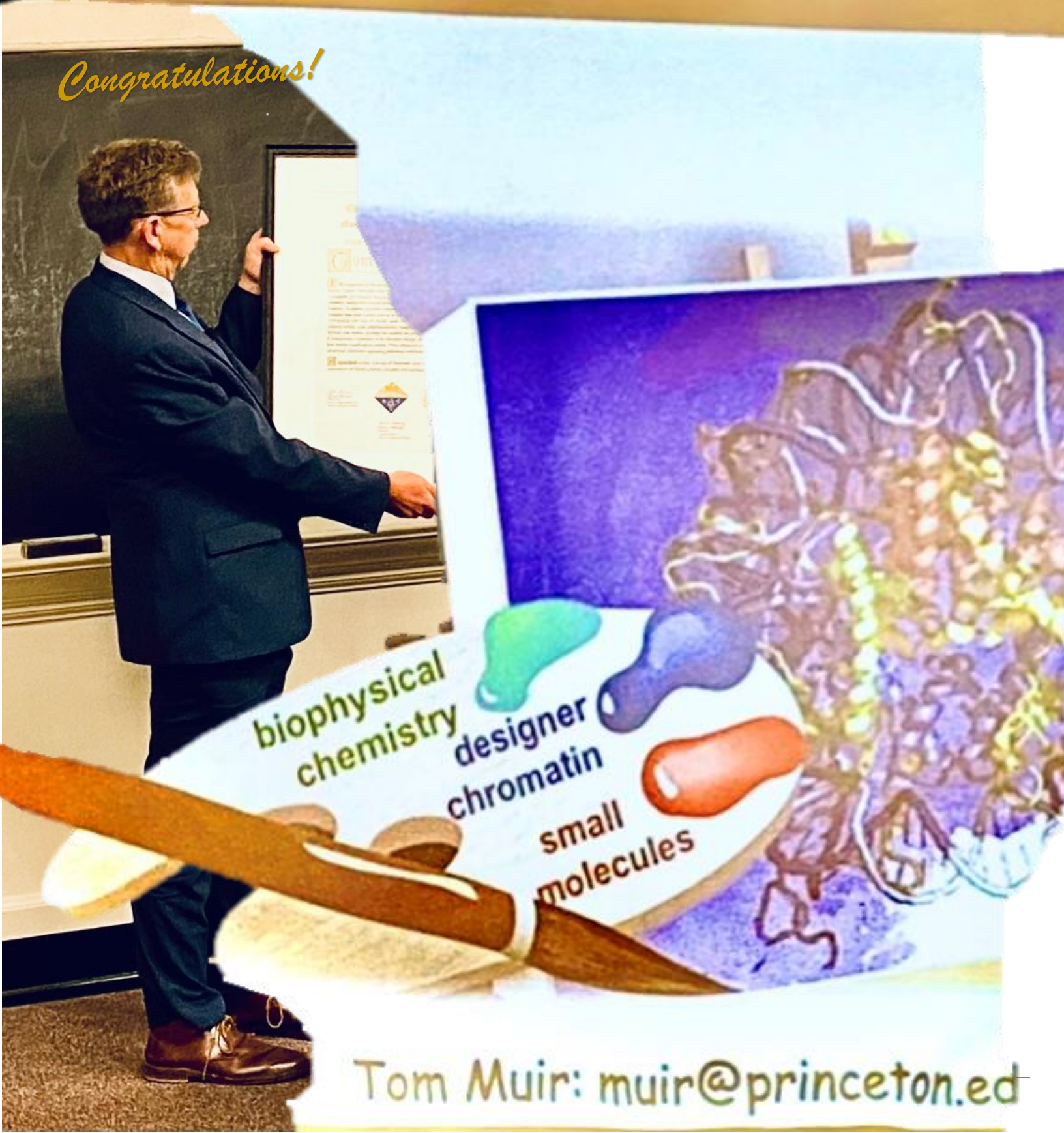
November Issue VOLUME 79 No. 5

Chesapeake Chemist

Maryland Section
American Chemical Society

Congratulations!



Chesapeake Chemist
Maryland Section American Chemical Society

ACS Local Section Maryland

From the Editor's Desk . .

Maryland Local Section Newsletter

Editor-in-chief: Beatrice Salazar

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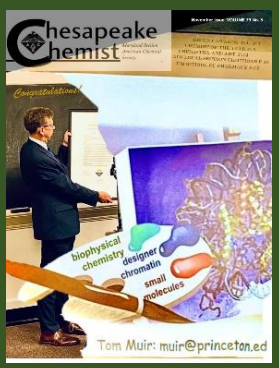


Chemistry and Art

Last month, the ACS Maryland local section along with Johns Hopkins University hosted the Remsen award lecture by Professor Tom Muir from Princeton University. His very first slide was impactful to me. It was an artist's palette where ideas from different disciplines merged into a work of art. A wonderful metaphor that merges science and art. The artwork in this case was *"Janus Particles: the role of molecular symmetry in epigenetic regulation"*.

Dr. Muir's art connection reminded me of a Baltimore Museum of Art tour designed for chemists, highlighting the understanding of art through the eyes of chemistry. (See the Chesapeake Chemist Vol. 75 No. 7 July 2018 p12-14). The tour, "*Materials and Human Creativity Through Time and Place*" included "Camel", a ceramic from the 8th century – Tang Dynasty 618-907 CE. When clay is heated to 573 ° C or higher, there is an abrupt alpha to beta inversion of configuration of the silicon-oxygen tetrahedra that requires careful heating and cooling as the material passes through this temperature to prevent breakage. Chinese at the time probably did not see these inversions the way we explain them today, but they certainly knew how to handle them to come up with beautiful art that was in essence wonderful laboratory work. Chemistry and art intertwined. In this issue we will show how elementary school children learn about chemistry through art; children's artistic expressions as they interpret chemistry ideas and processes (p12).

In this issue we have two reports on the very interesting lectures that took place last October. The Remsen Lecture by Professor Tom Muir mentioned above (p 4) and The Braude Awardee Lecture by Associate Professor Dianne Luning-Prak from the Naval Academy on "*Bio-based and Petroleum-based Fuels Properties, Surrogate Mixtures, and Combustion*" (p 6).

We also have several announcements: The Maryland Chemist of the year award this year went to Dr. Cheng Gong from University of Maryland, College Park, in recognition for his innovative nanosensors using 2D quantum materials; The award will be presented to Assistant Professor Gong at the UMD College Park campus on December 19, 2022, at 5:30 P.M. following his lecture presentation (p 8).

Another piece of great news: we are having our very first webinar created by the local section: *Circular Nutrient Economy*. It is an environmental webinar in collaboration with Professor Blaney's laboratory postdocs, graduate, and undergraduate students at the UMBC. The webinar will take place on December 14, 2022, at 2:00 P.M. The local section invites all scientists to join us (p 22).

The names of the 2023 candidates for office have been released; please vote and consider becoming part of the Maryland local section officers as well. Send us your name and statement of interest (p 13).

Beatrice Salazar

Thank you all for the contributions, and the votes to identify deserving candidates for these awards and for ACS local section officer positions. Please continue nominating your colleagues and letting us know about their great work.

CHAIR'S MESSAGE

Dr. Sarah Zimmermann Chemist, FDA

Chair, ACS Maryland Section - acsmaryland.org

Sarah Zimmermann, PhD
Chemist FDA
https://www.fda.gov
U.S. Food & Drug Administration
10903 New Hampshire Ave, Silver Spring, Maryland, 20903, United States

(92) Sarah Zimmermann | LinkedIn

Recent publication Feb. 2021 Journal ONCOLOGIST

Hello Maryland ACS,

I hope you are having a wonderful start of the fall and winter Holiday Season. Our section has hosted some wonderful seminars this fall to honor the 2020 Remsen Awardee, Dr. Tom Muir (see page 4), and the 2022 Braude Awardee, Dr. Dianne Luning-Prak (see page 6).

As the calendar year winds down, we have a couple on-going and upcoming activities:

- **The elections for the 2023** Maryland Section Executive Board and changes to the by-laws are active. Check your email for an invite to voting from 'The Maryland Section of the American Chemical Society <noreply@electionrunner.com>' (see page 13).
- **The Maryland Chemist Award**, Award and Seminar to be presented on December 19, 2022. Please keep a lookout for upcoming information in a future email as well as the December edition of the Chesapeake Chemist (see page 8).
- **Women's Chemist Committee** will be hosting a 2023 Seminar by Dr. Rebecca Ruck, Feb 8 at 7 pm via Zoom (see page 19).
- **Launch of a webinar series** focusing on how Chemistry can impact environmental issues. We will distribute more information in the near future (see page 20).
- **Seminar to honor the 2021** Remsen Awardee anticipated in Spring 2023. Covid restrictions postponed the seminar, and we are hoping to be able to honor the awardees with in-person seminars.

If you are interested in becoming more active with the Maryland Local ACS Section, or have any ideas on how we can better serve the Maryland Chemist Community, please feel free to contact us at: acsmarylandsection10@gmail.com

Thank you,

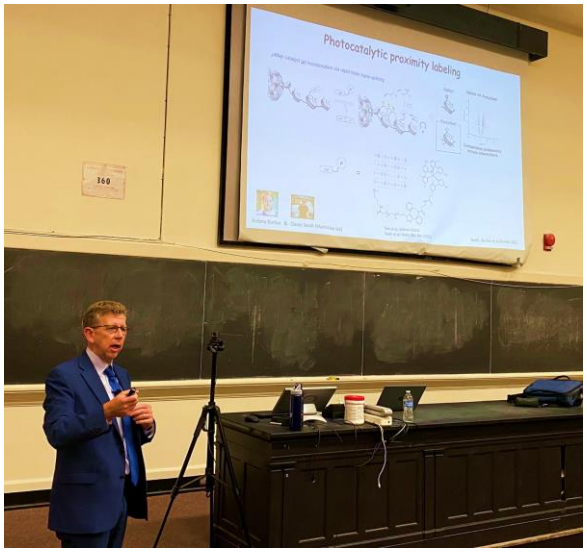
Sarah Zimmermann, PhD

THE LECTURE

Johns Hopkins University (JHU) scientists and chemistry students met on October 13th at the Remsen building to listen to Princeton University Professor Thomas Muir seminar titled: "*Janus Particles: the role of molecular symmetry in epigenetic regulation."* To learn more about the award and lecture see the article on the Chesapeake Chemist October issue.

The lecture was attended by about 150 people including JHU faculty members, students, and members from the community.

THE 2020 REMSEN AWARD RECIPIENT



PRESENTED HIS AWARD LECTURE ON OCTOBER 13, 2022

The photo shows the people who made possible this event. Professor John Toscano, JHU Chemistry Department chair and Dr. Dana Ferraris (left) chemistry Dept. Chair at McDaniel College. Also, in the photo in the r.h.s. is Dr. Sarah Zimmerman 2022 ACS Maryland Section Chair and on the far left is Beatrice Salazar, Councilor, ACS Maryland Section.

The lecture was as Dr. Muir's described in his first slide a painting of his research. (See cover page)

He discussed among other subjects, work on disease associated histone mutations, nucleosome reconstitution and heterotypic "Janus" nucleosomes.

The slide of Janus curls was interesting!

The roman god of doors became the god keeper of heaven and the god of the gods. He is credited with bringing civil and social order to mankind, he brought humanity from barbarity to civilization .

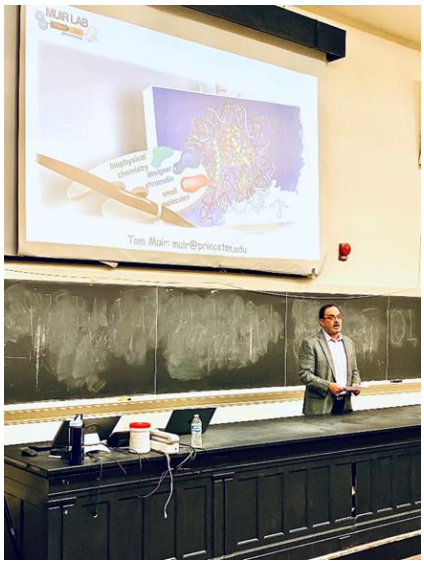
THE PROFESSOR

Professor Muir is fun! He made us laugh!

The lecture ended with several good questions from the audience. Then, Dr. Dana Ferraris presenting the award to Professor Muir. Due to the pandemic it took two years for the award to be given from the time it was first announced.

A good celebration was in demand so we proceeded to celebrate. Attendes gathered for wine, snacks, and informal conversation. Dr. Muir is very approachable and has great sense of humor.

(1)



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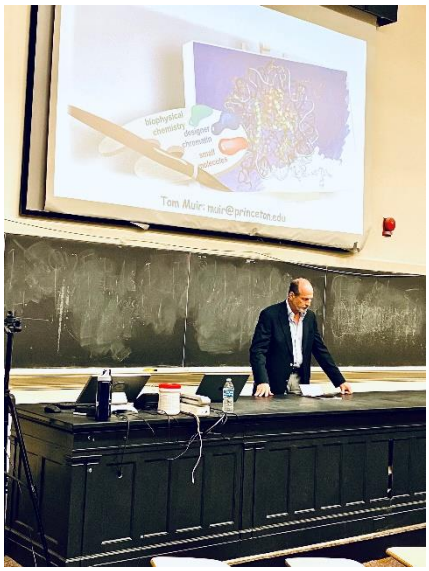

(3)

(1) Professor Toscano, JHU Chemistry Department Chair's introductory remarks, (2) JHU Professor Marc Greenberg introduces the speaker, Professor Muir. (3) Questions and answer time. Photo courtesy of Dr. C. Rojas

The pictures show a moment when Dr. Muir shares a joke with Beatrice on an interview he had in 2020 (It can be found in the Chesapeake Chemist 2020 and on professor Muir's website).

We had an excellent lecture and memorable moments that will be remebered for a long time.

A Memorable Time...

GEORGE L. BRAUDE AWARD LECTURE

CONGRATULATIONS TO THE

2022 BRAUDE AWARD WINNER

DIANNE J. LUNING-PRAK

Associate Professor, Naval Academy

"We recognize excellence as it is delivered in-person or in virtual meetings. Although we would have preferred to shake hands with Dr. Luning-Prak, we had the opportunity to hear her talk and virtually share the enthusiasm of her lecture and a few smiles as well"

Professor Luning-Prak US Naval Academy, is receiving The George Braude Award, from Dr. Louise Hellwig, Chair of the award committee.
Photo courtesy of Dr. Hellwig.

Report

The Braude award lecture: Bio-based and Petroleum-based Fuels Properties, Surrogate Mixtures, and Combustion had many interesting points for the community in diverse fields. Dr. Luning Prak's research explained the different chemical composition of petroleum-based fuels and fuels from feedstock. Her research also involves the evaluation of surrogate mixtures to build a greater understanding of fuel performance in diesel engines. Besides the presentation of the results from Navy jet fuel, JP-5, alternative fuels such as alcohol-to-jet (ATJ), hydrotreated esters and fatty acids (HEFA), and catalytic hydrothermolysis (CH) fuels, Dr. Luning-Prak gave us an insight of her future research involving 3-D printing O-rings. The ceremony took place October 24, 2022. For more information see the October issue No.5 Vol. 79. of the Chesapeake Chemist on her honor and lecture recording link. Use the following Password.

Professor Dianne J. Luning Prak and Research students

Pictorial view of Research and Students:

Military jet fuel JP-5

Military Jet fuel, JP-5

Fuel with linear, branched,

cyclic and aromatic compounds



Julia Fries (2018-2019)

Rochelle Gober (2018-2019)

Ladavish Dorn Heat of vapor. Surrogates (2019-2020)

4 component surrogate mixtures (linear, branched, cyclic and aromatic)

Luning Prak, D. J., Fries, J. M., Gober, R. T.; Vozka, P., Kilaz, G., Johnson, T. R., Graft, S. L., Trulove, P. C., Cowart, J. S., J. Chem. Eng. Data 2019, 64, 1725-1745

Cowart, J. S.; Foley, M. P., Luning Prak, D. J., Fuel 2019, 249, 80 -88.

Luning Prak, D. J., Foley, M. P., Dorn, L., Trulove, P. C.; Cowart, J. S.; Durkin, D. P. Energy Fuels 2020, 30, 4046 -4054.

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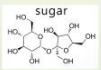
Alcohol-to-jet fuel



Branched alkanes

M. Hope Jones (2014-2015)

ATJ

2-component surrogates

branched alkanes

Luning Prak, D. J., Jones, M. H., Cowart, J. S., Trulove, P.C., 2015, J. Chem. Eng. Data, DOI 10.1021/je501141e.

Luning Prak, D. J., Jones, M. H., Trulove, P. C., McDaniel, A. M., Dickerson, T., Cowart, J., 2015. Energy Fuels, DOI 10.1021/acs.energyfuels.5b00668.

Sustainable Aviation Fuels Guide, Dec 2018, http://www.sciencedaily.com/releases/2012/11/121120121913.htm, https://society6.com/product/sugar-molecule-formula_stretched-canvas

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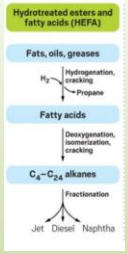
Algal-based Hydrotreated Esters and Fatty Acid



Mostly linear and branched alkanes



David Hoang (2011-2012)

Sarah Alexandre (2013-14)

Mark Palmquist (2012-2013)

2-component surrogates

Linear and branched alkanes

C15,C16, C17,C18 + branched

Fuels, water, metal uptake from seawater, microbial growth on algal-based fuel

Luning Prak, D.J., Cowart, J.S., Hamilton, L. J., Hoang, D.T., Brown, E.K., Trulove, P.C., 2013 , *Energy Fuels*, DOI 10.1021/ef301879g.

Luning Prak, D. J., Alexandre, S. M., Cowart, J. S., Trulove, P.C., 2014. J. Chem. Eng. Data, DOI 10.1021/je5000132.

Brown, E. K., Palmquist, M., Luning Prak, D. J., Mueller, L. M., Bowen, S. S., Sweeley, K., Ruiz, O. N., Trulove, P. C., 2015. J. Petrol. Environ. Biotechnol., DOI 10.4172/2157-7463.1000204.

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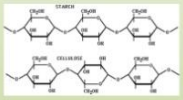
Lignocellulosic feedstocks (HDCD)

Lignocellulose

Crop residues	hydrolysis/ enzymes	aqueous sugars	Aqueous phase processing	Jet fuel Diesel fuel
Forest waste	gasification	syn gas	FT or fermentation	Gasoline Ethanol
Municipal Waste Energy Crops	pyrolysis	biocrude	Catalytic cracking Hydrotreating	



Cyclic and aromatic compounds

Bridget Lee (2015-2016)

HDCD

2-component surrogates

Cyclic and aromatic compounds

Luning Prak, D. J., Lee, B.G., 2016, J. Chem. Eng. Data, DOI 10.1021/acs.jced.5b01075.

Luning Prak, D. J., Lee, B. G., Trulove, P. C., Cowart, J. S., 2017. J. Chem. Eng. Data, DOI 10.1021/acs.jced.6b00542.

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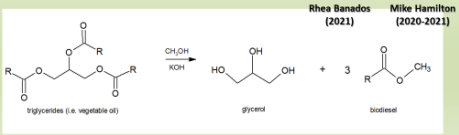
Biodiesel (methyl esters) and Navy jet fuel

1st generation:	2nd generation	3rd generation
Food oils	Non-Food oils	Waste oils
	Castor beans, neem, linseed	

Rhea Banados (2021)

Mike Hamilton (2020-2021)



Luning Prak, D., Hamilton, M., Banados, R., Cowart, J., 2022, *Fuel*, 31, DOI: 10.1016/j.fuel.2021.122503.

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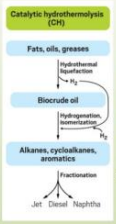
Catalytic hydrothermal conversion fuels



Fuel with linear, branched, cyclic and aromatic compounds

Sept 2016, Successful test flight of EA-18G Growler on 100% CHCJ fuel at Naval Air Station Patuxent River, MD

Margaret McLaughlin (2016-2017)

Sonya Ye (2016-2017)

Annabel Mungan (Summer 2017)

CHCJ and CHCD 3 component surrogate mixtures (linear, branched, aromatic)

Cyclohexane + linear alkanes

Luning Prak, D. J., Mungan, A., Cowart, J. S., Trulove, P., 2018, J. Chem. Eng. Data, 63, 1642–1656, DOI 10.1021/acs.jced.8b00008.

Luning Prak, D. J., Ye, S., McLaughlin, M., Trulove, P. C., Cowart, J. S., 2018, Ind. Eng. Chem. Res., 57,800-610. DOI: 10.1021/acs.iecr.7b04419.

Luning Prak, D. J., Romanczyk, M., Wehde, K. E., Ye, S., McLaughlin, M., Luning Prak, P. J., Foley, M. P., Kenttamaa, H. I., Trulove, P. C., Kilaz, G., Xan, X., Cowart, J. S., 2017. Energy Fuel., DOI: 10.1021/acs.energyfuels.7b02960.

Luning Prak, D. J., Ye, S., McLaughlin, M., Cowart, J. S., Trulove, P., 2017, J. Chem. Eng. Data, DOI:10.1021/acs.jced.7b00466.

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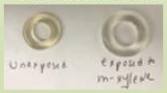
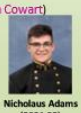
Current/Future Work

- O-rings made from additive manufacturing processes (3D printing)
  Department of the Navy (DON) Additive Manufacturing (AM) Implementation Plan V2.0 (2017) are additive repair, end use components, & production at point of need
  Capt Brad Baker, engineering, Maker Space
- Fuel (gasoline, jet fuel, diesel fuel, lubricants)
- Physical properties of O-rings change upon exposure to fuels
  - Swelling and thermal properties
  - Tensile strength and hardness
  - Sealing ability in an engine (Jim Cowart)



AM Flex 80 O-ring, 24-hr exposure



Nicholaus Adams (2021-22)

Dan Fohner (2022-23)

Jack Neubauer (2022-23)

Adams, N. J., Baker, B. W., VanBriesen, J. L., Durkin, D. P., Cowart, J. S., Schubbe, J.J., Luning Prak, D. J. *J. Mat. Eng. Perform* DOI10.1007/s11665-022-07124-5

Luning Prak, D., Adams, N., VanBriesen, J., Cowart, J., Schubbe, J., Baker, B., *J. Elastomers and Plastics*54, 937958, DOI:10.1177/00952443221104105

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THE 2022 CHEMIST OF THE YEAR

RECIPIENT HAS BEEN SELECTED

CONGRATULATIONS TO

CHENG GONG

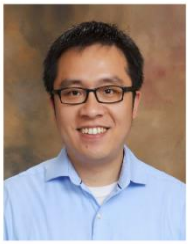
ASSISTANT PROFESSOR AT THE UNIVERSITY OF MARYLAND, COLLEGE PARK **December 19, 2022**

Let's celebrate Dr. Gong's accomplishments at the Univerity of Maryland, College Park, A.V., Williams Building R-2460

It is with pleasure that we announce the 2022 recipient of our distinguished Maryland Chemist of the Year Award. We will be presenting this award to Associate professor Cheng Gong. The selection was made considering his accomplishments in the fields of chemistry and engineering; specifically, for his innovative development of nano-sensors, based on 2D quantum materials. His invention will inspire change on his students' science learning, entrepreneurship, and marketing. The recipient will receive his award on December 19th. Around 5:30 P.M. we will start celebrating with a colleagues, students, and staff from the University of Maryland, UMD, and with members of the ACS Maryland Local Section. Please let us know if you are interested in attending this ceremony.

Dr. Cheng Gong will present his award lecture around 6:00 P.M. the details of the presentation and abstract will be released in the December issue of the Chesapeake Chemist created in his honor.
Please send any comments, congratulatory remarks or anecdotes to the ACS Maryland local section .

For more information, please see the flyer on the December issue of the Chesapeake Chemist and around UMD campus.



Assistant Professor
Electrical and Computer Engineering
Quantum Technology Center
Materials Science and Engineering
2216 Jeong H. Kim
gongc@umd.edu
(301)-405-3739
Website

Interested in nominating a scientist for any of the 2023 ACS Maryland Local Sections Awards? Please contact us and see the award descriptions and requirements on our website. https://acsmaryland.org/awards/

HISTORY…

THE ASC MARYLAND YEARLY OFFICERS VOTE - Since 1914

Our History began…*When ACS Maryland Local Section was created in 1914.*

At the same time, we had a healthy shot of cocaine in our Coca-Cola drinks .

The first Model T Ford was used in unpaved roads that inspired the construction of better roads and paved surfaces using asphalt.

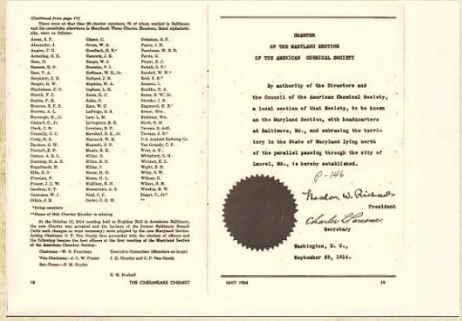
In October of 1914, The Maryland Section of American Chemical Society held its first meeting to help scientists deal with real world problems through improvements in chemistry. Since that time, chemists have made dramatic accomplishments that have changed the lives and life spans in every area of modern existence. "For example, in agriculture, farmers in Maryland have doubled and then doubled again the crop production on each acre of land from advances in agriculture in the state".

The Maryland Section continues to celebrate the accomplishments of advances in chemistry through the accomplishments of its members. The local section began with approximately 90 members and today we have nearly 2000. These members are on the forefront promoting opportunities for education and advancement in chemistry.

An election of officers followed – on October 10, 1914

The foundation of the Maryland section was the initiative of 20 chemists and engineers, this group was headed by Ira Remsen, president of Johns Hopkins at the time (1911). The official petition for the Maryland section funding was addressed to the ACS council and approved on June 1, 1914, with headquarters in Baltimore. They requested a vote and as a result W. B. D. Penniman (Penniman & Browns, Inc., Chemists, Engineers and Inspectors, Falls Road which is still in business) and C. Glaser were nominated for **chairman**, J. C. W. Frazer was chosen to be **vice-chairman**, F. M. Boyles became **secretary-treasurer** while C P. van Gundy and J. H. Shrader became **members of the executive committee**.

Dr. Glaser presented a paper entitled "The Catalytic Decomposition of Bornyl Chloride by Copper" (Bornyl Chloride: 3-chloro-4,7,7-trimethylbicyclo[2.2.1]heptane). It will be great to have our local section's chair do the same.



CHARTER
OF THE MARYLAND SECTION
OF THE AMERICAN CHEMICAL SOCIETY

By authority of the Directors and the Council of the American Chemical Society, a local section of that Society, to be known as the Maryland Section, with headquarters at Baltimore, Md., and embracing the territory in the State of Maryland lying north of the parallel passing through the city of Laurel, Md., is hereby established.

Washington, D. C.,
September 29, 1914.

"The meeting adjourned at 10 P.M.; the attendance was 31" This statement recorded in 1914 is meaningful, because even then when the Local section was beginning, there was a good number of attendees, all with a common interest spreading the Chemistry knowledge to the community.

The BYLAWS were created at this time and continue to be updated according to the needs of the new generations of chemists and their scientific interests. For more information see ACS website acsmaryland.org

The Maryland section has had a distinguished past, and it looks forward to an even brighter and more productive future, please vote in the 2022 Maryland Section elections.

FUTURE PARTNERSHIP

FUTURE PARTNERSHIP WITH UMBCAND NEW YORK/NEW JERSEY ACS LOCAL SECTIONS, IS PLANNED FOR 2023

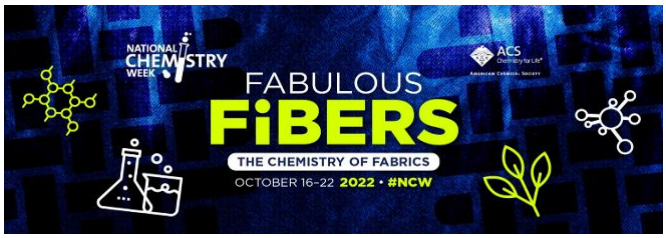
Saif Yasin is an engineering student at UMBC and a very active member of the ACS local sections in New Jersey and New York. This year, he is inviting ACS Maryland local section to join his team to expand his student-Research.

Saif Yasin of UMBC described the Fair for Emerging Researchers (FER) program he has worked with in the New York and the New Jersey sections. FER is for 5-8 grade students, encouraging them to think out science projects, not just do demos. In this project-based learning program the first step is recruiting students and signing them up with mentors. The students are coached through the steps of the scientific method, asking good questions, finding sources, crafting a hypothesis, considering experimental design, and data analysis. This involves 6 hours of participation per student, including a 30 minute/week assignment. The students present their projects online on March 18th (in 2023) from 10 a.m. to 4 p.m. Saif would like to recruit judges in our section for March 18 (8 am - 2 pm commitment). He is interested in recruiting students to help with mentorship; this is a twenty-hour volunteer position. He would like help reaching out to elementary and middle schools for participation and would also like any funding our section can provide.

The following slide of his presentations is an overview of the program (Excerpt from the minutes of the Executive committee on October 10, 2022).

To Contact: Saif Yasin, use email: syasin1@umbc.edu

REPORTS



The Maryland section participated in the fun activities "Fabulous Fibers"
We encourage more members, chemistry clubs and enthusiastic chemistry groups to continue celebrating chemistry week.
https://www.acs.org/content/acs/en/education/outreach/celebrating-chemistry-editions.html

KIDS CORNER
https://www.acs.org/content/dam/acsorg/education/outreach/celebrating-chemistry/2022-ncw/2022-ncw-fabulous-fibers.pdf

TOWSON UNIVERSITY

Summer research/Seed Pilot program.

Four high school students grade 11 and 12 participated in the 2022 summer research program under the mentorship of Professor Mary Sajini Devadas, mdevadas@towson.edu.

The abstracts of their research has been published in the October issue of the Chesapeake chemist. Vol. 79 N. 5. Enclosed, on page 20, are their names and some of their photos working in the lab.

Thanks to all Mentors and scientists for making this research project a success and for sharing your valuable time and chemistry knowledge in shaping the minds of these future young chemists.

Dates to remember

November 13, 2022
DEIR Grant Deadline

December 1, 2022
ACS Officer Reporting

December 18, 2022
ACS Outreach Volunteer of the Year

January 20-22, 2023
ACS Leadership Institute

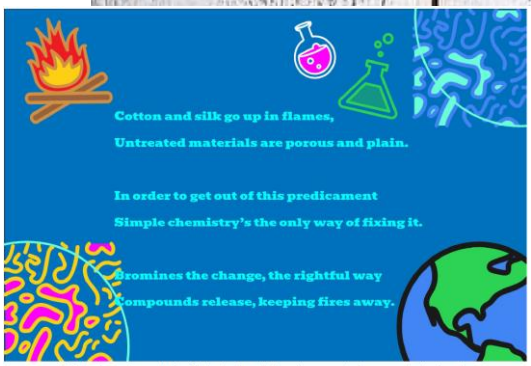
SUMMER RESEARCH **PROJECT SEED** PROGRAM AT MARYLAND LOCAL SECTION

Future students and summer research participants, please check all information and CONTACT:
https://acsmaryland.org/acs-maryland-research-project-seed/

Committee Chair /
Program Research Coordinator **Louise Hellwig**
Program Recruiter / Coordinator **Beatrice Salazar**
Program Recruiter / Coordinator **Kelly M. Elkins**

NATIONAL CHEMISTRY WEEK EDITIONS
https://www.acs.org/content/acs/en/education/outreach/celebrating-chemistry-editions.html

Chemistry and Art



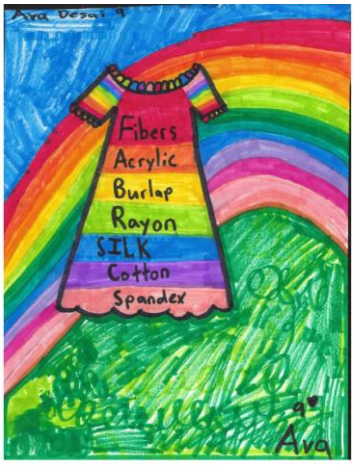
Original work created with Autodraw (https://www.autodraw.com/autodraw)

Arianna Franklin
12th grade

Danielle Nelson
12th grade

Grant Vu
4th grade

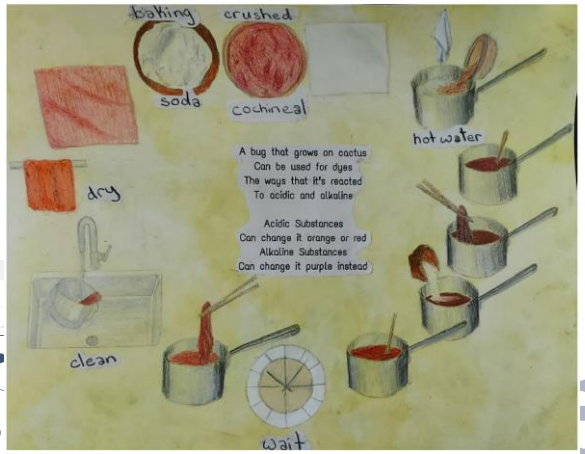
Teresa Carey
3rd grade



Ava Desai
4th grade

Ella Desai
4th grade

Neema Jones
7th grade



Local Section Elections

It's that time of year again when Maryland local section elect new officers. Please take a moment to review your local section bylaws to ensure that elections are conducted in accordance with established procedures. An election list being released. It will be submitted to ACS to ensure that only eligible ACS members are participating in the election. Those interested in this information may contact the chair of Maryland Local Section, the elections ballot coordinator or ACS.

Eligibility to Serve!

Yes - Per ACS Governing Documents only MEMBERS can hold an elective position of the SOCIETY or serve as a Councilor or Alternate Councilor.	**No** - Community Associates cannot serve in any position of the SOCIETY and Local Section.
Check your Maryland Local Section bylaws - **bylaws@acs.org**.	may allow STUDENT MEMBERS Society and/or Local Section Affiliates to hold an elective position or serve as a committee chair in the Section.

List of nominees for 2023 Officer Positions

Beatrice Salazar

Maryland Local Section Chair-Elect

The Chair-Elect serves a rotating 3-year term, transitioning to Vice-Chair, and then Chair of the section.

Louise Hellwig

Maryland Local Section Secretary

The Section's secretary is the principal recording officer, and they serve a one-year term.

Lee Lefkowitz

Maryland Local Section Treasurer

The Section's treasurer is the principal financial officer, and they keep all financial records of the Section. They also prepare financial forms for the annual report of the Section.

Kelly Elkins

Maryland Local Section Councilor

Councilors keep the Section informed of National's activities and serve to represent the business and interests of the Section.

List of nominees for 2023 Officer Positions

Jillian Malbrough

Maryland Local Section
Alternate Councilor

The alternate councilor is a back-up position for councilor. They keep active in the Section and informed of National activities.

Nirupam J. Trivedi

Maryland Local Section
Member-At-Large

Members-at-Large serve as members of the Executive Committee and as chair or members of individual Section committees.

Olivia Harper Wilkins

Maryland Local Section
Member-At-Large

Members-at-Large serve as members of the Executive Committee and as chair or members of individual Section committees.

Saraswathi Narayan

Maryland Local Section
Member-At-Large

Members-at-Large serve as members of the Executive Committee and as chair or members of individual Section committees.

Rose Pesce-Rodriguez

Maryland Local Section
Member-At-Large

Members-at-Large serve as members of the Executive Committee and as chair or members of individual Section committees.

C. Eric Cotton

Maryland Local Section
Member-At-Large

Members-at-Large serve as members of the Executive Committee and as chair or members of individual Section committees.

Please VOTE

All ACS Local section members will receive a ballot to cast their votes or write in a person they feel will fit better in any position. The ballot will include a question related to an amendment of the bylaws. The nominees statement of interest can be followed by clicking on the information button.

The ballot will be forwarded via Constant Contact and members may vote online. If you are interested in any of these positions in the future, please contact us at acsmaryland.org.

University of Maryland School of Pharmacy's 10 Academic Programs Offer Something for Everyone

In today's competitive job market, a distinctive resume stands out. For many, a graduate degree can provide the edge to advance in a career or simply perform a job with the confidence born of knowledge. The University of Maryland School of Pharmacy has been committed to the Doctor of Pharmacy degree and PhD-level education for decades, and in recent years has expanded its graduate programs with master's degrees. Founded in 1841 website

Online Program

This Photo licensed CC BY-ND

MS and Graduate Certificate in Medical Cannabis Science and Therapeutics

The Master of Science (MS) in Medical Cannabis Science and Therapeutics program provides students with the knowledge they need to support patients and the medical cannabis industry, add to existing research, and develop well-informed medical cannabis policy. As the number of states legalizing medical cannabis increases, so does the need for an educated workforce to respond to the demand for medical cannabis with expertise regarding the science and therapeutic effects of this medicinal plant. Coursework is designed to accommodate students with and without a background in science or medicine, and faculty are dedicated to making courses interesting and accessible to all students, regardless of academic background.

The Graduate Certificate consists of the first four courses of the master's program, for a total of 12 credits. It can be completed in less than one year.

Master of Science and Graduate Certificates in Palliative Care

The Master of Science and Graduate Certificates in Palliative Care are designed to meet the educational needs of individuals who want to gain a deeper understanding of the physical, psychological, spiritual, and social needs of patients and families affected by advanced illness.

The program will be of interest to a wide range of health care professionals, including but not limited to the following: physicians, pharmacists, thanatologists, nurses, advance practice nurses, physician assistants, psychologists, social workers, chaplains, administrators, counselors, bereavement specialists, and volunteer coordinators.

Participants can apply to earn a Graduate Certificate by completing the first four courses in the Master's degree. There are four additional post-graduate certificates that may be earned, each 12 credits.

Courtesy CC BY-ND

The PhD in Palliative Care program is a completely online program that develops outstanding researchers in palliative care, while concurrently honing skills in leadership, education, and engagement in the profession and the palliative care community.

The program requires the completion of 36 academic credits in addition to the 30 credits in the master's degree in palliative care or builds on a student's existing master's or other graduate degree in a relevant field with substantial and current experience in palliative care.

Pic link

Master of Science in Pharmacometrics

The Master of Science in Pharmacometrics is highly sought after by experienced professionals working in pharmaceutical companies, regulatory agencies, and research organizations. The online format allows professionals to acquire skills and knowledge to plan, perform, and interpret pharmacometrics analyses with the goal of influencing key drug development, regulatory, and therapeutic decisions.

Master of Science and Graduate Certificate in Regulatory Science

The Master of Science in Regulatory Science program provides students with the knowledge and skills necessary to contribute to drug regulation and pharmaceutical product lifecycles. This program primarily focuses on drugs, although aspects of biologics, diagnostics, devices, and nutritional products are also addressed. Graduates of this program are fluent in the science of developing new tools, standards, and approaches to assess the safety, efficacy, quality, and performance of FDA-regulated products.
The Graduate Certificate consists of the first two courses of the master's program, for a total of 12 credits. It can be completed in less than one year.

In Person Programs

Doctor of Pharmacy

PhD and Master of Science in Pharmaceutical Health Services Research

Master of Science in Pharmaceutical Sciences

PhD in Pharmaceutical Sciences

Doctor of Pharmacy

The Doctor of Pharmacy (PharmD) program provides future generations of pharmacists with the knowledge and skills needed to be essential contributors to a dynamic health care arena. Our outstanding PharmD students are preparing to become the medication experts on the health care team and in a broad range of fulfilling careers. With our cutting-edge research initiatives and advanced clinical services, our faculty are committed to fostering a stimulating and nurturing environment that inspires students to achieve their career aspirations and pursue innovative solutions to our nation's health care challenges. For over 180 years, University of Maryland School of Pharmacy graduates have been making positive impacts in pharmacies, hospitals, the pharmaceutical industry, state and federal agencies, and public health organizations. Our graduates are also catalysts for change as pharmapreneurs in telehealth, technological innovation, new products and services, and continuous process improvement.

PhD and Master of Science in Pharmaceutical Health Services Research

The PhD and Master of Science in Pharmaceutical Health Services Research program provides students with the theory, practical experience, and decision-making skills needed to improve health among diverse populations through health services and other drug related research, education, service, and community outreach. Students are introduced to four key research areas: comparative effectiveness and patient-centered outcomes research, pharmaceutical policy,

pharmacoeconomics, and pharmacoepidemiology. Upon completion of the program, graduates will be able to serve as knowledgeable consultants to and leaders in the public and private sectors of the health care and pharmacy/pharmaceutical communities and interact with members of other health, social, and administrative disciplines.

Master of Science in Pharmaceutical Sciences

The interdisciplinary field of pharmaceutical sciences combines and applies a broad range of scientific disciplines: medicinal and physical chemistry, biochemistry and biophysics, cellular and molecular biology, pharmacology and neuroscience, nanomedicine, pharmaceutics, pharmacokinetics and pharmacodynamics and more. It focuses on the discovery and development of new drugs and therapies as well as new biological pathways and drug targets. The Master of Science in Pharmaceutical Sciences provides advance education and cutting-edge training to prepare students for high-level research and leadership positions in pharmaceutical and biotechnology companies and in the federal government.

The program integrates basic and applied pharmaceutical sciences with hands-on laboratory research experience. Completion of a biopharmaceutical research internship and capstone project are hallmarks of the program.

PhD in Pharmaceutical Sciences

The PhD in Pharmaceutical Sciences offers students outstanding opportunities to be a part of cutting-edge biomedical and pharmaceutical research. Our students benefit from collaborative research that covers the spectrum of molecular biology, biochemistry, structural biology, drug design, drug synthesis, pharmacology, drug delivery, nanomedicine, formulation, pharmacokinetics, and clinical trials. Each student's experience is student/mentor driven. The School of Pharmacy houses one of the most advanced industrial and pharmaceutical technology research and manufacturing facilities in the country.

Find a program that's right for you at www.pharmacy.umaryland.edu/academics/.

Contact:

Andrew Coop, Ph.D.

Professor and Associate Dean for Academic Affairs,
Pharmaceutical Sciences
Maryland Chemist of the Year: 2019

SCHOOL OF PHARMACY
20 N. Pine St., Rm N309E
Baltimore, MD 21201
410-706-2029

Research interest: new analgesics lacking the undesired effects of opioids

Research approaches: Synthetic chemistry

www.pharmacy.umaryland.edu

ANNOUNCeMeNTS

Join a chemist from the Army Research Laboratory and the American Chemical Society and participate in hands-on experiments exploring the chemistry of fabrics.

Ages 7 & up (7-8 year olds must be accompanied by an adult); 60 min. Registration required.

Anne Arundel Library System
Odenton Branch Saturday 03 Dec 2pm
https://www.aacpl.net/event/fabulous-fibers-chemistry-fabrics

Women CHEMISTS Committee

Save the date! Wednesday, February 8, 2023 at 7 pm via Zoom

2023 Women Chemists lecture by Dr. Rebecca Ruck

At Merck, we aspire to develop breakthrough innovations that provide lifesaving medicines and vaccines to patients worldwide. In our Process Research & Development organization, that translates to inventing new scientific methods that enable us to create ideal manufacturing processes. When you deliver great chemistry, it provides the platform – and I would argue, the responsibility to not only impact the scientific discipline but also the culture of the field. This talk will highlight some of the chemistry accomplishments to which I have contributed as well as how these achievements have been parlayed into even broader impact.

*SUMMER **PROJECT SEED** PILOT PROGRAM AT MARYLAND SECTION*

The following photos from the 2022 summer research Project SEED pilot program at Towson university, TU under the direction and mentorship of Professor Mary Sajini Devadas, mdevadas@towson.edu. All students are high school students grades 11 and 12. To read the abstracts of each research work see Chesapeake Chemist Summer issue 2022, pages 14-15.

Synthesis and Characterization of Cobalt-doped Bi-icosahedron Gold Nanoclusters

Benjamin RAUFMAN, Mary Sajini DEVADAS
Department of Chemistry, Towson University

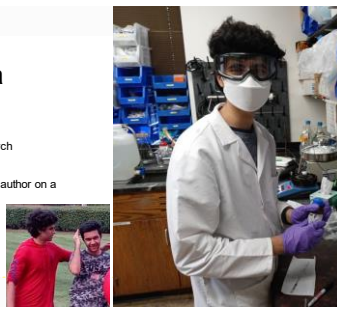
2022 ACS Project SEED and MD Section of the ACS sponsored research presentations

Welcome August 4th 2022

Congratulations!

Youssef Tewala

- Career goal: MD PhD
- In Fall Harvard University
- Loves soccer – gave up for research
- Loves bickering with Dariush
- Future Goldwater scholar and first author on a publication



Ben Raufman

- Career Goal: MD PhD
- In Fall University of Maryland Banneker/Key Scholar
- Plays the saxophone
- Future Goldwater scholar and first author on a publication

Tessa Snyder

- Career: Chemist
- Fall HS Senior
- Wants to go to the University of Maryland
- Loves Lacrosse and soccer

Mansoor Johnson

- Career: Chemist
- Fall HS Junior
- Wants to go to Harvard University
- Loves theatre
- Co-owns a lawn mowing business

JOB OPPORTUNITY

Adjunct Position at UMBC

P

Paul Smith

Wed, Nov 9, 2022

Hi Everyone,
UMBC has an opening for an adjunct faculty member in Spring 2023 to oversee two sections of sophomore-level analytical chemistry lab (quant), working with two graduate TAs; the lecture portion of the course will be taught by an experienced faculty member in the Department who will be available for consultation and guidance. The lab sections are Mondays and Wednesdays from 1-5 (both capped at 30 students), and a weekly TA meeting would be scheduled at a time convenient for both the lab instructor and the TAs. The position involves no grading, as all grading is done by the TAs. Compensation for the semester is $5000. Please share this with anyone you think would be appropriate for the position, and thanks!

Paul

CONTACT: Paul J. Smith
Associate Professor, Associate Chair, and Undergraduate Program Director for Chemistry
Department of Chemistry and Biochemistry
UMBC
410-455-2519

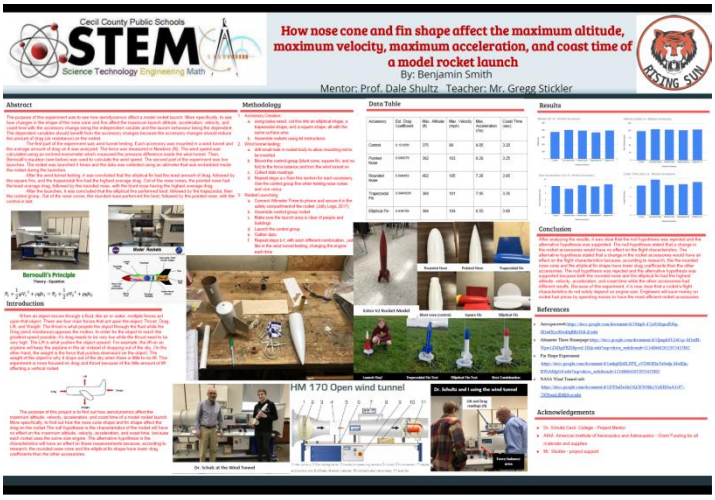
COLLABORATION OPPORTUNITY

Previous year sample of STEM mentorship

Looking for HS capstone mentor with experience in food chemistry

Year 2023
Thank you in advance for reading and considering. Let me know if you have additional questions.

Gregg Stickler <gstickler@ccps.org>
Lead Science Teacher
Rising Sun High School.



NEW:
WEBMINAR No.1
Part of the:

PROJECT EARTH DAY

ISSUE NO 1 | APRIL 22, 2022 | VOL I

ACS Local Section Maryland

WEBINAR-1

December 14, 2022, 2:00 P.M.

UMBC CHEMICAL BIOCHEMICAL AND ENVIRONMENTAL ENGINEERING





Dr. Hui Chen (team lead) postdoctoral research associate at UMBC Dr. Blaney's lab. (Completed her Ph.D. in Chemistry at Stonybrook University)

Dr. Utsav Shashvatt postdoctoral research associate at UC Berkeley. (Completed his Ph.D. in environmental engineering at UMBC – Dr. Blaney's lab)

Mr. Michael Fleming Ph.D. candidate at UMBC, Dr. Blaney's lab (environmental engineering program)

Ms. Ouriel Ndalamba BS student in our lab at UMBC (chemical engineering major)

Ms. Kaylyn Stewart BS student in our lab at UMBC (chemistry major)

Circular Nutrient Economy

Recovering nutrients from waste streams for reuse as fertilizers

PANELISTS: Expert Environmental Engineers from UMBC

Overview

Nowadays, nutrient pollution such as eutrophication has become a major issue causing large scale harm to the environment. Therefore, it is necessary to understand how to mitigate the effects of nutrient pollution on the environment while sustainably recovering nutrients in valuable forms. Donnan dialysis can be a great strategy to recover nutrients from waste streams for reuse as fertilizers with minimal energy and chemical input. Learning the basics of Donnan dialysis is essential to apply this technology in larger scale waste streams treatment.

In this webinar, our panel of post-doc, graduate and undergraduate students from UMBC will discuss the applications of Donnan dialysis to achieve circular nutrient economy by recovering nutrients from waste streams as fertilizers. They are subject matter experts in environmental engineering who will give us a detailed explanation of how Donnan dialysis works and how to design sustainable nutrient recovery systems. The panel will present their current achievements in Donnan dialysis application in agricultural and municipal waste to address nutrient pollution.

Key Learning Objectives

- Importance of circular nutrient economy
- Basics of Donnan dialysis
- Current progress in Donnan dialysis technologies for nutrient recovery

Who Should Attend

- Analysts, technicians, engineers and chemists who are either currently involved in environmental issues
- Wastewater professions and farmers who are interested in employing new strategies to solve nutrient pollution
- Students and researchers working on environmental issues

NEW: Tentative program

The ACS Maryland Local Section has in mind the creation of a committee for the YOUNG CHEMIST AWARD if any ACS member from the Maryland area is interested, please contact the Chair Sarah Zimmerman and attend the 4th executive committee meetings in December.

Send your announcements, events, programs, or comments

Contact:
Editor
and
ACS Maryland Local Section

Councilors' Corner

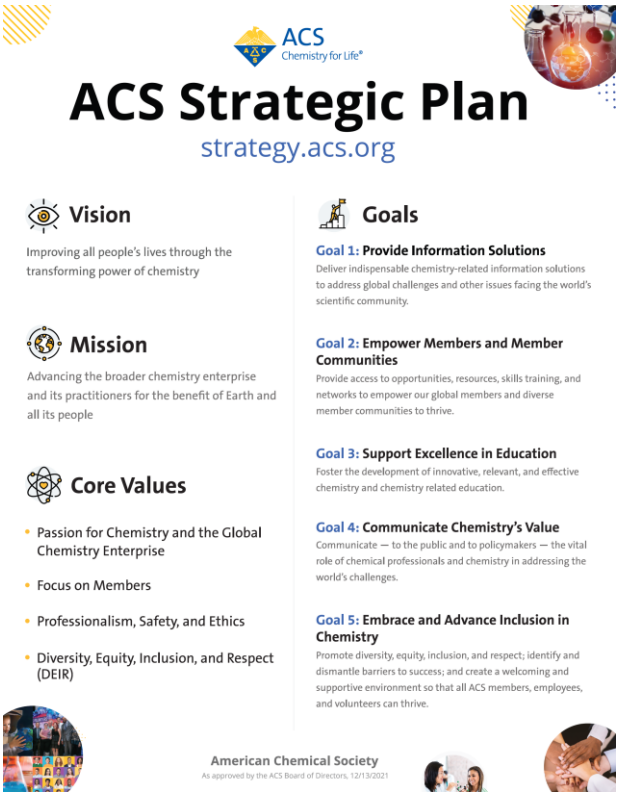
Topic

ACS Maryland Local Section Elections

There is only one position available for Councilors. However, if anyone is interested in this position or you know of someone that wants to serve as councilor for ACS, please write the name in the ballot.

Description

Kelly Elkins, Ph.D. has been selected for 2023-25 membership on the Committee on Nominations and Elections for ACS. This is a voted position and has as one of its requirements to be a councilor of a local section. This information is for you to consider as you cast your vote. Thank you for voting and for participating in the 2022 officer elections.



Please contact any of the councilors at ACS Maryland Local Section for any questions or concerns We will work with you. Councilors: Kelly Elkins -Jan Kolakowski - Beatrice Salazar - Stephanie Watson

BOOKS…

Your contribution will

Benefit all of us!

Chesapeake Chemist Maryland Section American Chemical Society

ACS Local Section Maryland

2022 ADMINISTRATION OFFICERS

2022 SECTION OFFICERS

Chair 2022..... Sarah Zimmerman, Web Master, scatzim@gmail.com
Vice-Chair 2022..... Kelly Elkins Kmelkins@towson.edu
Chair-Elect (Chair 2024).... Jiangnan Peng, jiangnanpeng@morgan.edu
Secretary 2022..... Louise Hellwig, Morgan State University, louise.hellwig@morgan.edu
Treasurer 2022..... Lee J. Lefkowitz, lee_lefkowitz@hotmail.com
Past Chair (2021)..... Eric C. Cotton, Community College, of Baltimore County, ccotton2@ccbcmd.edu

2022 SECTION COMMITTEE ON NOMINATIONS and ELECTIONS

Chair of the Committee on Nominations..... James A. Saunders jsaunders@towson.edu
Additional 4 members: ..... Dana Ferraris, Chair-2019, dferraris@mcdaniel.edu
..... Pumtiwitt McCarthy, Chair-2020, pumtiwitt.mccarthy@morgan.edu
..... Beatrice Salazar, Chair-2018, beatricesalazar1@gmail.com
..... Sara Narayan, Stevenson University, Chair-2015, SNARAYAN@stevenson.edu

COUNCILORS/COMMITTEES

1. 2020-2022 Kelly Elkins Kmelkins@towson.edu
2. 2021-2023 Beatrice Salazar beatricesalazar1@gmail.com
3. 2021-2023 Jan Kolakowski jek6042@gmail.com
4. 2021-2023 Stephanie Watson stephanie.watson@nist.gov

ALTERNATE COUNCILORS/COMMITTEES

1. 2021-2023 Alexander Samokhvalov alexandr.samokhvalov@morgan.edu
2. 2021-2023 Rob Clapper rob.clapper@scioninstruments.com
3. 2021-2023 Michele Foss foss.michele@gmail.com
4. 2020-2022 Paul Smith pjsmith@umbc.edu

MEMBERS-AT-LARGE

1. Nirupam J. Trivedi, nirupam.j.trivedi@mail.mil
2. Fasil Abebe fasil.abebe@morgan.edu
3. Nicole Carbonaro, ncarbonaro@towson.edu
4. Rose A. Pesce-Rodríguez, rose.a.pesc snarayan5@yahoo.com
5. Sara Narayan, Stevenson University, SNARAYAN@stevenson.edu

PROGRAM CHAIRS

AWARDS

Braude Award, L. Hellwig
Remsen Award, D. Ferraris
Maryland Chemist of the Year Award, B. Salazar
Senior Chemist Award, M. Eiss / L. Gonzalez
Student Award, S. Narayan

PROGRAMS

Women Chemists Committee, S. Narayan/K. Elkins
Student Travel, L. Hellwig
High School Outreach: National Chemistry Olympiad & Chemists Celebrate Earth Day, B. Salazar
Middle and Elementary School Outreach (National Chemistry Week, Earth Day Week), R. A. Pesce-Rodriguez
Publicity, P. McCarthy / B. Salazar/ R. Clapper
Entertainment/Tours, M. Foss / L. Hellwig

Maryland Section on the Website: www.acsmaryland.org

2022 Webmaster..... Nicole Carbonaro, ncarbonaro@towson.edu
Chesapeake Chemist Editor-in-Chief... Beatrice Salazar, Chair-2018, beatricesalazar1@gmail.com
Social Media Liaison..... Pumtiwitt McCarthy, Chair-2020, pumtiwitt.mccarthy@morgan.edu

CONTACT US: acsmarylandsection10@gmail.com

EVENTS CONTACT

The U.S. National Chemistry Olympiad USNCO MARYLAND URL: http://www.beatricesalazarusncocoordinator.webs.com	**Jan - April**
Student Travel Awards https://acsmaryland.org/travel-awards/ Email: Louise Hellwig <Louise.Hellwig@morgan.edu>	**Jan – March**
Student Award https://acsmaryland.org/student-awards/ Email: Sara Narayan, snarayan5@yahoo.com, SNARAYAN@stevenson.edu **Chemists Celebrate Earth Day** - beatricesalazar1@gmail.com	**April**
Senior Awards Email: Merle Eiss, meiss32@aol.com	**May**
National Chemistry Week / Earth Week Events Rose Pesce-Rodriguez **Chemists Celebrate Earth Day – Beatrice Salazar** http://acsmarylandevents2016.webs.com Beer & **Social Tours**: Louise Hellwig <Louise.Hellwig@morgan.edu> and Michele Foss <foss.michele@gmail.com	**May - Sept.**
Braude Award https://acsmaryland.org/braude-award/ Email: Louise Hellwig <Louise.Hellwig@morgan.edu>	**Oct.**
The Remsen Award https://acsmaryland.org/remsen-award/ Email: Dana Ferraris (dferraris@mcdaniel.edu) <dferraris@mcdaniel.edu>	**Nov.**
The Maryland Chemist of the Year Award https://acsmaryland.org/maryland-chemist-of-the-year/ Contact Chair: beatricesalazar1@gmail.com	**Dec.**

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Send us your email if you are not receiving our newsletter

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 Maryland ACS membership in October 2006.

Changing your e-mail address? Moving out of the MD ACS area?

Let us update your email if you have any changes.

- E-mail us at acsmarylandsection10@gmail.com
- Provide your ACS member number, full name, and email changes and we can ensure that your records are updated with National ACS.
- **Contact the National ACS membership division: 800-333-9511 (US only)** or at service@acs.org

To ensure that you receive the Chesapeake Chemist, please add the MD ACS e-mail

The Chesapeake Chemist is e-published monthly September through June by the Maryland Section of the American Chemical Society. Send submissions to the editor in electronic format. The Maryland Section is not responsible for opinions expressed herein. Editorials express the opinions only of the authors. The editor is not responsible for all unsigned material.