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2023

BRAUDE AWARD

WINNER

PROFESSOR

MARK MARTEN



UMBC



## Maryland Local Section Newsletter

Editor-in-chief: [Beatrice Salazar](#)

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*From the Editor's Desk...*



Fall at ACS Maryland Section is award season! The 2022 **Ira Remsen Award** will be given to Dr. **Scott Miller**, Irénée du Pont Professor of Chemistry (Yale Univ.) on October 5, 2023. The award acknowledges Dr. Miller's wide-ranging and seminal contributions to the discovery of new chemical transformations that enable the rapid synthesis of stereochemically

complex structures. The award is given in collaboration with Johns Hopkins University Chemistry Department. See the invitation to the award lecture and reception on page 10. The **George Braude Award** will be given to Dr. **Mark Marten** from UMBC on October 23, 2023). The Braude Award is given for Dr. Marten's research with undergraduate students (page 4). Congratulations to both Dr. Miller and Dr. Marten.

This year, we celebrate the **achievements of Anurag Sodhi**, a student from Centennial High School in Ellicott City, Maryland. He participated in the Local U.S. National Chemistry Olympiad (USNCO) in January of this year and won a spot to attend the U.S. National Chemistry competition. He was chosen to attend Chemistry Camp and won nomination to represent USA in the International Chemistry Olympiad (IChO) in Switzerland. Anurag Sodhi won a gold medal himself; he was part of a team of four who also won a gold medal and two silver medals on July 15, 2023 (page 18).

The **Maryland Chemist of the Year Award** is held in December. We are still in the process of selecting our candidate. The nominations window is still open. Please send the name of your nominee along with the reason why the nominee should win the award. For more [information on the requirements](#) of this award (page 19).

Our Chesapeake Chemist Newsletter also includes several articles. First, we report on the ACS National Fall Meeting in San Francisco, CA. Page 19. Second, we have the councilors' report (page 22). Third, a Chemistry Literature Spotlight on "*Fermentation and The Secret of Life*" prompted by our visit to the Lost Ark Distillery last July (page 15).

Enjoy!

Beatrice Salazar

Editor-in-Chief

The Chesapeake Chemist  
a monthly magazine and newsletter for chemists!

Contact Editor: [beatricesalazar1@gmail.com](mailto:beatricesalazar1@gmail.com)

Contact ACS Maryland Section management at [acsmarylandsection10@gmail.com](mailto:acsmarylandsection10@gmail.com)

Follow us...



Be one of us! Write articles for the Chesapeake Chemist. Send announcement of your projects and activities. Share your chemistry life with your colleagues.

Questions about  
ACS Maryland Section?



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## NEWS

The Executive Committee Meeting No. 3 minutes are available on the website. Send your comments or edits to Secretary Louise Hellwig.

The YCC committee has been established with a permanent chairperson, Olivia H. and a new YCC- Secretary.

New officer positions will be available for the year 2024. Apply if you are interested and send a statement of interest to the ACS Chair of the Maryland Section.



## Introducing Rowena Liu, Maryland YCC New secretary!



**Rowena Liu** is an undergraduate at the University of Maryland, Baltimore County (UMBC), where she is a double major in Chemistry and Biochemistry in the UMBC Honors College. After she graduates in 2027, she hopes to pursue a PhD. She is also passionate about art and reading. Rowena believes anyone can be a great chemist and hopes to create an inclusive community for younger chemists. Her wish for younger chemists is for them to be confident in themselves and their ability to make a difference, at any age.

**Welcome to MD-YCC, Rowena!**

**MD-YCC web page:** <https://acsmaryland.org/younger-chemists-committee-ycc/>

JOIN THE YCC! (see page 29).

# The 2023 George L. Braude Award Winner Has Been Selected

## *Congratulations, Professor Marten!*

Upon the recommendation of **Professor Lee Blaney**, the Maryland Section of the American Chemical Society has selected **Dr. Mark R. Marten** as the 2023 Braude Award winner in consideration of his research involving undergraduate students. Dr. George L. Braude wished to support faculty who mentor undergraduates, and so underwrote this annual award to honor an outstanding college chemistry professor doing research with the assistance of undergraduates.

The award will be presented to Dr. Marten at a meeting at which he will speak about his research. Professor Marten will receive a plaque and a monetary award to support that research. The meeting will be on UMBC campus or at a nearby location.

The Award Meeting is held traditionally near Mole Day. Monday Oct. 23, 2023.

ACS members and Colleagues of Dr. Marten are invited to attend the Award Lecture. Please confirm your attendance with [Dr. Louise Hellwig](mailto:Dr.Louise.Hellwig) by sending her an email.

Best,



ACS Local Section  
The ACS Maryland local Section of the American Chemical Society.

### CONTACT:

**Dr. Mark R. Marten** <[marten@umbc.edu](mailto:marten@umbc.edu)> | Professor & Department Chair University of Maryland Baltimore County (UMBC) | [Chemical, Biochemical, & Environmental Engineering](#) | [MartenLab Website](#) | [WebEx Meeting Room](#) | 410-455-3400 (office)

**Dr. Louise Hellwig** <[Louise.Hellwig@morgan.edu](mailto:Louise.Hellwig@morgan.edu)> | Braude Award Committee Chair | Maryland Section, American Chemical Society | Chemistry Department, SP 212 | Morgan State University | [1700 E. Cold Spring Lane](#) | [Baltimore, MD 21251](#) | 443 885 2085 (office)

**Dr. Lee Blaney** <[blaney@umbc.edu](mailto:blaney@umbc.edu)> | Professor, [University of Maryland Baltimore County](#) | [Department of Chemical, Biochemical, and Environmental Engineering](#) | 1000 Hilltop Circle, Engineering 314, Baltimore, MD 21250 USA | Vice President, [Association of Environmental Engineering & Science Professors](#) | Executive Editor, [Journal of Hazardous Materials Group website](#) • [Google Scholar](#)

# AN INVITATION TO

## Award Lecture

There's fungus among us!

By Mark R. Marten

2023 George L. Braude Award Recipient



Professor and Chair  
Chemical, Biochemical & Environmental Engineering Department, UMBC

**Location: UMBC**

**Date: October 23, 2023**

**Time: 6:00 P.M.**

**Dinner and Lecture: RSVP**

**Location: Matthew's 1600, 1600 Frederick Rd., Catonsville, 21228.**  
**[Louise Hellwig](#)**

**COST: \$20.00 adults and \$10.00 Students. Alcoholic drinks pay at bar**



Dr. Marten Proudly celebrates his family triumphs (2017) and becoming Department Chair 2017-Present.

## ACS MARYLAND SECTION CELEBRATES

### THE 2023 GEORGE L. BRAUDE AWARD RECIPIENT,

**MARK R. MARTEN, Ph.D.**

Professor and Chair  
Chemical, biochemical &  
Environmental Engineering Department  
UMBC

**Award lecture Monday, October 23, 2023**

**There's fungus among us!**

Time 6:30 P.M.

Introduction by Professor Lee Blaney, Ph.D. UMBC

#### Lecture Abstract

Filamentous fungi are used in the bioprocess-industry to produce billions of dollars in beneficial products annually. During these fungal fermentations, mycelial morphology, the fungal cell-wall, and its material properties all play a critical role. Yet relatively little is known about how regulatory mechanisms, or downstream effectors, impact morphological development, cell-wall material properties or related processes such as protein secretion. Early work in our lab showed a process control approach, employing a creative feeding scheme (i.e., intermittent addition of limiting nutrient), could be used to alter fungal morphology and significantly increase productivity. Since then, we have been using a systems biology approach to better understand the molecular basis for this phenomena and have focused our research on cell-wall synthesis, its regulation, its impact on morphological development and protein secretion. For example, we are studying *Aspergillus nidulans* deletion strains, lacking putative cell-wall related genes, using a sophisticated set of experimental tools to assess subsequent phenotypes and develop insight regarding gene function. Proteomic analysis, of both cytoplasmic and cell-wall protein fractions, shows these gene deletions affect a wide range of cellular processes. And phosphoproteomic analysis is helping us understand gene regulation related to cell wall repair. In our most recent work we are striving to apply our understanding of fungal morphology and wall biosynthesis to develop new, sustainable, cell-based materials.

Biography including publications. [Mark R. Marten – MartenLab - UMBC](#) & [selected publications](#)

## Research Interests

The broad goal in Professor Marten's laboratory is to understand, and beneficially manipulate, microbial expression systems. He uses a set of analytical tools: electron microscopy, digital image analysis, atomic force microscopy and more to assess fungal morphology and the physical properties of fungal cell walls. He uses a functional-genomic technique called proteomic analysis. This process involves the identification and quantification of individual proteins from various cellular fractions (e.g., cytoplasm, vacuoles, cell wall). The data is used for differential comparison to make deductions about cellular mechanisms. Read the full description at [Mark R. Marten – Department of Chemical, Biochemical and Environmental Engineering - UMBC](#).



<http://martenlab.umbc.edu>

## LOOK AT THE FISH!



### Biochemical Engineering

Research in this area strives to engineer host cells to efficiently produce greater amounts of recombinant protein and cell-free systems to produce therapeutics automatically. Systems biology studies strive to understand gene regulatory networks using proteomic analysis and mathematical modelling. In the traditional area of bioprocess engineering, research includes studies to improve chromatographic separations of recombinant protein and sensor development for a myriad of applications.

Faculty: [Marten](#),

colleagues: [Moreira](#), [Rao](#), [Frey](#)

**Dr. Marten's Lab –**  
Department of Chemical,  
Biochemical & Environmental  
Engineering UMBC,  
Engineering Building Room  
314 Baltimore, MD 21250  
410-455-3400

[College of Natural and Mathematical Sciences](#)

## Brief Biographical Sketch

Dr. Mark R. Marten  
 Professor & Chair  
 Chemical, Biochemical & Environmental Engineering  
 University of Maryland Baltimore County (UMBC)  
<http://martenlab.umbc.edu>

Dr. Marten graduated from Purdue U. with his PhD in Chemical Engineering, then completed postdoctoral work, first at NC State, then at Novozymes North America. He has been on the faculty at UMBC since 1996 and is currently Chair of the Department of Chemical Biochemical & Environmental Engineering. He serves as an Associate Editor for Biotechnology and Bioengineering. In 1999 he won the NSF CAREER award, in 2007 he was honored with a Maryland Regents Award (the state's highest achievement for faculty), and in 2012 he started a biotechnology company (MycoInnovation, LLC) to commercialize his research findings.

**His research is focused on systems biology and cellular engineering. In addition, he is developing cutting edge proteomic analysis tools for studying gene regulatory networks.** And has recently started a new research area to create sustainable materials from cells. His work has been funded by NSF, NIH, the State of Maryland and a number of biotechnology companies. He has published over 50 papers in peer reviewed journals. In addition, he has served on the executive committee of the American Chemical society (ACS), Biotechnology Division and

serves as an Associate Editor for Biotechnology and Bioengineering. In 1999 he won the NSF Career Award, in 2007 he was honored with a Maryland Regents Award (the state's highest achievement for faculty), and in 2012 he started a biotechnology company (MycoInnovation, LLC) to commercialize his research findings.

Dr. Marten is an exceptionally strong supporter of undergraduate research. For over 25 years, he has consistently hosted

undergraduate researchers in his laboratory and has mentored over 80 undergraduates and high school students. Many of these have won prestigious research awards, and all have gone on to excellent graduate programs and successful industrial careers. Dr. Marten is also Co-PI on an NSF "Research Experiences for Undergraduates (REU)" award, the first ever made to his department.

### Read

Professor Marten's

**PROFESSOR  
 MARK R. MARTEN IN HIS  
 LABORATORY**

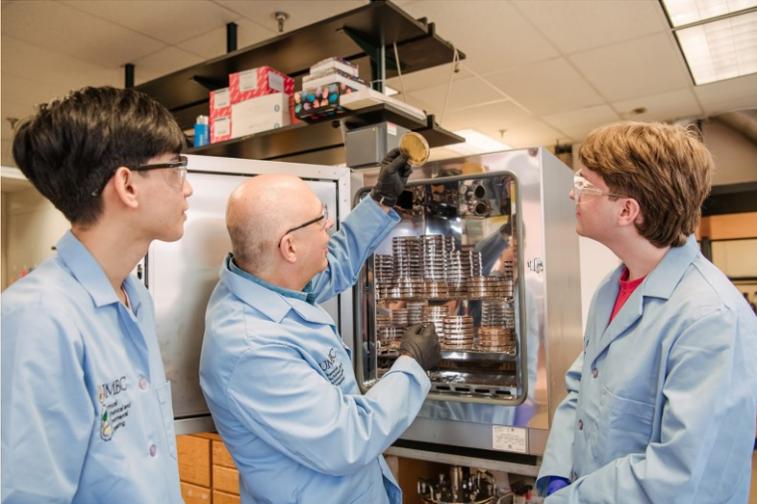


Photo courtesy of: Marlayna Demond/UMBC, 2023

**"When I was in high school, I was a professional clown. Seriously! But maybe my talk title gave that away? I stopped getting paid for it a long time ago, but many say I've never stopped clowning around. "**

### FAVORITE STORY

*"The fish in the photo is actually on the wall in my office. Unfortunately, it's not a haemulon ;-)"*



Dr. Mark R. Marten has been sharing the story of [Louis Agassiz](#) (Swiss Scientist) with students in classes and in his lab for almost 30 years! He says, "Turns out

*observation is even more of a lost art today than it was when the story was written (approx. 1860). My message to students is that papers in the literature and the data*

*we generate are our 'fish.' Hence my repeated encouragement to my own students to **Look at the fish!**"*

## HISTORY

# The George L. Braude Award

presented in October of each year, was established by the Maryland Section in 2003 and underwritten by his wife, Monique Braude, who attended the award dinners until her passing in 2009.



George L. Braude

George Braude was a long-time member of ACS; he served as chair of the Maryland Section in 1962<sup>1</sup> and received the Maryland Chemist Award in 1968.

Both George and Monique Braude felt that he had not had an opportunity to support teaching or to do research in an academic setting. Therefore, Monique Braude created this annual award in her husband's memory to support a professor conducting outstanding research involving students at a college or university, particularly in the Maryland section. The recipient receives a plaque describing his/her contributions and a monetary award of \$4000 to help support further student research.

Dr. Monique C. Braude spent her career at the National Institute on Drug Abuse (NIDA), where she was instrumental in promoting preclinical research in cannabis and cannabinoids. In addition to her passion for cannabinoid research, Dr. Braude believed strongly in helping women enter scientific careers. She was a member and strong supporter of Graduate Women in Science<sup>2</sup>.

Dr. Braude was born in Lisieux, France in 1925. Her undergraduate degree was in pharmacy, and she worked as a drug store pharmacist for a while but then moved to the Laboratories' Blaque as chief of production of drug specialties. At the end of WW II, she met her future husband, George, a French chemical engineer from Halle, Germany. They were married in Paris in 1949 and moved to the United States in the early 1950's. Dr. Braude earned her Ph.D. in Pharmacology from Ohio State<sup>2</sup>.



Monique Colsenet Braude

**Nominations** to the Geoge L. Braude Award are accepted before June of the current year. Nominees must be a member of the ACS. We encourage underrepresented candidates including women. 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 Dr. Louise Hellwig via email at [louise.hellwig@morgan.edu](mailto:louise.hellwig@morgan.edu).

**History References:** 1. [ACS Maryland The Chesapeake Chemist-2020](#) See pages 5-6 2. [Braude Student Travel Award](#) 3. Other Braude Awards for Women: <https://new.icrs.co/ICRS2022/ICRS2022/>

CONGRATULATIONS TO THE 2022 IRA REMSEN AWARD RECIPIENT

**THE MARYLAND SECTION**  
OF THE  
**AMERICAN CHEMICAL SOCIETY**  
**2022 REMSEN AWARD**

PRESENTED TO



Irénée du Pont Professor of Chemistry

**Scott Miller**

In acknowledgement of his wide-ranging and seminal contributions to the discovery of new chemical transformations that enable the rapid synthesis of stereochemically complex structures. His work has also greatly advanced the field of asymmetric catalysis with peptides and site-selective natural product functionalizations, enabling access to an expansive set of biologically inspired natural product analogs. His creative design of both peptide-based and atropisomeric-based catalysts has significantly impacted the field of catalysis and has led to broad applications in enantioselective synthesis.

**The lecture and ceremony will take place October 5, 2023, at Johns Hopkins Campus at the Remsen Building (3400 N. Charles Street, Baltimore, MD 21218).**

**Award Lecture: Remsen Hall 101**

**Pre-Reception:** Remsen 140 at 5:30 P.M. **Post-Reception:** Remsen 140 at 7:30 P.M.

**Learn more:** Biography: <https://chem.yale.edu/faculty/scott-miller> - [Website and Research interest](#)

# Lost ark distillery

Summary submitted by ACS Maryland Section Chair, Kelly Elkins, Ph.D. The Photos courtesy of Kelly Elkins and Beatrice Salazar  
 Report of the July 15, 2023, Social Event.



## The Lost Ark Distillery

tour in Columbia, Maryland, was a huge success. We thank Michele Foss, Ph.D. for the idea of a distillation tour and for organizing the event along with her co-chair Louise Hellwig, Ph.D. About 30 local section members and their families attended with two tours of the distillery.



The operation combines 1600 pounds of raw cane sugar and molasses from Louisiana, and yeast in its fermentation still. The liquids are withdrawn and moved to be distilled. The alcohol boils at 173°F and is distilled to separate it from the water and soluble molecules. A mixture of 8-10% alcohol is distilled to 80% or 160 proof in the first pass. The liquids that remain are redistilled to claim more of the alcohol. The process from fermentation to distillation takes a week but the alcohol is aged and soaked with combinations of vanilla, coffee, hazelnut, coconut, cloves, orange peel, cinnamon, and/or nutmeg, to deepen or impart a flavor.

Attendees were able to sample the white rum, spiced rum, coconut rum, vanilla rum, hazelnut, coffee rum and more. Sweet cream and caramel are added to create their delectable Sweet Creams Liquor. Their Bourbon Whiskey is aged four years in a barrel.  
 Tasting whiskey and rum.

*Cheers!*



# How is RUM made?

By Beatrice Salazar, M.S. ACS LS

The distillery owner's passion is to make rum based on tradition. "For 7<sup>th</sup> generations farmers in Louisiana have created 230 years of agricultural history cultivating the best sugar cane to produce unprocessed sugar and molasses that is full of character and terroir. The distillery coaxes these flavors using fermentation and distillation. The combination of old techniques and modern innovation allows the distillery to create a history rich and uniquely flavorful American rum". Says the Lost Ark Distillery's owner.



Article by B. Salazar, M.S. ACS-Maryland

## Step one: MIXING AND BOILING

**Major ingredients: molasses**, a nutritious by-product during the process of refining sugar cane. The juice extracted from sugar cane is boiled at different temperatures until the greenish liquid becomes brown and begins to thicken like syrup and becomes frothy. Molasses is an excellent source of Fe, Ca, Mg, K, vitamin B6, Cu, P, rich in nutrients and antioxidants. Other ingredients are raw cane juice, white/brown cane sugar, cane syrup, and evaporated cane sugar. The quality of the molasses is what contributes to the taste and intensity of the rum. **The next basic ingredients are water and yeast culture.**

## Step two: FERMENTATION OF SUGAR CANE

**The sugar cane is fermented.** The process could take 48 hrs.-weeks. At this time a spontaneous reaction occurs producing alcohol and several byproducts called congeners (rich in aroma and flavors). Yeast is essential to produce any alcohol and it could influence the final taste and flavor of the rum.

## Step three: Distillation

**The fermented liquid is distilled.** The alcohol is separated from the congeners by distillation to concentrate them. The mash is tested with a hydrometer which measures the ratio of a density of the liquid to density of water ( $\rho = m/v$  or 0.999 g/mL at 39.2°F). The concentrates can be aged in oak barrels and if blended, it is used to produce rum (spirit). The process of distillation includes boiling the liquid and condensing its vapors. It is done in a multi-column and a multi-tray continuously to balance rum until a fine product is obtained (less than 96.0 % alcohol by vol. at 20°C). The best product is a result of a well configuration and design of the distillation columns.

[Read more](#)

on the chemistry of fermentation on page 13 in the article "Literature Spotlight".



**LOST ARK**  
 DISTILLING CO.

**HOW OUR RUM IS MADE**

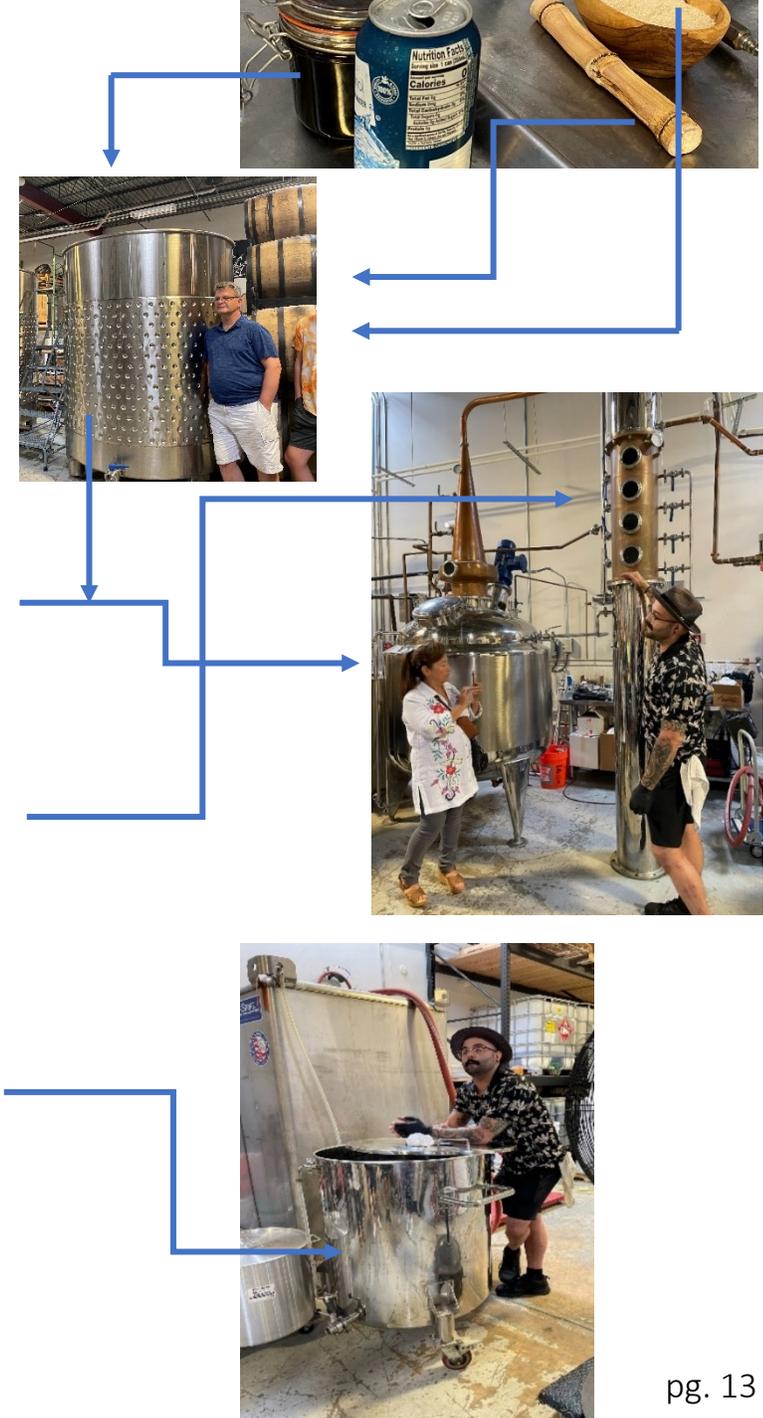
OUR SUGAR CANE IS GROWN IN LOUISIANA AND HARVESTED ANNUALLY FROM OCTOBER TO DECEMBER. IT IS THEN SENT TO THE MILL & TURNED INTO THE INGREDIENTS WE USE - SUGAR CRYSTALS AND MOLASSES

ONE BATCH OF OUR HANDCRAFTED RUM IS MADE BY MIXING 1600 LBS OF SUGAR & 300 LBS OF MOLASSES. BLENDED WITH WATER, NUTRIENTS, & YEAST, IT FERMENTS FOR 4 DAYS, CREATING THE ALCOHOL

AFTER FERMENTATION, WE HAVE OUR "DISTILLER'S BEER". USING THIS, WE BEGIN OUR DISTILLATION PROCESS, SEPARATING THE ALCOHOL VAPOR FROM THE WATER IN A COPPER POT STILL

DISTILLATION SEPARATES OUT THE BEST "CUTS" OF RUM FOR BOTTLING, BLENDING, OR FURTHER DISTILLING. FROM HERE, WE CRAFT OUR LINE-UP OF ARTISANAL FLAVORS AND BLENDS

- THE BEST AMERICAN-GROWN INGREDIENTS
- DYNAMIC FERMENTATION TIMES AND TEMPERATURES FOR COMPLEX FLAVORS
- SLOW AND INTENTIONAL SINGLE-PASS DISTILLATION
- PROPRIETARY MULTI-DAY SLOW PROOFING PROCESS TO PRESERVE AROMA AND FLAVOR
- RESTED FOR WEEKS/MONTHS TO ALLOW COMPLETE FLAVOR DEVELOPMENT BEFORE BOTTLING
- ALL NATURAL INGREDIENTS W/ NO ARTIFICIAL FLAVORING



# GALLERY



[Kevin and Shannon Johnson](#) truly enjoyed the distillery tour. Their enthusiasm and camaraderie were contagious. We had a great time talking with them and hope to see them soon at the ACS Maryland Section coming events.



The distillery process was not the only topic that kept these chemists engaged. There was opportunity to get acquainted with their work expertise and make future plans regarding workshops and other scientific presentations.

Congratulations to Michele and Louise for their successful Distillery tour of [Lost Ark Distillery in Columbia, MD](#)  
<https://www.lostarkdistilling.com/>

# CHEMISTRY LITERATURE SPOTLIGHT

## FERMENTATION AND THE SECRET OF LIFE – *By Camilo. Rojas, Ph.D.*

Last July I attended an ACS Maryland-organized distillery tour. The local section is very good at organizing these tours; it is a great opportunity to learn about fermentation (yeah right!) and to sample distillery products following the tour (that's more like it!). A side effect is the opportunity to socialize with other ACS members afterwards; in this case, my wife and I lingered with three other attendees for a lively time around food and conversation.

A few days later, while reading a biochemistry textbook in preparation for a course in the Fall, the very first thing I read in Chapter 1 was: *"The birth of modern biochemistry can be traced to the end of the 19<sup>th</sup> century, when chemists recognized that cell extracts of brewer's yeast contained everything necessary for alcoholic fermentation."*<sup>1</sup> God was telling me: follow-up on your long-standing interest to learn on the history of fermentation. If not now, when?

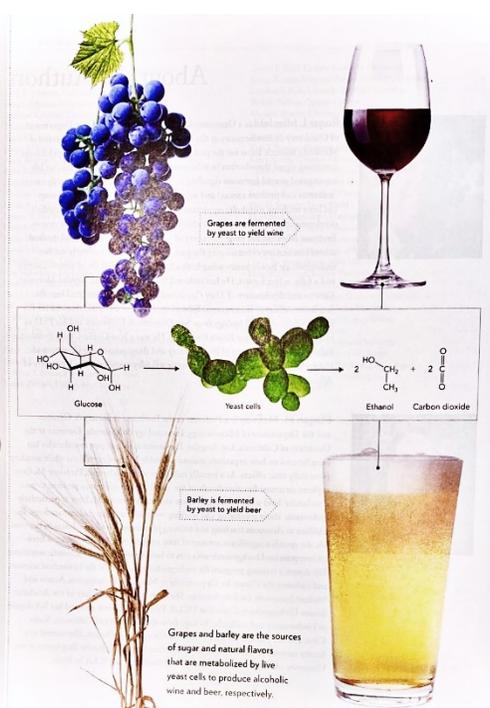
Following up on God's command, I consulted *"Proteins, Enzymes, Genes – The Interplay of Chemistry and Biology"* by Joseph S Fruton<sup>2</sup>. It is a scholarly classic that covers fermentation among many other subjects. The first section in chapter 4 is on *"The Problem of Fermentation in 1800"*. A more pressing problem for me was my limited ability to follow the text. It is dense writing, full of arcane narrative dealing with arguments on cell theory, the nature of yeast, and extensive quotations of scientists' writings at the time. Nevertheless, it is a book worth reading; the level of detail, the anecdotes and the

quotations are illuminating and hard to find elsewhere. Scientists in the 1800s were rigorous in making their arguments based on experimental results while acknowledging their limitations when understanding of phenomena was not addressed by their experiments. Consider the quote from a report by Louis Pasteur in 1860:

*"... what does the chemical cleavage of sugar represent for me, and what is its intimate cause? I confess that I am completely ignorant of it. Will one say that the yeast nourishes itself with sugar so as to excrete it in the form of alcohol and carbonic acid? Will one say that the yeast produces, during its development, a substance such as pepsin, which acts on the sugar and disappears when that is exhausted, since one finds no such substance in the liquids? I have no reply on these hypotheses."*<sup>2</sup> This was a time when concepts of cells or enzymes were either controversial or non-existent. Interestingly, one sees the idea of enzymes hovering in Pasteur's writing while acknowledging its speculative nature.

The fermentation question was resolved in 1897 by Eduard Buchner

who isolated "zymase" (zyme is Greek for yeast or ferment) from living yeast cells and showed it acted independent of living cells. It was an accidental discovery. Buchner and his brother Hans, a bacteriologist, were trying to break up yeast cells to obtain preparation for therapeutic purposes. The yeast juice they obtained decomposed rapidly. To prevent decomposition, they added a highly concentrated sugar solution as a preservative. To their surprise, they observed a strong



evolution of carbon dioxide and the formation of alcohol. Buchner then eliminated all traces of yeast cells by pressing the yeast juice with a hydraulic press and showed that “zymase” was responsible for fermentation and that it could be separated from a living cell.<sup>3</sup>

The discovery by Buchner not only showed that fermentation was a cell-free reaction but opened the door to the idea that processes in living systems could be studied by breaking cells and isolating their components for use in *in vitro* chemical reactions. This reductionist approach was used for most of the 20<sup>th</sup> century to characterize thousands of metabolic reactions involved in the synthesis and degradation of biomolecules in bacteria, yeast, plants and animals.<sup>1</sup> As a result, we learned how enzymes make metabolic pathways possible.

But the reductionist approach did not stop there. In the early 1950's Watson and Crick using Rosalind Franklin's X-ray diffraction data discovered the DNA-double helix. Watson and Crick realized almost immediately that they had stumbled into something important. According to Watson, Crick went to a pub where they lunched every day and told everyone that they had discovered the secret of life. Crick recalls going home and telling his wife Odile that “we seemed to have made a big discovery”. Years later, Odile pointed out to Crick that she hadn't believed a word of it. “You were always coming home and saying things like that”, she said, “so naturally I thought nothing of it.”<sup>4</sup> Contrast Crick's exuberance with his wife and friends to the understatement he and Watson wrote in the one-page, epoch-making article in *Nature* to report on DNA structure: “It has not escaped our notice that the specific pairing we have postulated immediately suggests a possible copying mechanism for the genetic material.”<sup>5</sup>

The DNA-double helix was a tremendous breakthrough that led within few years to a deeper understanding of how living systems store and process genetic information: the base sequence in DNA is a code that is transcribed into a messenger RNA base sequence (transcription) that in

turn is translated into the amino acid sequence in proteins (translation). The elucidation of these processes including their regulation was a colossal achievement that involved many scientists and several years. It is awe-inspiring to see how nature developed these processes over billions of years and how scientists' ingenuity figured them out.

But at the end of the day, did scientists elucidate the secret of life? Can we describe in molecular terms what constitutes life? One of the older editions of Lehninger's Biochemistry starts with a wonderful provocation that acknowledges this limitation in a round-about way: “Living systems are composed of lifeless molecules. These molecules, when isolated and examined individually, conform to all the physical and chemical laws that describe the behavior of matter. Yet living organisms possess extraordinary attributes not shown by collections of inanimate matter.”<sup>6</sup> Aristotle's maxim comes to mind: “The whole is greater than the sum of its parts.” Scientists will never stop trying to understand the secrets of the natural

world, including life. However, to move forward, there has been a transition from reductionism to a higher level of complexity that incorporates cells and cell signaling without forgetting the molecules. Crick himself, after his breathtaking contributions to molecular biology, went on to try to understand the mystery of consciousness while outlining the “astonishing hypothesis”: our joys and sorrows, our memories and ambitions, our sense of personal identity and free will, are simply the behavior of a vast assembly of nerve cells and their associated molecules.<sup>7</sup> Consciousness is an integral part of human life but it could be argued there are other life forms that do not appear to have consciousness. This brings us to an even more basic question: What is Life?

It took about 50 years to get from the breakthrough on fermentation to an understanding of metabolic pathways and about 20 more years to go from the DNA double-helix structure to a reasonable understanding of storage and processing of genetic information. It will take many additional years to understand behavior at the molecular

“LIVING  
SYSTEMS  
ARE  
COMPOSED  
OF LIFELESS  
MOLECULES”

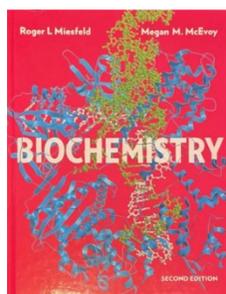
and cellular levels. In any case, while scientists continue to try to understand life, the ACS Maryland local section distillery tours continue to allow us to enjoy life. I will drink to that. ■

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5. Crick F H C & Watson J D, . 171, 737-738, 1953
6. Lehninger A L, **Biochemistry – Second Edition** – Worth Publishers, Inc. 1975
7. Crick F, **The Astonishing Hypothesis – The Scientific Search for the Soul** — Charles Scribner’s Sons, 1994

## BOOKS...

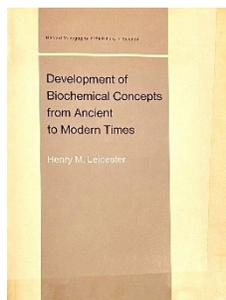


Roger L. Miesfeld & Megan M. McEvoy, **Biochemistry – Second Edition** – W. W. Norton & Company, 2021

No other discovery in the 21<sup>st</sup> century epitomizes experimental biochemistry better than the development of genome-editing methodologies by the bacterial CRISPR-Cas9 system.

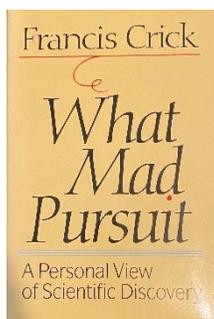


Joseph S. Fruton, **Proteins, Enzymes, Genes – The Interplay of Chemistry and Biology**- Yale University Press, New Haven and London, 1999.



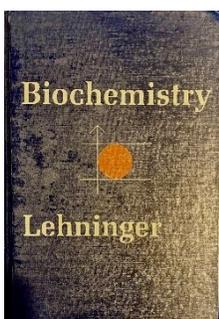
Henry M. Leicester, **Development of Biochemical Concepts from Ancient to Modern Times** — Harvard University Press, 1974

This book traces the development of modern chemical theory through representative selections from the works of more than 80 scientists.



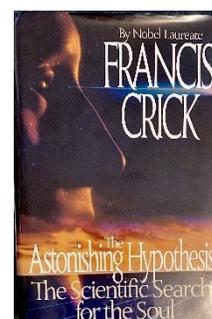
Francis Crick, **What Mad Pursuit – A Personal View of Scientific Discovery** – Basic Books, Inc., Publishers, 1988.

It is part of the science book series sponsored by the Alfred P. Sloan Foundation. The series is designed for scientific experience accessible to the general public.



Albert L. Lehninger, JHU - **Biochemistry – Second Edition** – Worth Publishers, Inc. 1975.

The molecular basis of cell structure and function.



Francis Crick, **The Astonishing Hypothesis – The Scientific Search for the Soul** — Charles Scribner’s Sons, 1994.

The British physicist and biochemist who collaborated with James D. Watson in the discovery of the molecular structure of DNA, for which they receive the Nobel prize in 1962.

# ICHO REPORT

CONGRATULATIONS ANURAG SODHI, GOLD MEDALIST - OLYMPIAN FROM MARYLAND



On the first day of the international competition students of 90 nations were announced.



Aerial view Höggerberg, © ETH Zurich / Alessandro Della Bella

## ETH Zurich – Where the future begins

Freedom and individual responsibility, entrepreneurial spirit and open-mindedness: ETH Zurich stands on a bedrock of true Swiss values. Our university for science and technology dates to the year 1855, when the founders of modern-day Switzerland created it as a centre of innovation and knowledge.

At ETH Zurich, students discover an ideal environment for independent thinking, researchers a climate which inspires top performance. Situated in the heart of Europe, yet forging connections all over the world, ETH Zurich is pioneering effective solutions to the global challenges of today and tomorrow.

<https://www.icho2023.ch/eth-zurich>



Alice from United States of America

"It was really cool to come here. I really enjoyed the long train ride with mountains on both sides. I thought the view was so beautiful. When I got to Lonza, I thought that it was very interesting because the activity that my group did was about chromatography and I never thought about it in that way before. Scientist were using it for separation of different biological and pharmaceutical products. We did an activity where we had to interact with different teams from other countries, we did well and it was really fun."

Agenda:

<https://www.flickr.com/photos/198537996@N04/albums/with/72177720309923326>



Join Us at the Closing Ceremony!

<https://youtu.be/SRWRXBn5G8I>



Gold Medalists of 90 countries

## EVeNTS' RePORTS

# 2023 ACS FALL MEETING



This is my favorite photo from the 2023 Fall ACS National Meeting in San Francisco at the celebration of the **100<sup>th</sup> anniversary of C&EN**

where many of the guests were invited to become part of the cover page for the 100<sup>th</sup> edition of the C&EN.

The celebration had excellent food and catering service. It was especial because of the



representation of all **Talented Twelve**, see photo [Dr. Raul Hernandez Sanchez](#) from Rice University. He was proud and happy. His wife, Alejandra Bueno, M.D. (Pediatric Cardiology), accompanied him. They shared their family photos of their recently baby girl who soon will be very proud of her talented parents.

## The Talented

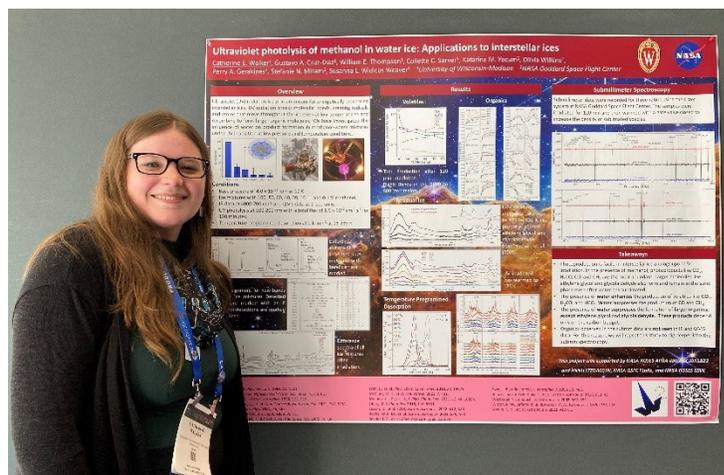
## Twelve:

I encourage all Maryland section members to nominate their young colleagues for this especial award. My nominee was not selected this year, perhaps we need to join forces and have more than one person send the same nomination. So be on the lookout for those chemists who are doing excellent research at their place of work.



# Maryland Section represented at the 2023 Fall National Meeting

**Catherine E. Walker** is a Graduate Student from Wisconsin Madison University. She is a recipient of the travel award from the Society for Advancement of Chicanos/Hispanics and Native Americans in Science, SACNAS. She is collaborating with **Olivia H. Wilkins, Ph.D.** postdoc at NASA. It is a wonderful achievement to see young chemists working together. Their research on applications to interstellar ices was presented the ACS National Meeting and C&EN. Congratulations to both!





Division of Professional Relations



### Strategic planning strategies, successes and the future of the ACS Division of Professional Relations

**Kelly M. Elkins**  
Chemistry Department & Forensic Science Program  
Towson University  
Towson, Maryland  
kmelkins@towson.edu




Councilor and Chair of Maryland Local Section, **Kelly Elkins, Ph.D.** presented at the Governance meeting at the Park55 hotel during the 2023 Fall ACS National Meeting. Her presentation involved the history of the ACS Division of professional relations and strategic plans for 2024 Spring ACS National Meeting in New Orleans (March).

She became involved in this committee last year when she was nominated to the committee on Nominations and Election at the National level.

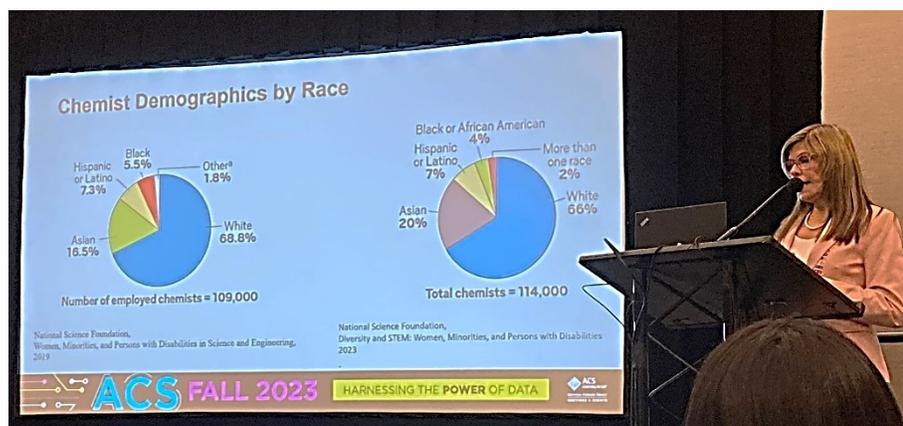
**Women Chemists Committee, WCC and SACNAS:** Joined efforts to send a group of graduate students to present their research at the 2023 ACS Fall National Meeting. Students received a travel award, a certificate, a cocktail celebration, and a magnificent lunch. The speaker at the ceremony was **Ingrid Montez, Ph.D.** from Chair of the Chemistry department at Puerto Rico University. (See her students in the photo). Dr. Ingrid Montez has been a member of the ACS governance for many years, she was part of the Board of Directors and has participated in almost all committees; she was a nominee for ACS 2023 Chair Elect and currently she directs SACNAS.





The speech was an amazing collection of the influence of women and other minorities in science, in ACS and in the work force. She presented numerous statistical data related to the lack of advancement and opportunities for women and non-English speaking chemists. Her complaints were acknowledged with standing ovations.

I feel proud that we have a speaker that talks about what is needed for women chemists and other minorities. Her lecture on Diversity as is seen and applied today left many of us with a serious revision consideration.



## SCIENCE MIX:



Everything we expected to see and more...

[Send your answer, for a prize!](#)

← discussion on international ACS Chapters.

# COUNCILORS REPORT

One of the responsibilities of ACS local section councilors is to bring their members questions, concerns, and initiatives to the ACS Board of Directors. At the same time, we vote for new members to get governance positions. Here is the Council's report at the 2023 ACS Fall National Meetings in San Francisco, CA.

## Report on the ACS Fall 2023 Council Meeting

The Council for ACS Fall 2023 Meeting of the American Chemical Society met in San Francisco, CA on August 16, 2023. The four-hour meeting was held in a hybrid manner, with both in-person and online attendees. All four Maryland Councilors (Kelly Elkins, Beatrice Salazar, and Stephanie Watson in San Francisco and Jan Kolakowski virtually) were in attendance. Alternate Councilor Jillian Malbrough also attended in San Francisco. The ACS Fall 2023 National meeting was also held in a hybrid manner from August 13- 17, 2023. As of August 16, there were 15,019 registrants (13,363 in-person and 1,656 virtual).



## Actions of the Council

The Committee on Nominations and Elections (N&E) presented nominees for three Elected Committees of Council: **Council Policy Committee (CPC)**, **Committee on Committees (ConC)**, and **Committee on Nominations and Elections (N&E)**, and Council voted by electronic ballot. Council elected to CPC Martha G. Hollomon, Elizabeth M. Howson, Jeanette M. Van Emon, and Lydia E. M. Hines for a three-year term (2024-2026) and James C. Carver for a one-year term from 2024-2025 to fill the unexpired term of Will E. Lynch, who was elected to the ACS Board of Directors. Council elected to ConC Anna G. Cavinato, Andrea B. Twiss-Brooks, Thomas R. Gilbert, Jeanne R. Berk, and W. Matthew Reichert for a three-year term (2024-2026). Council elected to N&E Linette M. Watkins, Arlene A. Garrison, Zaida C. Morales Martinez, Amber F. Charlebois, and Jetty L. Duffy-Matzner for a three-year term (2024-2026) and Kevin J. Edgar for a one-year term from 2024-2025 to fill Silvia Ronco's vacancy.

**Chief Executive Officer Albert Horvath honored the memory of our newly appointed Editor-in-Chief of C&EN, Mohammed Yahia**, who passed away on the way to the San Francisco meeting and left his wife Ola and their two young children. Horvath also provided an update on the ACS Strategic Initiatives and the Society's continued strong financial performance.

On the recommendation of the CPC, **Council approved the Petition to Amend the Council Executive Function**. This amendment codifies the current practice in the Standing Rules, removing the oral reporting requirement for non-elected Society Committees. CPC welcomes oral reports from all Society Committees including those without action before Council.

**CPC voted to discontinue the Councilor Travel Expense Program, effective December 31, 2023, and replace it with the Councilor Attendance Incentive Allotment, effective January 1, 2024**. This new approach will provide a single payment of \$2,000 per Councilor, per meeting, directly to Local Sections and Divisions that opt-in to the program. CPC also voted to move oversight for the Non-Councilor Reimbursement Program to ConC with the recommendation that it be renamed the "Volunteer Committee Reimbursement Program."

On the recommendation of the ConC, and with the concurrence of CPC, **Council approved the Petition to Amend the Duties of the Committee on International Activities (IAC)**, providing the committee with the same authority permitted

to its unit counterparts to assist International Chemical Sciences Chapters with issues arising from officer turnover and other administrative difficulties.

On the recommendation of N&E, and with the concurrence of CPC, **Council approved the Petition to Add International Representation to the Board of Directors**, decreasing the total number of Directors-at-Large from six to five and creating an International District Director. Following approval by the Board of Directors, the amendment to the ACS Constitution will require the support of two-thirds (2/3) majority of voting members.

On the recommendation of the IAC, **Council approved the creation of the Singapore International Chemical Sciences Chapter.**

## Council Special Discussion

**ACS President Judith Giordan introduced and led a special discussion on "ACS Council: Equitable Governance for the Future."** She sought Councilor input on ideas to improve representation, broadly defined, on Council and across ACS governance. Three specific prompts were posed to Councilors for their input and suggestions:

1. Ideally, for ACS Council to equitably represent all members we would...
2. The key areas where we need to ensure greater equity and inclusion in Council are...
3. I wish ACS Council would/could... ..to engender greater equity and inclusion.

Councilors provided their ideas and thoughts, and relevant Society units will receive this input within the next several weeks. Please share further input with [secretary@acs.org](mailto:secretary@acs.org).

## Resolutions

The Council passed several resolutions: In memory of deceased Past President Ned D. Heindel, deceased Past President Paul H.L. Walter, and deceased Councilors; in appreciation of the California and Silicon Valley Sections, host Sections for the fall 2023 ACS meeting, the Divisional program chairs, symposium organizers, ACS staff for the planning and execution of the meeting, and the outgoing Chair of Council, Judith C. Giordan.

The ACS Board of Directors met in Executive Session on August 11-12, 2023, in San Francisco, California, considered several key strategic issues, and responded with numerous actions. The Board of Directors received and discussed reports from the Governing Board for Publishing, the Board Committee on Professional and Member Relations, the Society Committee on Publications, the Committee on Budget & Finance, the Committee on Committees, the Board Working Group on Structure and Representation, and the Council Policy Committee Future Council Representation Task Force: upon recommendation of the Society Committee on Publications, the Board voted to approve the reappointment of six ACS journal editors; upon recommendation of the Editor Search Committees, the Board voted to approve the appointment of three ACS Journal editors; upon recommendation of the Committee on Professional and Member Relations, **the Board approved the ACS Prism Award to recognize a public figure or prominent leader in their field who has a background in chemistry but is working in a different field or is not a practicing chemist**; upon recommendation of the Committee on Professional and Member Relations, **the Board approved an ACS nominee for the 2024 Perkin Medal**. The Board Working Group on Structure and Representation provided an update on their efforts to add an International District Director to the Board of Directors in the form of the **Petition to Add International Representation on the Board of Directors**. **The Board unanimously supported the petition**, which would amend the ACS Constitution and Standing Rules.

Respectfully submitted,  
Stephanie Watson, Ph.D., Councilor, Maryland Section

## Falling for Research Student Poster Symposium

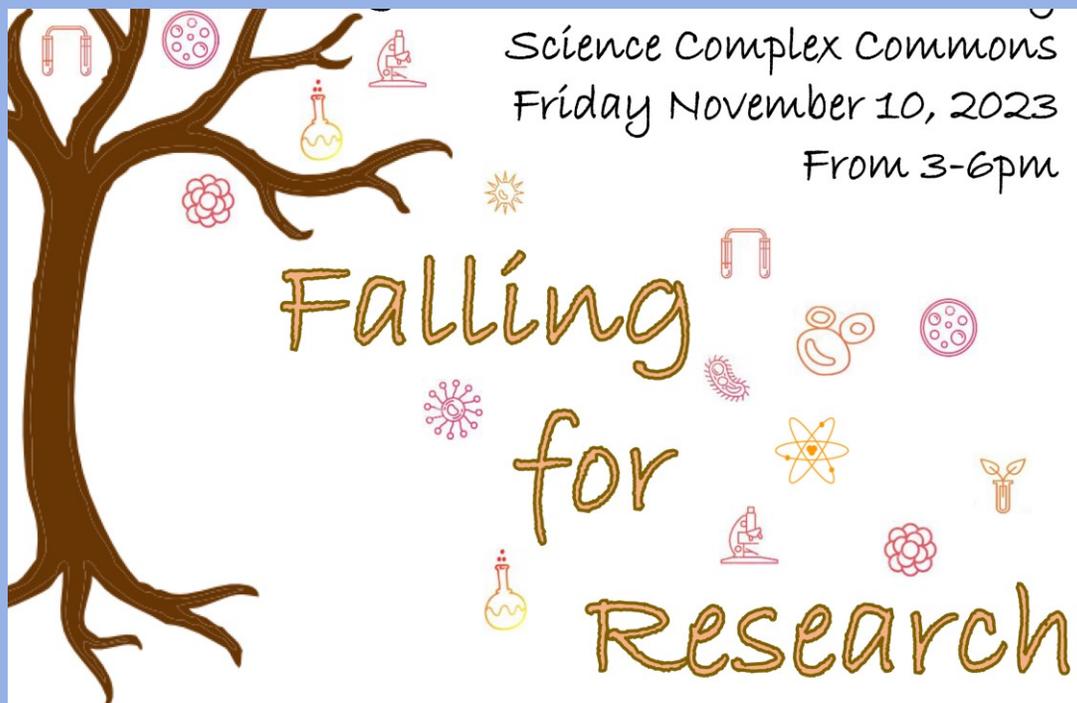
Friday, Nov 10<sup>th</sup> 3-6 pm | Towson University Science Complex

- Student poster session (for undergraduates and grad students),
- Selected student lightning talks,
- Graduate school fair
- Interactive 'Glowing Microbe' activity.

(Bonus–Scheduled for the week before **ABRCMS** to allow attendees a venue to practice their poster presentations)

Registration & Abstract Submission Link: <https://forms.office.com/r/w9nrWPUwcs>

<https://acsmaryland.org/falling-for-research-student-poster-symposium-friday-nov-10th-2023/>



A collaborative student conference co-sponsored by



\$10 Registration Fee includes dinner, micro-art activity, invited abstract lightning talks, graduate school networking fair, and more!

Register and Submit Abstracts for Poster Presentation by 10/27/23

<https://forms.office.com/r/w9nrWPUwcs>



Please contact [msnyder@towson.edu](mailto:msnyder@towson.edu) with any questions or for more information.

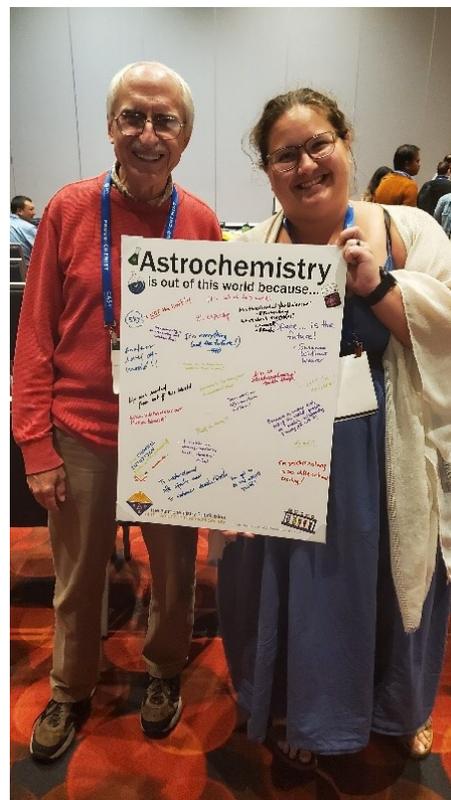
# ACS Maryland helps make ACS Fall 2023 Astrochemistry Symposium a success

By Olivia Harper Wilkins

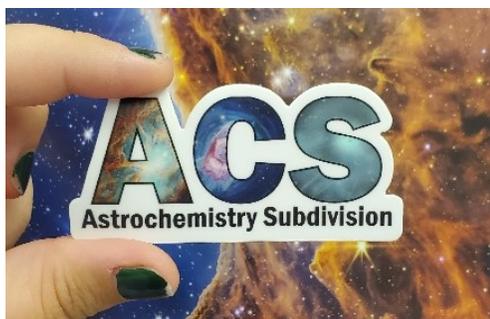
The Astrochemistry Subdivision celebrated its 10-year anniversary at the ACS Fall 2023 meeting in San Francisco, and I was honored to be one of the organizers of the symposium “The Astrochemistry Subdivision: A Decade of Progress and Prospects for the Next Decade”. Not only was being invited to co-organize a symposium with Dr. Dave Woon, the secretary of the Subdivision, a dream as an early-career scientist hoping to make my mark on the field, but this event coincided with a different, more personal milestone for me in the field.

Ten years ago, I was a summer student at Green Bank Observatory (then part of the National Radio Astronomy Observatory, or NRAO) in Green Bank, West Virginia. I was a chemistry undergraduate who had never taken an astronomy class, but a fascination (or perhaps “obsession”) with radio telescopes resembling large satellite dishes drew me to try out being a radio astronomer. It was in Green Bank as a summer student that I heard the word “astrochemistry” for the first time. It just so happens that a few weeks later, the Astrochemistry Subdivision convened for its first symposium at the ACS Fall 2013 meeting in Indianapolis.

The symposium was a success, with each of our eight sessions consistently maintaining between 35 and 65 people in attendance. Because this symposium marked such a special occasion for the Subdivision, I wanted to incorporate some community engagement activities. **I give the Maryland Section my sincerest gratitude for making these activities possible.**



co-organizers Dave Woon and Olivia Wilkins with the community board at the end of the ACS Fall 2023 meeting.



Astrochemistry Subdivision sticker 🧪

Thanks to monetary support from ACS Maryland, I was able to make ACS Astrochemistry Subdivision stickers, a symposium stamp card (for which Dave and I donated prizes), and a community board on which attendees could share why astrochemistry is out of this world. These activities were positively received by attendees, and many people, from early-career astrochemists to senior Astrochemistry leadership, went out of their way to express how much fun they thought these activities were. Thanks, ACS Maryland, for helping me organize a—pardon the pun—stellar symposium!

*Olivia Harper Wilkins, Ph.D., is a NASA Postdoctoral Program (NPP) Fellow at NASA Goddard Space Flight Center. She is also a Maryland Section Member-at-Large, Chair of the Maryland Younger Chemists Committee (YCC), and a National YCC Affiliate. You can connect with her on Twitter (X) and Instagram at @LivWithoutLimit. She can also be reached by email at [olivia.h.wilkins@nasa.gov](mailto:olivia.h.wilkins@nasa.gov).*

# THE HEALING POWER OF CHEM STRY

October 15–21 | 2023 | #NationalChemistryWeek



## National Chemistry Week events

will take place at the following libraries. Please register through the appropriate library website.

The hands-on program is open to students aged 7 and above. Parent/guardian required for 7- and 8-year-olds. The program content is appropriate for all ages. Parents and guardians are welcome to attend.

### The program

run for approximately 60 min and will focus on sugars and their effect on our health.

For question, please contact [rose.a.pesce-rodriguez.civ@army.mil](mailto:rose.a.pesce-rodriguez.civ@army.mil)

- 14 Oct Govans (Enoch Pratt) 2:00 (Sat)
- 21 Oct Miller (Howard) 11:00 (Sat)
- 04 Nov Savage (Howard) 11:30 (Sat)
- 11 Nov Linthicum (Anne Arundel) 11:00 (Sat)
- 18 Nov Central (Howard) 2:00 (Sat)
- 16 Dec Bowie (Prince George's) 1:00 (Sat)
- 09 Jan Eastport-Annapolis Neck (Anne Arundel) 11:30 (Tue)
- 19 Jan Eastport-Annapolis Neck (Anne Arundel) 10:00 (Fri)

# ANNOUNCeMeNTS



ACS Maryland Local Section sent members to the Fall 2023 ACS National Meeting.

In Attendance \_ Four councilors

\_ One Alternate councilor

\_ YCC Chair

\_ Student Travel Awardees

**The Program include:**

1) 2023 Priestley Medalist Nobel Laureate Carolyn Bertozzi.

2) ACS is global

- ACS mission is: "Advancing the broader chemistry enterprise and its practitioners for the benefit of Earth and all its people."
- The ACS Constitution directs that ACS



"shall be concerned with the worldwide application of chemistry to the needs of humanity." More on the Nov. issue.

## Seeking Writers!

Share your experiences at regional or national meetings, author short articles from half a page up to 3 pages. Your articles could be your personal experiences at work, at a scientific meeting or articles about your research. Announce your ideas and events. Let your colleagues know what the nature of your work is. It is a way to practice writing. It is a way to make your ideas known.



Send the article to the [editor of the Chesapeake Chemist](#) of the ACS Maryland Section.

## SEEKING NOMINATIONS

Maryland Local Section is **SEEKING NOMINATIONS** for the

### 2023 Maryland Chemist of the Year

Think about your colleagues, we need to empower chemists, we want to celebrate chemists' accomplishments. Nominate people from chemistry or related chemistry careers in the Maryland area. We are eager to get nominees from Industry, academia, or any other affiliation.

Contact the Chair of the [committee](#).



**Student Travel Awards**

are given twice every year to undergraduate students that want to present their research at a National Meetings. To inquiry about this award contact Chair of the awards committee Dr. Louise Hellwig at Morgan State University of use the section's website <https://acsmaryland.org>.



Louise Hellwig, Ph.D.



**The Younger Chemists Committee Invites all ACS Maryland Members to join this exciting committee**

CONTACT: YCC Committee Chair,  
[olivia.h.wilkins@nasa.gov](mailto:olivia.h.wilkins@nasa.gov)

**Student SUMMER RESEARCH PROGRAM**

A summer program for high school.

Apply now for the summer of 2024. This program runs along with PROJECT SEED from ACS. These two programs require a different type of application each. Please contact coordinator Dr. Louise Hellwig for more information. Students are paid and they are required to create a poster and a presentation of their research learning experience at the end of the summer. Help us to continue the success of this program that started 2 years ago. Contact Dr. Louise Hellwig at Morgan State University or use the section's website under outreach programs ACS PROJECT SEED <https://acsmaryland.org>.

**An Interview with Anurag Sodhi, 2023 IChO Gold Medalist.**

will be in the

November issue of the Chesapeake Chemist it will be an exciting article

By



**The Younger Chemists Committee Chair Olivia H. Wilkins, Ph.D.**

*A Day in the Life of an*  
**ASTROCHEMIST**  
*With: Dr. Olivia Harper Wilkins*

**Tuesday, October 3rd, 2023**  
 6:00-7:00 PM EDT  
 3:00-4:00 PM PDT

Dr. Olivia Harper Wilkins is an astrochemist, artist, and current Postdoctoral Fellow at the NASA Goddard Space Flight Center. She wrote and illustrated Astrochemistry (2021) for the ACS In Focus series, was named a 2022 CAS Future Leader, and is an Associate Member of the ACS YCC.




Registration Link




American Chemical Society - Younger Chemists Committee

**OPEN to all Councilors**

**Virtual Meeting**  
 →

**ACS FALL 2023**  
 ENHANCING THE POWER OF SOCIETY

**JOIN US FOR THE ACS STRATEGY CAFÉ**  
 "Empowering Members and Member Communities" OPEN TO ALL ACS COUNCILORS

VIRTUAL EVENT  
**Thursday, September 28, 2023**  
 4:00 - 5:00 PM ET



Hosted by the ACS Council Policy Committee & Board Committee on Strategic Planning

Connect with other leaders and share your thoughts on the goals that impact the strategic direction of the Society!

RSVP using the QR CODE



For more information, send an email to [Secretary@acs.org](mailto:Secretary@acs.org)

ACS Councilors #ACSFall2023



## Laugh a little...

- You must be a compound of barium and beryllium because you're a total babe.
- If I had a choice between DNA and RNA, I'd choose RNA because it has U in it.
- Hi, my name is Jeff, and I am an alcoholic. "Sir this is triple A, not AA," I know, I'm trying to explain why my car is in the lake".
- Are you made of beryllium, gold, and titanium? You must be because you are BeAuTi-ful.
- Sulfur and oxygen were best buds. They lived far from each other, so in order for oxygen to chat with his pal, he had to use his sulfone!
- **Q: Why do you react violently when we put you in H<sub>2</sub>O?**  
**A: Chemistry Cat:** Because my race contains iron, lithium and neon (FeLiNe origins.)
- **Q: What's the difference between a chemical engineer and a chemist?**  
**A:** A chemical engineer does for profit what a chemist does for fun.

## Join the Younger Chemists Committee!



The Maryland Younger Chemists Committee (MD-YCC) aims to empower, support, and advocate for younger chemists in Maryland as they develop and advance their professional lives.

Younger chemists (ages 40 and younger) who are ACS members and members of the Maryland Section are invited to help relaunch our Local Section YCC. Not yet a member of ACS or the Maryland Section? Not to worry! You can become a member at any time!

As a member of the MD-YCC, you can help plan events by and for younger chemists, serve as a liaison to your student chapter, or advocate on behalf of younger chemists living, working, or studying in Maryland.

**To become a member, sign up using the [online interest form](#).** Questions may be directed to the MD-YCC Chair, Olivia Wilkins, at [olivia.h.wilkins@nasa.gov](mailto:olivia.h.wilkins@nasa.gov).

## 2023 Administration Officers

### 2023 Section Officers

Chair 2023	Kelly Elkins, <a href="mailto:Kmelkins@towson.edu">Kmelkins@towson.edu</a>
Vice-Chair (Chair 2024)	Jiangnan Peng, <a href="mailto:jiangnanpeng@morgan.edu">jiangnanpeng@morgan.edu</a>
Chair Elect (Chair 2025)	Beatrice Salazar, <a href="mailto:beatricesalazar1@gmail.com">beatricesalazar1@gmail.com</a>
Immediate Past Chair-2022	Sarah Zimmermann, <a href="mailto:scatzim@gmail.com">scatzim@gmail.com</a>
Secretary 2023-2024	Louise Hellwig, <a href="mailto:louise.hellwig@morgan.edu">louise.hellwig@morgan.edu</a>
Treasurer 2023-2024	Lee Lefkowitz, <a href="mailto:lee_lefkowitz@hotmail.com">lee_lefkowitz@hotmail.com</a>

### 2023 Committee on Nominations and Elections

Chair	Eric C. Cotton Chair 2021, <a href="mailto:ecotton2@ccbcmd.edu">ecotton2@ccbcmd.edu</a>
Committee member	Jiangnan Peng, <a href="mailto:jiangnanpeng@morgan.edu">jiangnanpeng@morgan.edu</a>
Committee member	Beatrice Salazar, <a href="mailto:beatricesalazar1@gmail.com">beatricesalazar1@gmail.com</a>
Committee member	Sara Narayan, <a href="mailto:snarayan5@yahoo.com">snarayan5@yahoo.com</a>
Committee member	Pumtiwitt McCarthy, <a href="mailto:pumtiwitt.mccarthy@morgan.edu">pumtiwitt.mccarthy@morgan.edu</a>

### Council/Committees

2023-2025	Kelly Elkins, Nominations Committee, <a href="mailto:Kmelkins@towson.edu">Kmelkins@towson.edu</a>
2021-2023	Beatrice Salazar, HIS/DPR Division, CHED Committee, <a href="mailto:beatricesalazar1@gmail.com">beatricesalazar1@gmail.com</a>
2021-2023	Jan Kolakowski, Tech. Committee, <a href="mailto:jek6042@gmail.com">jek6042@gmail.com</a>
2021-2023	Stephanie Watson, <a href="mailto:stephanie.watson@nist.gov">stephanie.watson@nist.gov</a>

### Alternate Councilor

2023-2025	Jillian Malbrough, <a href="mailto:jillian.malbrough2@gmail.com">jillian.malbrough2@gmail.com</a>
2021-2023	Alexander Samokhvalov, <a href="mailto:alexandr.samokhvalov@morgan.edu">alexandr.samokhvalov@morgan.edu</a>
2021-2023	Michele Foss, <a href="mailto:foss.michele@gmail.com">foss.michele@gmail.com</a>
2021-2023	Robert Clapper, <a href="mailto:rob.clapper@scioninstruments.com">rob.clapper@scioninstruments.com</a>

### Member-At-Large

2023	Eric C. Cotton, <a href="mailto:ecotton2@ccbcmd.edu">ecotton2@ccbcmd.edu</a>
2023	Nirupam J. Trivedi, <a href="mailto:nirupam.trivedi@gmail.com">nirupam.trivedi@gmail.com</a>
2023	Olivia Harper Wilkins, <a href="mailto:olivia.h.wilkins@nasa.gov">olivia.h.wilkins@nasa.gov</a>
2023	Rose A. Pesce-Rodriguez, <a href="mailto:rose.a.pesce-rodriguez.civ@army.mil">rose.a.pesce-rodriguez.civ@army.mil</a>
2023	Saraswathi Narayan, <a href="mailto:snarayan5@yahoo.com">snarayan5@yahoo.com</a>

### Maryland Section Website/Social Media

2023 Webmaster	Nicole Carbonaro, <a href="mailto:ncarbonaro@towson.edu">ncarbonaro@towson.edu</a>
Chesapeake Chemist Editor-in-Chief	Beatrice Salazar, Chair 2018, <a href="mailto:beatricesalazar1@gmail.com">beatricesalazar1@gmail.com</a>
Social Media Liaison	Pumtiwitt McCarthy, Chair 2020, <a href="mailto:pumtiwitt.mccarthy@morgan.edu">pumtiwitt.mccarthy@morgan.edu</a>
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#### AWARDS

Braude Award, L. Hellwig  
Remsen Award, D. Ferraris  
Maryland Chemist of the Year Award,  
B. Salazar  
Senior Chemist Award, M. Eiss  
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 Week),  
R. A. Pesce-Rodriguez  
Publicity, P. McCarthy / B. Salazar / N. Carbonaro  
Entertainment/Tours. M. Foss / L. Hellwig  
YCC, O.H. Wilkins

# EVENTS CONTACT

The U.S. National Chemistry Olympiad

USNCO MARYLAND

URL: <http://www.beatricesalazarusnccocoordinator.webs.com>

WCC February Lecture [Kelly Elkins](#)

Jan - April

**Student Travel Awards**

<https://acsmaryland.org/travel-awards/>

Email: Louise Hellwig <[Louise.Hellwig@morgan.edu](mailto:Louise.Hellwig@morgan.edu)>

Jan – March

**Student Awards** <https://acsmaryland.org/student-awards/>

Email: Sara Narayan, [snarayan5@yahoo.com](mailto:snarayan5@yahoo.com), [SNARAYAN@stevenson.edu](mailto:SNARAYAN@stevenson.edu)

April

[Chemists Celebrate Earth Day](#) – [beatricesalazar1@gmail.com](mailto:beatricesalazar1@gmail.com)

**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](mailto:Louise.Hellwig@morgan.edu)>  
 and Michele Foss <[foss.michele@gmail.com](mailto:foss.michele@gmail.com)>

April - Oct.

**Senior Awards**

Email: Merle Eiss, [meiss32@aol.com](mailto:meiss32@aol.com)

May

**Braude Award**

<https://acsmaryland.org/braude-award/>

Email: Louise Hellwig <[Louise.Hellwig@morgan.edu](mailto:Louise.Hellwig@morgan.edu)>

Oct.

**The Remsen Award**

<https://acsmaryland.org/remsen-award/>

Email: Dana Ferraris ([dferraris@mcdaniel.edu](mailto:dferraris@mcdaniel.edu))  
 <[dferraris@mcdaniel.edu](mailto:dferraris@mcdaniel.edu)>

Nov.

**The Maryland Chemist of the Year Award**

<https://acsmaryland.org/maryland-chemist-of-the-year/>

[Beatrice Salazar](#), Award Committee Chair

Dec.

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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.