuss, an analytical chemist who is the Director of the Water Quality

Control laboratory. He was wearing his white lab coat and a big smile; he then



gave us handouts to help us understand the water purification process. Students also had access to a lesson plan created by ACS Local section and by the two Chemistry teachers who accompanied them. Students were ready to take notes, to ask questions and to assimilate knowledge. Both tour groups were very interested and actively engaged. There were many WOWs and comments of surprise about the origin of the water. Then, a feeling of enjoyment when they saw and understood the water cleaning process in action.

The tour began with Baltimore history, the difficulty of having access to clean water by Baltimore residents, and how Baltimore arrived at the construction of the plant. The water is brought to the filtration plant from nearby reservoirs: Loch Raven (Gunpowder Falls N. of Baltimore), Prettyboy (Carroll County N. of Baltimore) and Liberty (N. branch of Patapsco river). Then it is collected in four 700K gal basins for flocculation and 6.32M gal basins for sedimentation processes.



The size of the tanks to treat water were impressive. The water purification protocols



include plenty of chemistry and students were able to make connections to material they

have learned in chemistry class. The process of water purification was explained step by step by Dr. Nuss. We began with the sedimentation, the addition of Cl₂ and Alum, and all the by-products formed from the addition of chemicals. The danger of the by-products and the reason and processes to remove them was explained in detail: Chlorine disinfects water but reacts leaving residues of corrosive hydrochloric acid and

at the same time leaves traces of TriHaloMethanes (THMs) and Halogenated Acetic Acid (HAAs). These by-products are public hazards in high concentrations. The addition of Alum allows the coagulation needed for sedimentation but the production of sulfuric acid brings the pH down. This was clearly an important student discovery.

As we walk towards the filtration plant we observed regular visitors that have made the plant a place for

their families.



In the filtration area, students had the opportunity to observe the residue of flocculation as the filtration tanks pumped

the treated water. The water level in the tanks began to increase, this process is used when technicians need to clean up the tanks and get rid of the water that is treated but is not suitable for consumption. This water ends up in the beautiful manmade Montebello lake.





During the filtration process students observed turbidity and read the digital clocks that showed the levels of turbidity for further analysis.

Students also saw the beautiful architecture



of some of the areas. The arches are suspended by pressure on the cement blocks rather than

metal bearings. This construction was typical of early 1900's.

Toward the end of purification, students learned that fluorine is added to water; although there has been some controversy about the addition of fluoride it prevents tooth decay and helps with the dental health of the population. Finally, post-chlorination is used to continue the disinfection and prevent re-growth of bacteria. The different procedures and quality criteria are regulated by federal and state governments.

One important aspect of the entire purification process is the continuous adjustment of the water pH levels. Every addition of chemicals changes the pH so it must be maintained at neutral or slightly acidic pH to prevent corrosion of pipes, or production of lead in the 6,000 miles or more of conduits in the Baltimore city.

Students extended their gratitude to Dr. Nuss for his interesting tour and presented



him with a token of appreciation. "I could use this in the future..." said Dr. Nuss smiling as he read aloud the appreciation certificate presented to him by the ACS Local Section.

Students received participation certificates and a token to remember this interesting tour and Earth Day celebration.

This is the second-year ACS Maryland section organizes this tour. It has been quite successful and it is becoming an incentive for extra activities related to chemistry. We discussed with Dr. Nuss the possibility of performing short experiments to demonstrate some of the principles and processes of water purification. We discussed the possibility of other community presentations and potential collaboration with ACS Maryland Local Section.

This tour was organized by Beatrice Salazar, Vice Chair ACS Maryland Local Section. Dr. Richard Nuss, Director Montebello Water Quality Control Laboratory gave the tour. Ms. Vonceil Anderson and Ms. Suze Nathalie Chemistry teachers and Ms. Sharon Wright, Assistant Principal accompanied the students. The field trip was possible thanks to the support of Ms. Laura Shultz, Assistant Principal at Mergenthaler Vocational Technical High School.

For more information on the tour contact
Beatrice Salazar, Vice Chair of ACS Maryland
Local section and coordinator of the Earth Day
Events. This tour is available to all High Schools
in the Maryland Area.

E-mail <u>Beatricesalazar1@gmail.com</u>
URL: www.acsmarylandevents2016.wess

www.maryland.sites.acs.org

The Maryland Section of the American Chemical Society

Congratulates 2017 U.S. National Chemistry Olympiad



Back row: Elizabeth Westbrook (Severna H.S.), Samuel Robert Hatoff (Eastern Technical H.S.), Mr. Pat Bell (NDMU Lab Director). Middle row: Brett Snyder (McDonogh H.S.), Ronald Henry Erdman (Loyola Blakefield H.S.), Thomas Luo (Chesapeake Math Program), Claire Wayner (Baltimore Polytechnic Institute). Front row: Abhishek Venkat (Mount Hebron H.S.), Sean Chen (Urbana H.S.), Beatrice Salazar (Vice Chair ACS LS and USNCO Coordinator), Katie Gao (Chesapeake Math Program and Centennial H.S.), William Cao (River Hill H.S.), Kevin He (Atholton H.S.) and Lily Batchelor (Baltimore Polytechnic Institute).

The 49th US National Chemistry Olympiad took place last Saturday, April 22, 2017. A Maryland Team composed of 13 highly qualified high school chemistry students in the Maryland area were competing with 1300 students at the national level! Students used the facilities at Notre Dame of Maryland University. The exam took place in the KNOTT Science building. The Maryland Section of the American Chemical Society (ACS) nominated the above students after a process of registration, teacher recommendation and a preliminary qualifying local examination.



We congratulate these students for their academic excellence and parents, teachers and school principals for their continuing academic and emotional encouragement.

Students went through a 5-hour examination process that focused on chemical theory, laboratory skills and problem solving exercises. The first part of the exam evaluated student's knowledge in inorganic and organic chemistry. This exam consisted of 60 multiple choice questions.



The second part was the laboratory practical. Students' creativity and logical thinking process are tested in this part of the exam. Students must design and carry out their own experiments to solve two questions. The equipment for each experiment is placed on the laboratory bench prior to the exam thus

giving students a guideline on procedures to

The third part of the exam consisted of 8 problem solving questions. These questions are to be answered in a booklet in essay form. This part of the exam can be the most difficult part of the exam in part because it requires writing ability in addition to chemistry knowledge and also because



students take this last part of the exam after lunch where students tend to enjoy the conversation in a relaxing atmosphere and it takes a while to go back to the examination mode.

Lunch Time - Great food, enjoyable conversation and potential future professional relationships! The

Lunch Time - Great food, enjoyable conversation and potential future professional relationships! This was the theme this year. As students walked toward the cafeteria, we placed an article from C&EN regarding the compounds that make natural dyes for Easter eggs. There were lively conversations at both lunch tables; some of the conversations were about chemistry! We also saw one of our students cooking eggs for his lunch, just like a college student! Way to go! At the end of the competition Students received gifts for their participation. They stated that they enjoyed the experience.







Next Steps – The results of this exam will be the basis to select 20 students from across the US to participate in the chemistry camp at the US Air Force Academy in Colorado (June 6-21). After a grueling training period the top four students will be chosen to represent the United States at the International Chemistry Olympiad in Thailand (July 6 -15).

THANK YOU!



Samuel and Ronald presenting a token of appreciation after the Laboratory Practical

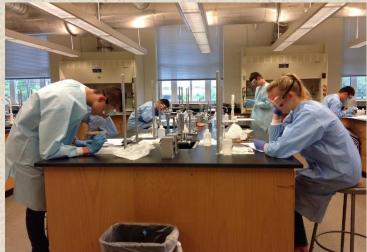
We are thankful to Dr. Angela Sherman, Science Department Chair at Notre Dame of Maryland University and to Mr. Pat Bell, Laboratory Director for all they have done to support the US National Chemistry Olympiad. For more than twenty years Notre Dame of Maryland University supported and held the Olympiad in the KNOTT Science building. Their support to the ACS Maryland Local Section outreach programs has provided wonderful opportunities to high school students to excel in Chemistry. Dr. Angela Sherman has arranged for access to the

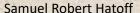
university facilities for the exam. Notre Dame provided class-rooms for the written parts of the exam, preparation of the laboratory practical and facilitated their well-equipped laboratory. Our gratitude and admiration for their exemplary and unconditional support. People at ACS that have used their facilities and organized exams for the Olympiads with them, will miss the university.

CONTACT:

The US National Chemistry Olympiad is open to all high school students in the State of Maryland. The invitations to all schools are sent during the months of December and January. The registration and local examination occur during the months of February and March. The National Exam is in April. Please contact Beatrice Salazar, Vice Chair ACS Local Section and Coordinator of the program at beatricesalazar1@gmail.com. For information on the program use the USNCO website or www.maryland.sites.acs.org

USNCO 2017

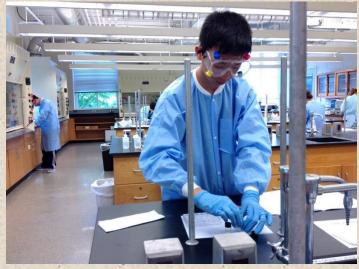




Elizabeth Westbrook



Sean Chen



Thomas Luo



Katie Gao



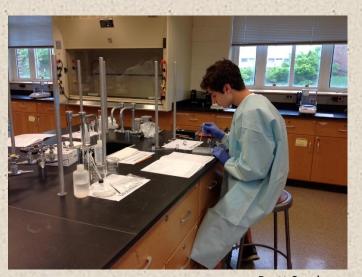
William Cao Katie Gao



Abhishek Venkat



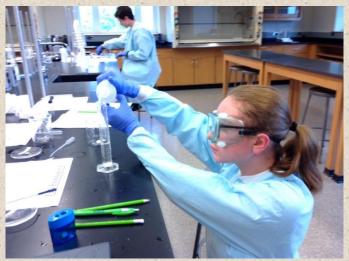
William Cao



Brett Snyder



Ronald Henry Erdman



Lily Batchelor



Kevin He



Claire Wayner



Lab 1 and Lab 2



Part III: Problem Solving Questions

PART II and PART III of the USNCO Competition



Chemists Celebrate Earth Day (CCED) Events at Howard County Libraries

Rose Pesce-Rodriguez (US Army Research Laboratory) Richard Love (ACS American Chemical Society, retired) Maryland Local Section, American Chemical Society May 12, 2017

"Chemistry in the Library" in Howard County is now in its 15th year. This program was developed in response to a goal of the ACS Maryland Local Section outreach efforts to promote public awareness and understanding of chemistry and science, in general.

The 2017 CCED program consisted of 7 one-hour Saturday afternoon classes held at 4 Howard County Library branches, and one Wednesday evening class at the Miller Branch. No programs were held at the East Columbia or Elkridge branches in 2017 because they are closed for construction.

Date/Time	Howard County Library Branch
March 11, 3 PM	Miller
March 18, 11 AM	Glenwood
March 18, 2 PM	Savage
April 1, 1 PM	Central
April 29, 1 & 3	Miller
PM	
May 6, 2 PM	Savage
* May 10, 6 PM	Miller

Our Chemistry in the Library sessions are open to all students, but are generally attended by elementary and middle-school students. Children aged 7-8 must be accompanied by their parents, but all parents are welcome, and are encouraged to attend with their children. Most participants find that learning about science is an enjoyable family activity. Approximately 20 students and 10 parents attend each session.

Our May evening session was advertised as "Chemistry in the Library – No Kids Required" and was open to adults, older students and children with parents. It was our first experiment with this format and time slot. We had a nice turn out and a mix of attendees, including parents with children (elementary through high school aged), and even a couple out for "date night"!

The curriculum was designed to fit within the theme of the 2017 Earth Day Celebration: "Chemistry Helps Feed the World". A key component of this effort is the role fertilizers play in producing quality, high-yielding crops for a growing population. Discussions and activities related to the chemistry of fertilizers offered excellent opportunities to explain the fundamentals of chemistry and biology (e.g. charge, pH, nutrients, soil physical chemistry) to students and parents in a way that is understandable and relevant to their everyday lives, and also provided a wonderful opportunity to showcase the key role that the Central Science plays in helping to feed humanity.



Chemistry in the Library

Chemists Celebrate

Earth Day









MD ACS Student Travel Awardees Attend the ACS Meeting



The 253rd American Chemical Society National Meeting was held in San Francisco on April 2-6th. The Maryland local section awarded 14 students \$500 travel awards to present their research. The students reported having a positive experience. Here are a few of their own words about the meeting.

"Attending the 253rd American Chemical Society National Meeting & Exposition in San Francisco was such a rewarding experience. I had the opportunity to present my research to students and professors from schools around the country, and their inquiries into my research gave me new and exciting ideas."

"This experience at the ACS National Meeting was great for me as a young chemist because it allowed me to share my research twice during my time there. Once was during the medicinal chemistry and organic chemistry poster presentation session, but I was also able to present at the SciMix event, where specifically selected posters from all of the categories are asked to present. In presenting my research and talking with others scientists, information and ideas were shared, and potential collaborations could be forming."

"I always gain valuable information from visiting others' posters or sitting in on talks given by highly respected scientists. This time around, if I noticed my visitor was a professor, I asked them questions. The questions I asked were as such: "Are you familiar with this type of research?", "Do you have any students in you lab exploring such works?", and "Do you have any pointers for me based off of your knowledge base in this area"? These questions led to information that I feel will be pivotal to my research."

"Networking with faculty allowed for me gain contacts at several different institutions which will benefit me in the near future as I am currently preparing to apply for graduate school. Also, meeting new peers who have the same goals and aspirations as I do, will aid in keeping me motivated and focused through my journey to my next step in life."

"It was eye-opening to see the sheer amount and variety of research that is being done all around the world right now. Although it sounds counter-intuitive, I had never felt like I knew less about chemistry than when I was listening to some of the advanced-level talks. It's more of an encouraging feeling though; I clearly still have so much to learn but it is exciting that I'm on a path where I get to do just that."

"Overall, idea exchange and networking opportunities were the highlights of the conference, allowing me to find new opportunities of research enabling personal and career growth. The conference was a success, in that it has inspired me explore new aspects of my PhD project as potential future research ideas."

Chemathon and ACS Maryland

The University of Maryland, Chemistry & Biochemistry, College Park recently hosted the 33rd Chemathon on Saturday April 29th. A total of 41 teams from 24 schools competed in 2017: 20 at Level I and 21 at Level II, thus engaging over 200 high school students, plus their teacher-mentors, and many volunteers to support the chemistry contests and administration.

Throughout Saturday morning, full rounds of competition involve students switching "periods". A lunch break follows with the awards ceremony at 2PM. This is often a boisterous affair as each team applauds the winners of each of many lab challenges and the High School Spirit is high. There is also a poster competition and an organized crystal growing competition – "Threading Ions" as well as "ChemMystery". The college's Maryland Day events can be attended that includes a technology venue including a chemical magic show. Attendance for 2017 was 75,000 visitors.

The Maryland Section has supported the Chemathon since the mid 1980's with prizes and sometimes judges. We award some of the top prizes such as beaker mugs for top tier students and two Amazon gift cards for selected teacher-mentors. For more information go to: http://www2.chem.umd.edu/chemathon/

Call for Travel Award Applications

Deadline: Friday May 19th, 11:59 p.m.

The Maryland Section of the ACS is offering several travel grants of up to \$200 for students presenting posters at the Mid Atlantic Regional Meeting in Hershey PA June $4-6^{th}$ or for the national ACS meeting in Washington DC August $20-24^{th}$.

This is open to ACS members who are enrolled full time in a college or university in the Maryland Section. The application should include:

- The meeting you plan to attend along with location and dates
- Your ACS membership number
- An estimated budget (cost for travel, registration, lodging, and meals)
- A 250 word essay describing your motivation for attending the meeting
- A copy of your abstract and the abstract number ACS gave it when your abstract was accepted
- A letter of support from your faculty advisor
- Please state what would be the most convenient way for the check to be made out, in the event you are awarded a travel grant.

Submit your application to Louise Hellwig by e-mail: Louise.Hellwig@morgan.edu
If you are awarded a travel grant, the following items need to be submitted after the meeting:

• Photocopies of receipts totaling the amount of the award.

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• Trip report summarizing your experience at the meeting and photos of yourself at your poster at the meeting so we can proudly post them on the section website.

Deadline: Friday May 19th, 11:59 p.m.

Call for Area Student Member Chapter Assistance for Webinar Development Program!

The Maryland Local Section has received an ACS Local Section Activities Committee (LSAC) Innovative Project Grant (IPG) to develop capability to host a regular webinar series for our members and the public. We want to improve Section programing using current technology to deliver information stimulating topics. We will purchase video conference equipment and an internet meeting subscription.

We are looking for tech savvy members/ student chapters to more quickly launch this program. We want student members to help create the webinar both in selecting the webinar topic, producing and airing the webinar to the Section. If interested or want more information, please contact stephanie.watson@nist.gov, 301-975-6448.

CALL FOR NOMINATION: 2017 Braude Award

The Braude Award, established by George and Monique Braude, is awarded at the November meeting and honors a professor conducting outstanding research involving students at a college or university in the Chesapeake region. At the November dinner meeting the recipient presents his/her research and receives a plaque describing his/her contributions as well as a monetary award to help support further student research. Nominations are now being accepted for the 2017 Braude Award. Nominees must be a member of the ACS, and underrepresented candidates including women, are encouraged. Please submit a list or description of the research accomplishments of the nominee, as well as an indication of the number of students involved in that research, to Louise Hellwig via e-mail: louise.hellwig@morgan.edu.

Deadline: June 1, 2017

2017 Maryland Section Event Schedule

Event	Date	Location	
Brewery Tour	May 20 th	Heavy Seas Brewery (see next page)	
50/60/70 Year Luncheon	May 26 th	Matthews 1600 Restaurant	
ACS Middle Atlantic Regional	June 4-6 th	Hershey, PA	
Meeting			
ACS National Meeting	August 20-24 th	Washington, D.C.	
Remsen Award	October	Johns Hopkins University	
National Chemistry Week	October	Everywhere	
Braude Award	November	TBD	
Maryland Chemist Award	December	TBD	

If you have any ideas or suggestions about new events, let us know: contact-us@mdchem.org



ACS Maryland Section is going on a BREWERY TOUR!





Which one? Heavy Seas

4615 Hollins Ferry Road

Halethorpe, Maryland

Date/Time: Saturday, May 20, 2017 at 5:00 P.M.

Cost: \$7/person

RSVP to Louise Hellwig at this Doodle poll:

https://doodle.com/poll/pfebc2wuipwgt4b8



Feel free to invite friends and family.

Space is limited!

Tour the Heavy Seas brewery & learn how beer is made!

Tours last 45 minutes, open to all ages.

The tour includes a souvenir pint glass and beer sampling.

Beer sampling will begin before the tour so please arrive early.

You must be 21+ years of age to drink!

For safety reasons, no open toe shoes, flip flops, heels, etc.

REMINDER: Receiving the Chesapeake Chemist

Hopefully, if you are reading the Chesapeake Chemist this month, you are receiving it via e-mail from us. We went to electronic-only mailings to our MD ACS membership in October 2006.

Changing your e-mail address? Moving out of the MD ACS area? E-mail changes can be updated either by:

- E-mailing us at <u>contact-us@mdchem.org</u> give us your member #, full name, and e-mail changes and we can ensure that your records are updated with National ACS.
- Contacting the National ACS membership division: 800-333-9511 (US only) or service@acs.org
 To ensure that you receive the Chesapeake Chemist, please add the MD ACS e-mail (contact-us@mdchem.org) to your accepted e-mail address list IF you have a spam filter.

If you are a member who currently doesn't receive the Maryland ACS Chesapeake Chemist but download it from our website, it is possible that National ACS does not have your e-mail address on file. If you want to receive the Chesapeake Chemist via e-mail, please e-mail us at contact-us@mdchem.org – give us your member #, full name, and e-mail address and we can ensure that your records are updated with National ACS.

The current edition and previous editions of the Chesapeake Chemist can ALWAYS be obtained via our website: http://mdchem.org – please see the Newsletter Archive link on the left-hand side of the website.



MATERIALS CHARACTERIZATION

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OM / SEM / EDXA / TEM / SAED, EPA / WDXA XRF / ESCA / AUGER / XRD DSC / TGA / MFTIR

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E-mail: (<u>micronanalytical@compuserve.com</u>)
Website: (http://micronanalytical.com/)

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