

April Issue Vol. 80 No. 4

2023 Student Awards Celebration



Dr. Matthew A. Zajac

U. S. Head of Chemistry Development
at GlaxoSmithKline

Presents: *Adventures in the Small
Molecule Pharmaceutical Industry
Illustrations of Chemistry Careers
in Big Pharma. P. 4.*

April 16, 2023

Spring is here,
winter is not gone...

Cover:



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American Chemical Society

Maryland Local Section Newsletter

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

CONTENTS

3/ CHAIR'S MESSAGE

4/STUDENT AWARDS LECTURE

By Dr. Matthew A. Zajac
GlaxoSmithKline, PA

Student Awardee photos p. 17

6/ REPORTS:

ACS Spring National Meeting
USNCO at Notre Dame of Maryland University

9/ CHEMISTRY LITERATURE SPOTLIGHT

Camilo Rojas, Ph.D.
"The Rule of Five"

11/ OUTREACH PROGRAMS, EARTH DAY

12/ #CCEW

Earth Week Program Continues

Rose Pesce-Rodriguez

14/ ANNOUNCEMENTS

MARM 2023

USNCO

15/ COUNCILOR'S CORNER

17/ Student Award pictures and History of the award

21/ Laugh a little | 22/ **Poster Abstracts** | 23/ Administration | 24/ Events contact

From the Editor's Desk...



Welcome to April
A month of great programs!

Contact Editor: beatricesalazar1@gmail.com

Contact ACS Maryland Section at

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.

CHAIR'S MESSAGE

April 1, 2023

Dear Members,

We are entering the second quarter and have several exciting section events and activities coming up in the next month or two. Thank you to all of the attendees to the Women Chemists annual lecture in February.

We are excited to announce that the Maryland Student Awards will be back in person at University of Notre Dame after a couple years online. We are grateful to Sara Narayan and Jason Labonte for reserving the space, selecting the speaker, selecting and ordering the awards, and placing the food order. We hope to see many members there to congratulate the students!

The U.S. National Chemistry Olympiad competition has begun. We thank Beatrice Salazar for leading this on behalf of our Section to make this opportunity available to the students in our section area. She will also plan an activity for Chemists Celebrate Earth Day.

If you have younger students who are not yet ready to compete in the Olympiad, bring them to one of a dozen Chemistry in the Library sessions on "The Curious Chemistry of Amazing Algae". For 20 years, Army Research Chemist and Member-at-Large Rose Pesce-Rodriguez has created engaging and interesting sessions for children and their parents. This year's session will not disappoint.

We hope you read the exciting article by NASA Post-doc and Member-at-Large Olivia Harper Wilkins, "Nearly Two Dozen New Molecules in Space Reported in 2022," on new molecules discovered in space. See the [Chesapeake Chemist March issue No.3 P. 9.](#)

Our Section's Councilors including me, Beatrice Salazar, Jan Kolakowski, and Stephanie Watson as well as Alternate Councilor Jillian Malbrough have made our travel plans to represent the section at the ACS National Meeting in Indianapolis, Indiana at the end of the month. Thirteen students who were awarded travel grants will be joining us and their mentors at the meeting, either in person or virtually.

MARM 2023 is scheduled for June 9-10 at The Graduate Center of the City University of New York and St. John's University. The theme is 'Chemistry Refocused' and the meeting will consist of technical sessions, poster sessions, an expo, employment resources, a graduate school fair, a Women's Chemists Committee workshop on Promotion to Full Professor, and a 50/60/70-year member luncheon!

Our student competition for the ACS Project SEED awards is still open. We invite your students to apply for this amazing opportunity to get paid to do chemical research for the summer! There are programs for students from economically disadvantaged and underrepresented groups as well as an open competition.

We hope you find that our section has something for everyone! If not, please reach out to let us know how we can serve you better.

[Kelly M. Elkins, Ph.D.](#)
2023 Chair



2023 STUDENT AWARDS

ACS Maryland Local Section celebrates the achievement of younger chemists at your organization or academic institution. These awards create a positive impact in your institution, community, and society. The award recognizes and honors top students earning associate or bachelor's degrees in the chemical sciences with the goal of joining the research, academia, and industrial workforce.

Since 2022, Professor Saraswathi Narayan from Stevenson University oversees and coordinates this special program. Last year's celebration was a success. All honorees submitted a video of themselves stating who they were, their studies and their professional interest. The video gave them an opportunity to thank their mentors and teachers and the audience had a more personal view of each honoree. If interested in looking at the recording of the 2022 students' awardee see the [2022 Chesapeake Chemist](#), March-April issue (p. 3-6 & 20 recordings).



[Sara Narayan, Ph.D.](#)

This year marks the 45th anniversary of the awards program, we are expecting even a better celebration since we will gather in-person. The details and invitation to the program is listed next.

Student Awards Celebration and Lecture

- Presenter:** Dr. Matthew A. Zajac
- Date:** April 16, 2023 (Sunday)
- Location:** Notre Dame of Maryland University
Doyle Hall
 Parking - available near the building
- Host:** Dr. Jason Labonte, NDM jlabonte@ndm.edu
- Time:** 12:00 Noon to 2:00 P.M. Lunch will be served
- Agenda:** Will be available the date of the awards' ceremony
- Invitees:** Student awardees family, colleagues, and ACS Maryland Section members. Please contact the Coordinator and Chair of the awards program: Sara Narayan, Ph.D. snarayan5@yahoo.com
- Directions:** [NDM- website-map](#)

Student Awardees will receive a Certificate of Achievement at the ceremony. More information on the Student Awards program at the [ACS Maryland Section's website](#). **Awardees photos on page 17.**

Dr. Matthew A. Zajac

Senior Director of Process and Head of Chemistry Development (CMC) at GlaxoSmithKline, Upper Providence PA.

Presents:

*Adventures
in the Small Molecule
Pharmaceutical Industry
Illustrations of Chemistry Careers
in Big Pharma*



Abstract:

Adventures in the Small Molecule Pharmaceutical Industry Illustrations of Chemistry Careers in Big Pharma It is rare occurrence throughout history to have a large group of highly trained and educated scientists working on a common goal. We are in the era where this reality exists in multiple industries but is especially apparent within large pharmaceutical companies. Chemistry careers in the pharmaceutical industry run the gamut of disciplines within the drug development paradigm. The majority of big pharma companies have sizable computational, analytical, biochemical, formulation, organic, and inorganic/organometallic cohorts which affect drug development in a phase-appropriate manner. They all play a key role in different aspects of drug development and, more importantly, synergistically amplify the rigor and scientific depth of the program teams that develop the drugs. The development of a pharmaceutical drug usually starts with a new insight into a disease state or new genetically validated information that could translate to clinical efficacy.

Biochemists then work to identify a target protein in association with the disease state. With that protein in hand, the biochemistry team begins the search for a molecular starting point which could affect the target protein leading to a positive outcome on the disease. At this stage in the process, millions of compounds are screened quickly and assessed for activity against the protein. From this exercise, organic chemists select lead molecules and then further modify them, in a hand-crafted fashion with the help of computational chemists, to obtain molecules that meet safety, efficacy, and pharmacokinetic standards. The chosen molecule is the active pharmaceutical ingredient (API). Organic and organometallic chemists scale up the potential pharmaceutical and this API material is used in toxicology studies to generate the relevant safety data. The drug product form (tablet, injectable, etc.) is developed by formulation chemists for the specific API and disease state. The nascent drug will be progressed through clinical trials where analytical chemists ensure quality by testing the

API/drug product at every stage. Once proven effective in these clinical studies, the data will be assessed by the regulatory agencies for approval. Making it to market is a huge success since it is the patient-impact that keeps

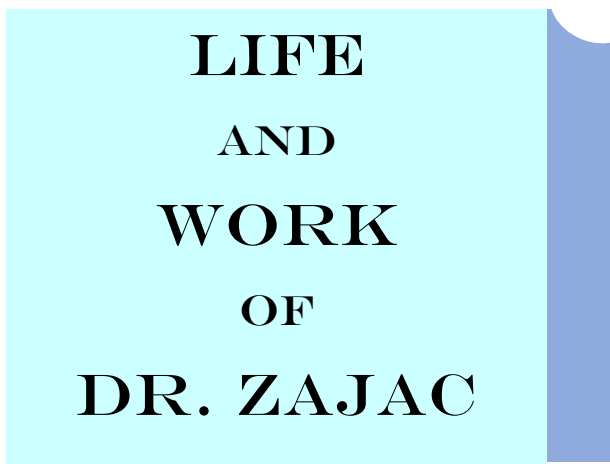
the chemist's jobs fulfilling and worthwhile. An enormous team of highly trained chemists is required across disciplines to bring a drug to market.■

Biography:



Matthew A. Zajac, Ph.D., Senior Director of Process Chemistry and Head of Chemistry Development (CMC) at GlaxoSmithKline.

Matt Zajac graduated with his BS in Chemistry from Stevenson University in 1998. During his undergraduate research under the direction of Professor Sara Narayan, he completed the total synthesis of caffeine and was part of an NIH project team generating inhibitors of HIV reverse transcriptase. Matt then joined the labs of Professor Ed Vedejs at The University of Michigan. During his tenure at Michigan, he received the Pharmacia Research Fellowship and completed the macrocyclic core of Diazonamide A. Upon completion of his Ph.D. in 2003, Matt was awarded the Virginia Cochary Research fellowship of the American Cancer Society and began his postdoctoral research in the labs of Andy Myers at Harvard University. His work at Harvard included probing functionalized nitrones as a potential therapeutic moiety. Upon finalizing his studies in 2005, Matt joined GlaxoSmithKline as a chemical development scientist in the process chemistry department. Between 2010-2015, he took multiple secondments across the organization which allowed him to learn a variety of aspects related to drug development outside of his formal training. He then returned to his home department as Director of Chemistry and was later promoted to head of US Process Chemistry. In Matt's current role, his department has accountability to develop drug substance manufacturing routes that are both economically effective and environmentally friendly. See [CV for more information](#).



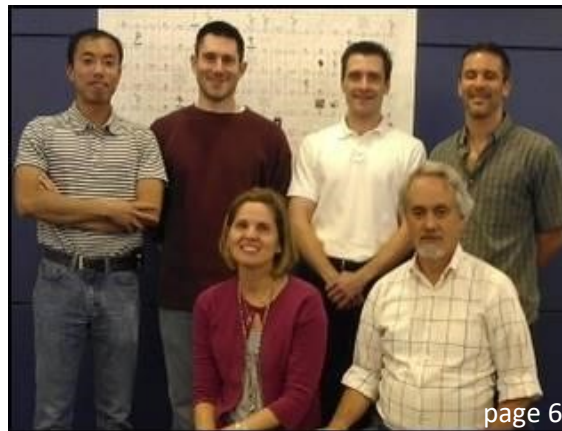
With Francis, his best friend



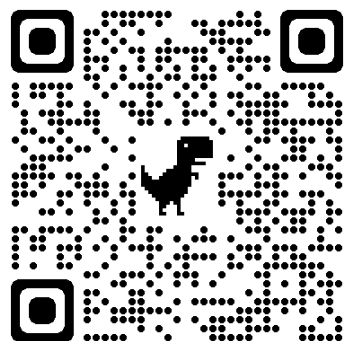
With his colleagues at GSK



At ACS National Meeting
 Fall 2022



Report



Attendees (virtual or in-person) from ACS Maryland Local Section:

Councilors: Kelly Elkins, Ph.D. | Beatrice Salazar, MS Chem/BA Math | Stephanie Watson, Ph. D. | Jan Kolakowski, Ph.D.

Graduate and undergraduate ACS member students: Nine travel grant's recipients presenting posters. 

High School Students: Four students receive travel and registration awards for their poster presentations.

YCC Associate: Olivia Harper Wilkins, Ph.D.

Report



ACS USNCO
U.S. National Chemistry Olympiad

USNCO

Congratulations!

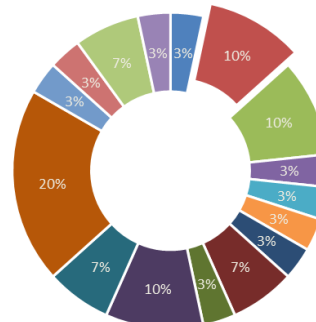
Sixteen schools in the Maryland area applied for the 2023 U. S. National Chemistry Olympiad, USNCO **Local** competition. About 60 students took the pre-qualifying Maryland Local Section exam and 12 students will be nominated to participate in the **National** chemistry competition. Data as of 3/9/23.

Students took the ACS Maryland Local Section exam from March 23, 2023 - April 2, 2023. The National competition has a tentative date April 22, 2023.

From the graph the highlighted school had one student participating in [Chemistry Camp in 2022](#).

USNCO 2023 Participant Schools

- Bethesda Chevy Chase High School
- Centennial High School
- Eastern Technical High School
- Garrison Forest School
- Gilman High School
- Glenelg High School
- Governor Thomas Jhonson High School
- Marriotts Ridge High School
- McDonogh School
- Montgomery Blair High School
- Mount Hebron High School
- Mount Saint Joseph HS
- Severn School
- South River High School
- Towson HS
- Urbana High School



Report

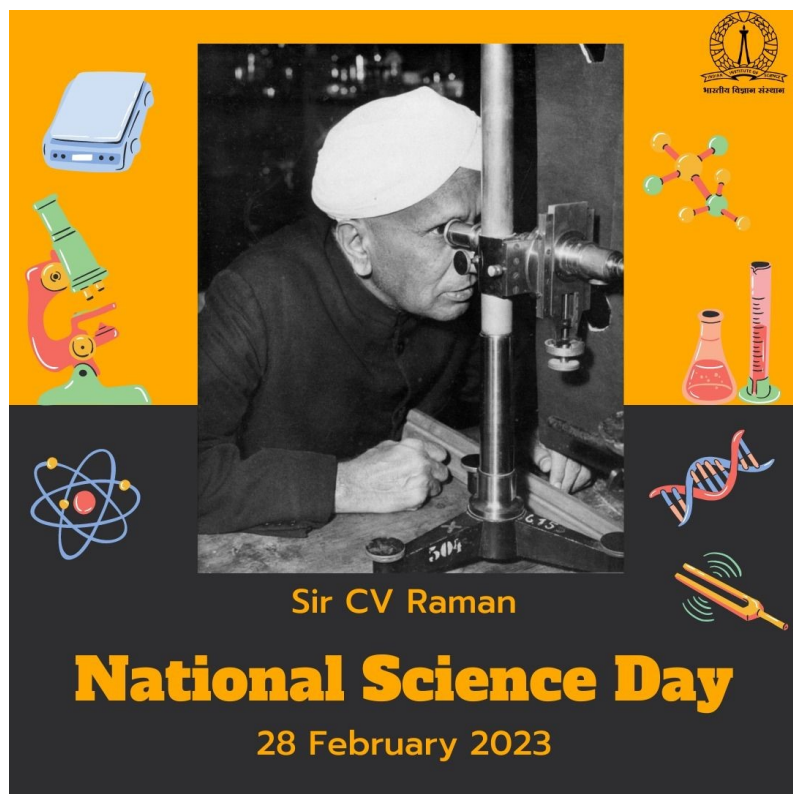
[#CCEW](#) Chemistry in the library had three sections on Saturdays March 11, 18 and 25, 2023. These hands-on experiments for students 7-8 grade were sponsored by the Army Research Laboratory (ARL) using the 2023 ACS theme “*The Curious Chemistry of Amazing Algae*”. For more programs and more information on future events see Announcements/ Events on page 12. Contact coordinator: [Rose Pesce-Rodriguez](#).



Report

Happy National Science Day to all!

[Indian Institute of Science \(IISc\)'s Post](#)



[Indian Institute of Science \(IISc\)](#)

On [#NationalScienceDay](#), we remember Sir CV Raman, the first Indian Director of IISc whose discovery of the Raman effect led to a Nobel Prize.

By Sara Narayan, Ph.D.
snarayan5@yahoo.com

“Sir C.V. Raman was first cousin to our grandfather Prof. P. Ramaswamy Ayyar. I believe he announced his discovery of the Laser Raman effect in South Indian Scientific Organization for which my grandfather was the founder. My Grandfather was an organic chemistry Professor at Indian Institute of Science IISc for several years”.

CHEMISTRY LITERATURE

SPOTLIGHT

[Article : wrestling with the rule of 5](#)

By Camilo Rojas, PhD

Four, Five and ... What else?



MW \leq 500 Da



Number of
hydrogen-bond
donors
 \leq 5



Number of
hydrogen-bond
acceptors
 \leq 10



Log P \leq 5

During a recent visit to the Baltimore Museum of Art my wife and I were pleasantly surprised to find that the iconic sculpture by Auguste Rodin, *The Thinker*, was back in its original place: in the atrium housing the Antioch Mosaics facing one of the European Art galleries. *The Thinker* is a glorious figure that found a life of its own after initially being part of a larger work: "The Gates of Hell". In the gates, Rodin aimed to depict the passions that get us in trouble and into eternal damnation. *The Thinker*, at the top of the gates, is a seated Herculean figure with a bowed head in the midst of meditating. What is the thinker thinking? Is he thinking about the misery we bring to ourselves for not following the rules?

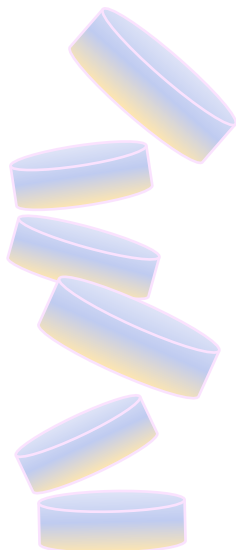
Perhaps an easier question to answer is: what have medicinal chemists been thinking over the last twenty-five years or so? An article by staff writer Bethany Halford in a recent *Chemical & Engineering News* (March 6, 2023) goes a long way to answer the latter question. Medicinal chemists, like the thinker, are not easy to figure out but Halford, in less than 4 pages, provides a warehouse of wonderful provocations that are well worth reading.

A drug needs to produce the desired effect where it is needed without creating havoc elsewhere. Needless to say, this would be a hard if not impossible task if we want to think through it from an armchair without hypotheses. In an effort to be more systematic

about process, Christopher Lipinski and colleagues at Pfizer published guidelines on how to make oral compounds that can become drugs (Adv. Drug Delivery Rev.1997). Lipinski looked at compounds that had made it to clinical trials and noticed that most compounds that went from phase 1 to phase 2 fit four characteristics that could be related to the number five: (1) molecular masses were 500 Da or less, (2) they had 5 or fewer hydrogen-bond donors, (3) they had no more than 10 hydrogen-bond acceptors and (4) the logP, a measure of lipophilicity, was 5 or less. These rules were based on empirical findings that did not guarantee they would be followed all the time. However, they provided a way of moving forward. Massive combinatorial chemical libraries containing compounds that were very large or very lipophilic could now undergo some Spring cleaning. Moreover, drug designers had a tentative map to optimize promising compounds. But scientists soon found that some drugs were contemptuous of the rules.

What I find fascinating about this article is that it points to how medicinal chemists react when confronted with rules. In a way, it is a microcosm of how humans react to rules. Some medicinal chemists feel the rules provide useful boundaries for drug designers. The rules make compounds' physical properties a high priority before implementing synthesis of a new series of compounds. Others want to abandon them all together because either, they limit creativity





Four, Five and ... What else? Cont...

or because they have prevented us from focusing on a sounder understanding of how drugs work. Some argue that many drugs for infectious diseases would not exist if you followed the rule of 5. Interestingly, 20 years after the Lipinski's rules were published, another study showed that even successful rule breakers had to have a right balance of physicochemical properties to become oral drugs (*J. Med Chem* 2017). Anecdotal evidence suggests there are now more people against the use than for the use of the rule of 5. Is this emblematic of the times of our society at large?

The article closes with some words of wisdom from Mary Mader, vice president of molecular innovation at Indiana

Biosciences Research Institute: "To try to reduce it [design of an orally bioavailable drug] to only a handful of properties is pretty simplistic... And yet there is generally a true phenomenon that if you want the properties of solubility, absorption, and metabolic stability, you're often still working in that space" circumscribed by the rule of 5. Like *The Thinker* atop "The Gates of Hell," we need to meditate on this. ■

References:

C&EN March 2023

1. *Chemical & Engineering News*
 (March 6, 2023)

[Article : "wrestling with the rule of 5"](#)

2. *J. Med Chem* 2017

Camilo Rojas, PhD, formerly Associate Professor at Johns Hopkins University is a frequent contributor to the Chesapeake Chemist.

What Caring is About...



From this...



To this...



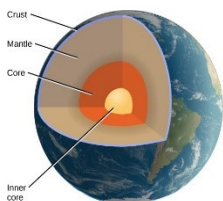
Earth Day in 2022 brings joy in 2023!

The renovated building is today a successful culinary business for food entrepreneurship and culinary classes.

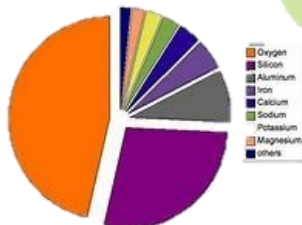
The ACS Maryland Section is proud to have collaborated to the beautification of the building. See the website information on this program: [Maryland Community Events](#)

OUTREACH PROGRAMS:

EARTH DAY April 22, 2023



chemistry
 Earth's Make-up



The ACS Maryland Section joins “Chemists Celebrates Earth Day” with a tour of Baltimore’s Montebello Water Filtration and Purification Plant, BWFP. Water is one of the most important natural resources we have on earth. We need to take care of the water, and the best way is starting near home. Learning about the water composition on Earth, water supply to our towns and homes is important for our health and wellbeing.

The Earth is made of approximately 71 % water and 29% land. Almost all the water (97%) is water from the oceans (including 2% ice and snow) so there is only about 3% of fresh water in rivers and for our use in our daily lives. See the importance of caring of our water? From this tiny 3% of water, we need to separate the water that is ground water (29%), “difficult to access” fresh water from ice-caps and glaciers, 70%, and “easy to access” surface water (1%). The human’s daily water consumption comes from these sources. Something that puzzles our intellect!

Let’s use a magnifier and get closer to earth. Let’s look at the United States as a country, then look at the Maryland state and furthermore look at Baltimore. What do we see?

The USA shares with the world 1% of easy access water: Out of this tiny percentage of water, it shares 52% in lakes, 38% in soil moisture, 1% of water in the rivers, 1% water vapor, and about 1% in water-living things. The largest lakes and rivers with potable water are Lake Superior, Michigan Lake, Huron Lake, Ontario, Lake Erie, Columbia river, Missouri river, Colorado river, Rio Grande, Mississippi River, and Hudson River. Very few for such a large country! The greatest non-natural lakes and rivers in **Maryland** are: the deep Creek, Smithville, Unicorn, Centennial, Massey and Yvonne Lakes. There are [42 rivers](#) in total but the most known include the Anacostia, Avon, Back, Back Wye, Patuxent, Susquehanna, Gunpowder, Patapsco, Severn, Potomac and South-River. Some of the man-made lakes are called reservoirs because of the purpose of its construction, that is, if the primary use is water supply, hydroelectric power, and/or flood control, the body of water is more likely called a reservoir (e.g., Prettyboy Reservoir, Loch Raven Reservoir, and Triadelphia Reservoir). More on [Reservoir information](#). The last reservoirs are located in the area of **Baltimore** and its neighbor counties. These reservoirs provide water for human consumption in all the towns in the area.

Earth Day



We need clean and pure water for our health.

The Baltimore Water Filtration and Purification Plant, does this job for the community.

Use <https://acsmarylandevents2016.webs.com>, to find out more on previous tours of the plant. Contact us if you are interested in a tour of the plant for your school, your college or university, chemistry club, your environmental class or as community member interested in the wellbeing of your local area. See the latest's programs, photos and information on water resources and activities in the area.



The tours are tailored to the groups attending. For example, high school students learn that chemistry is applied in each of the steps of water filtration and purification. Students see the physics and engineering application in the enormous structure of the plant, its intricate tubing set up to reach all towns and each home in the area and the power it takes to move the water through these channels. Technology is applied for the control of chemicals used, for the analysis of the water samples before and after the water is treated. This tour makes a wonderful STEM application. We could certainly add another field to this tour, and that is art and architecture. The building is unique in its structure, the water tanks and ceilings are not only a great engineering accomplishment but has a historical design. The plant was built in 1915 and still it has many structural designs of previous centuries. History of Baltimore and Medicine can be taught while walking around the plant, at the time that so many people were dying of diseases produced for lack of hygiene was remarkable that a simple European concept, water filtration, created so much change in the life of people in Massachusetts and the Chesapeake area in terms of health and quality of life. ■

Article by Beatrice Salazar, ACS Maryland Section Coordinator of the "Chemist Celebrate Earth Day." Contact her for arranging a tour and specify the desired content. Beatricesalazar1@gmail.com



<https://www.acs.org/education/outreach.html>

Other events that take place during April 16th-22nd are announced on page 12. See the information of programs in your public library using the ACS theme: *The curios chemistry of amazing algae.*



Chemistry in the Library

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

Library System	Branch	Day	Date	Time
Harford	Jarrettsville	Saturday	01 Apr	1:00
Howard	Central	Saturday	08 Apr	2:00
Anne Arundel	Linthicum	Saturday	15 Apr	11:00
Enoch Pratt	Govans	Saturday	22 Apr	2:00
Howard	Glenwood	Saturday	29 Apr	10:30
Howard	Savage	Saturday	06 May	2:00
Carroll	Eldersburg	Saturday	13 May	2:00
Enoch Pratt	Light St	Saturday	20 May	2:00
Anne Arundel	Odenton	Saturday	27 May	11:00

Contact: [Rose Pesce-Rodriguez](#) for Chemist celebrate earth week, CCEW Ages 7 & up.



ANNOUNCements

JUNE 9-10, 2023

MARM 2023 CHEMISTRY REFOCUSSED

New York, NY



www.acs.org > meetings > regional [Middle Atlantic Regional Meeting \(MARM\) - American Chemical ...ACS](#) | [Meetings & Events](#) | [Regional Meetings](#)



[MARM 2023](#)

[Home](#) | [Program](#) | [Abstract Submission](#) | [Registration](#) | [Exposition & Sponsorship](#) | [Special Events](#) | [Awards](#)

Visit: www.MARM2023.org/awards for more information about eligibility and the nomination process, contact:

C. Eric Cotton, Ph.D. | Associate Professor of Chemistry | The Community College of Baltimore County | Catonsville Campus, MASH 014 | 800 S. Rolling Road, Catonsville, MD 21228 | 443-840-5932 | Fax: 443-840-3414 | ccotton2@ccbcmd.edu |
CCBC. The incredible value of education.

APRIL 22, 2023

USNCO 2023



ACS USNCO
U.S. National Chemistry Olympiad



U.S. National Chemistry Olympiad

Notre Dame of Maryland University

The Chemistry Olympiad Part II and Part II will start at 8:00 A.M. – Registration, announcements, and photo session – Chemistry general knowledge multiple choice questions - Laboratory Practical – Break – Essay exam – Lunch, awards, and certificates will be distributed.

Date: April 22, 2023 (Saturday)

Location: TBA

Host: TBA

Time: 8:00 A.M. to 3:00 P.M. Lunch will be served (students must advise the coordinator for food restrictions or allergies) Please contact the Coordinator at beatricesalazar1@gmail.com

Directions: TBD

Requirements: pencils, eraser, sharpener, non-programmable calculator, release form signed by parents, closed shoes (no sandals) and ID.

More information on the USNCO Outreach program at the [ACS Maryland Section's website](#).

COUNCILOR'S CORNER



Report of ACS President Judy C. Giordan, 2023 President

It is an honor to serve as ACS President. The focus of all of my work is three-fold with the aim to ensure:

- Chemists are a trusted voice for the chemical sciences and scientists/engineers with all people.
- Members and ACS remain a strong force and advocate for the chemical sciences and chemical scientists/engineers and to build global societal value with chemistry.
- We all walk-the-walk to embrace diversity, equity, inclusion and respect.



What's planned? Please join in the more than 30 symposia and events that are Pres/Pres recommended for Indianapolis. Check them out on the [Presidential Events Page](#) and in my March 6 C&EN comment.

[ACS Spring 2023 Governance Meetings and Councilor Caucus Schedule](#)

View the [schedule for the Council Meeting, District and Division Caucuses, Board Open Meeting, President Elect Town Hall Meeting, and Council Policy Committee Open Meeting.](#)

Please note: if you have not received the virtual meeting information for your Caucus, please contact the Office of the Secretary at secretary@acs.org.

Council Policy Committee Open Session

The Council Policy Committee will host its Open Session as part of the ACS Spring meeting in Indianapolis on Monday, March 27 at 10:00 a.m. - 10:30 a.m. EST at the J.W. Marriott Indianapolis Hotel: J.W. Grand Ballroom 4.

The ACS Governing Documents require that every four years, the Council Policy Committee (CPC) establish a divisor to determine representation at Council by Local Sections and Divisions. The divisor will be set by CPC at its meeting in Indianapolis, Indiana, on March 27, 2023, and will determine the number of Councilors each Local Section and Division will be entitled to for 2024-2027.

Official notification of the Councilor Divisor and the number of Councilors permitted for your Local Section or Division for 2024-2027 will be sent to you no later than May 1, 2023, as required by the Governing Documents. This decision could affect elections conducted in 2023. **Please do not finalize any Councilor slates for 2024 until after you receive CPC's determination.** For more information, [read the memo](#) or email secretary@acs.org.

WEBINAR LIBRARY

Crossroads of Chemistry: Decisions, Opportunities and Finding your Path **Open Access for a Limited Time**

Jayshree Seth (3M) discusses how to increase your business acumen, grow your professional network, and build a rewarding career in chemistry, including how ACS National Meetings can support all of these career goals.

[Watch Now →](#)



[ACS Webinars](#) February 2023

[Facebook](#) [LinkedIn](#) [Twitter](#) [Pinterest](#) [Email](#)

Whether you are a student seeking a career in a chemistry-related science or someone already employed seeking new directions, opportunities are plentiful if you know where to look and if you make the right connections. ACS National Meetings offer the chance to learn about the latest research and meet practitioners from every field of the discipline.

Join Jayshree Seth, Corporate Scientist & Chief Science Advocate at 3M and Christina Bodurow, Deputy Director and Chief Operating Officer of AViDD at Stanford University School of Medicine as they discuss the small and large decisions that can shape a career in chemical sciences as well as the fertile environment for networking found at ACS National Meetings and how to discover employment opportunities once you are there. This ACS Webinar is co-produced with the ACS Committee on Science.

Objectives:

- _ How to increase your technical competency as a early, mid, and long-term career chemist
- _ How to gain business experience in innovation and product development and how to build a scientific network to gain knowledge in your specific field
- _ The important role that ACS Meetings (especially National Meetings) play, and the value they can add to your career development

Additional Resources:

- [ACS Spring National Meeting, March 26-30, 2023](#)
- [32 Technical ACS Divisions](#) - Join one today to stay current with new developments in your area of specialization.
- [ACS Leadership Development Program](#) - Learn essential skills to strengthen your competitive edge in today's global economy.

Co-Producer: [ACS Committee on Science](#)

Congratulations!

2023 Student Awardees



Aiden Hathaway
Harford Community College



Aissata Timbine
Notre Dame of Maryland University



Alex Laveck
McDaniel College



Allie Chaires
Goucher College



Bree Hart
Morgan State University



Caitlin Farris
Frederick Community College



Cledia Kalembo
Coppin State University



Connor Owen
Mount St. Mary's University



Ian T. Dinmore
United States Naval Academy

Congratulations!

2023 Student Awardees



Jack Dotzler
Loyola University of Maryland



James Webster
Anne Arundel Community College



John Holmes
Howard Community College



Lindsay Wilson
Hood College



Kevin Wassenius
Stevenson University



Max Tucker
Washington College



Rafiat Alabi
Baltimore City Community College



Raphael Zeldin
Towson University



Saige Teti
St. Mary's College of Maryland

Congratulations!

2023 Student Awardees



Samuel Dawley
Johns Hopkins University



Sophia Nepl
The Community College of Balt. Co.



Sukhvir Singh
University of Maryland Balt. County

Congratulations to all awardees!

The efforts of your parents, teachers, mentors, and your own efforts have been noticed, for this reason, your accomplishments are celebrated today.

We wish you the best on your professional studies and chemistry careers.

POSTER PRESENTATIONS

Students who received travel grants to attend the 2023 ACS Spring National Meeting at Indianapolis, will display their posters and present their research during the Student Awards Celebration.

Host



[Jason W. Labonte, Ph.D.](#)
Assistant Professor, NDMU



[Saraswathi Narayan, Ph. D.](#)
Chair, Student Awards Program

HISTORY

STUDENT AWARDS CEREMONY

45TH ANNIVERSARY



By Saraswathi Narayan, Ph.D.

We are pleased to celebrate the 45th anniversary of the Student Awards Ceremony (SAC) on Sunday, April 16, 2023 from 12 – 2:pm in Doyle Hall of Notre Dame University of Maryland hosted by Dr. Jason Labonte, Assistant Professor of chemistry at NDMU .

I am honored to be the chair of the Student Awards Committee, 2022-Present

History of Student Awards Committee, SAC

The Student Awards program started with Professor Carl Minier, Essex Community College of Baltimore in March 1978. Carl Minier was the chair for the American Chemical Society (ACS) Local Section for several years. The program was started to encourage and promote outstanding students in Chemistry to start their career as scientists. Since then, it has been held successfully every year in the month of April.

The ACS Student Awards celebrates each year one outstanding chemistry student at each college or university that participates in the Maryland Section of the ACS. The Awards ceremony is usually held at the spring meeting of the Maryland Local Section of the ACS, which is held on a Sunday. I am very happy to announce that, after three years having the meeting on zoom, the Awards Ceremony will be held in person this year.

The Student Awards are intended to encourage students interested in chemistry and to recognize students who display a significant aptitude for chemistry. They are intended to encourage further interest in the field. This is one of the most well attended ceremony by students, their families, teachers, and mentors. About 20-22 students are selected from area colleges and universities. Only one Outstanding Chemistry Student is selected from each college and or university by the chemistry department chair along with other faculty.

Each student awardee will receive an Outstanding Achievement in the Field of Chemistry Certificate along with ACS souvenirs (mailed separately) and a copy of the April Edition of Chesapeake Chemist Newsletter (CCNL) with all the awardees pictures. Boxed Lunches will be served at the venue hall before the ceremony.

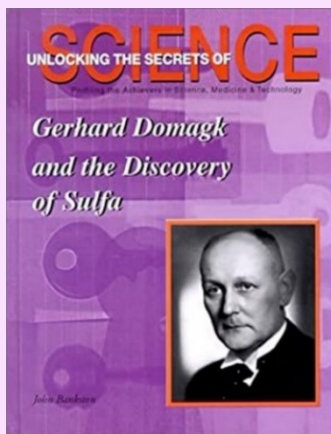
This year, the Student Awards Ceremony will be addressed by Dr. Matthew A. Zajac, a distinguished scientist who is currently the U.S. Head of Chemistry Development (Chemistry Manufacturing and Controls) from GlaxoSmithKline in Upper Providence in PA, Dr. Zajac will talk about “Adventures in the Small Molecule Pharmaceutical Industry- Illustrations of Chemistry Careers in Big Pharma.”

BOOKS...



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Sulfa Drugs, History/Discovery



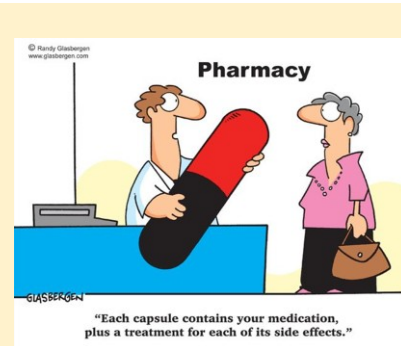
http://nobelprize.org/nobel_prizes/medicine/laureates/1939/domagk.jpg

- Discovered by Gerhard Domagk (1895-1964), a German biochemist
- In 1932, tested a dye, Prontosil
- Although it had no antibacterial properties, a slight change in its chemical make-up resulted in anti-bacterial activity against streptococci in mice
- Derivatives based on the Prontosil sulfonamide group were developed, resulting in so-called sulfa drugs
- Sulfa drugs revolutionized medicine and saved many thousands of lives

Laugh a Little...

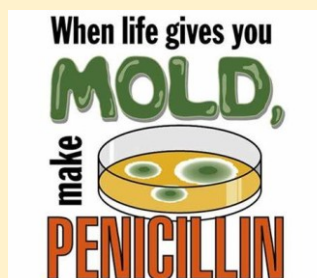


Courtesy of the artist Pablo Rojas

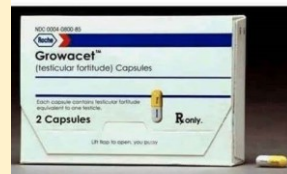


2. **The doctor asks, What are you taking? The patient responds:** "right now I am teking a blue pill, a purple pill, an orange pill, a white pill and a yellow pill. I need you to prescribe a green pill to complete my collection".
3. **The pharmacist:** "This medication can actually improve your memmory. Each capsule contains a tiny hard drive".
4. **Did you hear about the pharceutical company?** They developed a new drug that, when administered to women compels them to go join a convent and become a nun. The FDA refused to license it, though. Seem it was habit-forming.

5. **What is grown ing up?** Growing up is when you go from using drugs for fun to using drugs for survival.



BREAKING NEWS: The FDA just approved a new drug for people who are easily offended or can't take a joke!





ACS Local Section
Maryland

Student Travel Grant Awardees Poster Abstracts

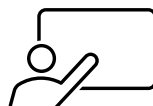
ACS Spring National Meeting

Indianapolis, IN

March 26 – March 30, 2023

2023 ACS Spring Meeting
Poster Abstracts

*Click on the QR to read all poster
abstracts and locate the time and
date of the poster presentation.*



2023 Administration Officers

2023 Section Officers

Chair 2023	Kelly Elkins, Kmelkins@towson.edu
Vice-Chair (Chair 2024)	Jiangnan Peng, jiangnanpeng@morgan.edu
Chair Elect (Chair 2025)	Beatrice Salazar, beatricesalazar1@gmail.com
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Treasurer 2023-2024	Lee Lefkowitz, lee_lefkowitz@hotmail.com

2023 Committee on Nominations and Elections

Chair	Eric C. Cotton Chair 2021, ccotton2@ccbcmd.edu
Committee member	Jiangnan Peng, jiangnanpeng@morgan.edu
Committee member	Beatrice Salazar, beatricesalazar1@gmail.com
Committee member	Sara Narayan, snarayan5@yahoo.com
Committee member	Pumtiwitt McCarthy, pumtiwitt.mccarthy@morgan.edu

Council/Committees

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

Alternate Councilor

2023-2025	Jillian Malbrough, jillian.malbrough2@gmail.com
2021-2023	Alexander Samokhvalov, alexandr.samokhvalov@morgan.edu
2021-2023	Michele Foss, foss.michele@gmail.com
2021-2023	Robert Clapper, rob.clapper@scioninstruments.com

Member-At-Large

2023	Eric C. Cotton, ccotton2@ccbcmd.edu
2023	Nirupam J. Trivedi, nirupam.j.trivedi.civ@army.mil
2023	Olivia Harper Wilkins, olivia.h.wilkins@nasa.gov
2023	Rose A. Pesce-Rodriguez, rose.a.pesce-rodriguez.civ@army.mil
2023	Saraswathi Narayan, snarayan5@yahoo.com

Maryland Section Website/Social Media

2023 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
Local Section contact:	acsmarylandsection10@gmail.com

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 / R. Clapper
Entertainment/Tours, M. Foss / L. Hellwig

EVENTS CONTACT

The U.S. National Chemistry Olympiad

USNCO MARYLAND

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

WCC February Lecture [Kelly Elkins](#) & [Sara Narayan](#)

Jan - April

Student Travel Awards

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

Email: Louise Hellwig <Louise.Hellwig@morgan.edu>

Jan – March

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

Email: Sara Narayan, snarayan5@yahoo.com, SNARAYAN@stevenson.edu

April

Chemists Celebrate Earth Day – 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>

and Michele Foss <foss.michele@gmail.com>

April - Oct.

Senior Awards

Email: Merle Eiss, meiss32@aol.com

May

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/>

[Beatrice Salazar](#), Award Committee Chair

Dec.

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