

*April 2023*

*Contributed by Tyler Frankel*

**SETAC Chesapeake-Potomac Regional Chapter**  
**SPRING NEWSLETTER**

**Hudson-Delaware & Chesapeake-Potomac  
Regional Chapter Joint Spring Meeting**

**April 17<sup>th</sup> & 18<sup>th</sup>, 2023  
Easton, MD**



**Inside this issue ↓**

- **President's Podium**
- **Member Spotlight**
- **Fall Recap**
- **Chesapeake Bay Update**
- **Career Opportunities**
- **... and more!**



*Contributed by Tyler Frankel*

## Mission Statement

Serving the Chesapeake-Potomac Region (Maryland, DC, Virginia, and West Virginia), our chapter of SETAC North America (SNA) provides a professional forum for individuals from private industry, academia, and government agencies who are engaged in the study, analysis and solutions for environmental problems, management, and regulation of natural resources, and/or research and development. We facilitate networking and educational opportunities for scientific professionals, mentoring and career guidance for students, and environmental education and outreach for the public.



# KEEP IN TOUCH WITH CPRC SETAC



## CPRC Leadership and Committees:

### Officers

<b>President</b>	<b>Guangbin Li, University of Maryland College Park</b>	<a href="mailto:president.cprc.setac@gmail.com">president.cprc.setac@gmail.com</a>
<b>Vice President</b>	<b>Meredith Bohannon, U.S. Army Public Health Center</b>	<a href="mailto:vice.president.cprc.setac@gmail.com">vice.president.cprc.setac@gmail.com</a>
<b>Past President</b>	<b>Nathalie Lombard, University of Maryland, Baltimore County</b>	<a href="mailto:nlombard@umbc.edu">nlombard@umbc.edu</a>
<b>Treasurer</b>	<b>Nathan Sell, American Cleaning Institute</b>	<a href="mailto:treasurer.cprc.setac@gmail.com">treasurer.cprc.setac@gmail.com</a>
<b>Secretary</b>	<b>Thomas Bean, FMC at the Stine Research Center</b>	<a href="mailto:cprc.setac@gmail.com">cprc.setac@gmail.com</a>

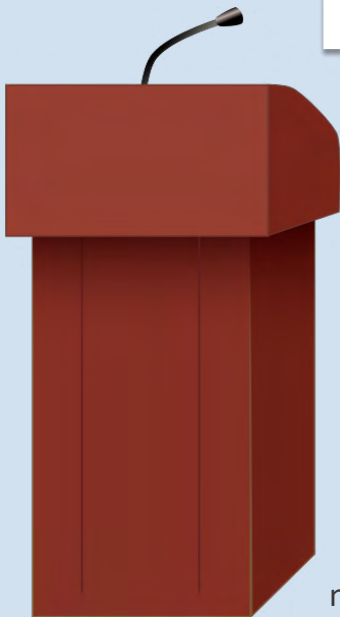
### Board Members

<b>2022 – 2024</b>	<b>Andrew East, Defense Health Agency</b>	<a href="mailto:andrew.g.east.civ@health.mil">andrew.g.east.civ@health.mil</a>
<b>2021 – 2023</b>	<b>Ben Burruss, Trinity Consultants</b>	<a href="mailto:Ben.Burruss@safebridge.com">Ben.Burruss@safebridge.com</a>
<b>2021 – 2023</b>	<b>Rachel Eberius, US EPA</b>	<a href="mailto:reberius@gmail.com">reberius@gmail.com</a>
<b>2021 – 2023</b>	<b>Jada Damond, Student Representative, University of Maryland, Baltimore County</b>	<a href="mailto:damond1@umbc.edu">damond1@umbc.edu</a>
<b>2020 – 2022</b>	<b>Tyler Frankel, University of Mary Washington</b>	<a href="mailto:tfrankel@umw.edu">tfrankel@umw.edu</a>
<b>2020 – 2022</b>	<b>Upal Ghosh, University of Maryland Baltimore County</b>	<a href="mailto:ughosh@umbc.edu">ughosh@umbc.edu</a>

### Web Presence (<https://cprcsetac.wildapricot.org/>)

<b>Website</b>	<b>Benjamin L Burruss, Trinity Consultants</b>	<a href="mailto:website.cprc.setac@gmail.com">website.cprc.setac@gmail.com</a>
<b>Social Media</b>	<b>Jada Damond, University of Maryland, Baltimore County</b>	<a href="mailto:socialmedia.cprc.setac@gmail.com">socialmedia.cprc.setac@gmail.com</a>
<b>Newsletter Editor</b>	<b>Sabine Malik, University of Maryland, College Park</b>	<a href="mailto:newsletter.cprc.setac@gmail.com">newsletter.cprc.setac@gmail.com</a>
<b>Assistant Editors</b>	<b>Michael Quinn, Andrew East, Nathalie Lombard</b>	

# PRESIDENT'S PODIUM



As we welcome the new year in our CPRC, I am filled with excitement and hope for what lies ahead. CPRC has always been built on the foundation of bringing people together in pursuit of a common goal. And now, as we emerge from the COVID-19 pandemic, we recognize, more than ever, that CPRC is a collective effort and we are grateful for the support from our members, volunteers, sponsors, and communities at large!

So, to all of our members, both old and new, I want to say thank you. Thank you for your dedication, your resilience, and your commitment to our shared mission. I am proud to what we have accomplished in last year and excited to see what we can accomplish together in the months and years ahead. Special thanks to Nathalie Lombard (Past President), Meredith Bohannon (Vice President), and Jada Damond (Student Representative) for their great effort and amazing work!

Last year, despite the obstacles from the COVID-19 pandemic, we have persevered and worked together to organize many in-person/virtual events, including Science café, Fall Dinner, Happy Hour, and Hiking. We also developed and started our new website with a

better user interface design and integrated functions. Most importantly, we worked with Hudson Delaware Chapter together to successfully hold the first joint Spring Meeting. I am also excited to announce that the second CPRC-HDC Joint Spring Meeting will be hold in person on April 17-18, 2023, at Easton, Maryland (Learn more about this meeting [here](#)). I sincerely invite you to join us in this joint meeting to meet your peers, talk to the professionals from different areas, and take a tour to the Eurofins' advanced laboratory at Easton.

As always, whether it is through volunteering, donating, or simply spreading the word about our chapter, your support is invaluable to us. Feel free to check our [new website](#) and contact us at [president.cprc.setac@gmail.com](mailto:president.cprc.setac@gmail.com) or directly speak with any of our officers and [boards of director](#). You can also use our new [Career Hub](#) to post or check the job opportunities! More exciting events and networking opportunities will be posted. Stay tuned!

On behalf of our organization, I wish you all a happy and fulfilling new year. Let us continue to work together to create a greener and safer environment.



**Guangbin Li, Ph. D**

**CPRC President 2022-2023**

# MEET THE EDITOR

Hello! My name is Sabine Malik and I am a first-year Masters student at University of Maryland (College Park) in the Environmental Science and Technology Department, specializing in Ecosystem Health and Natural Resource Management.

Though I am originally from Allentown, Pennsylvania, I completed my undergraduate degree in Environmental Science at American University in Washington D.C.. The first elective course I took in my major was Environmental Toxicology and I was immediately drawn to the field. During my undergraduate degree, my first formal research experience consisted of assessing the impacts of contaminated water from the Anacostia River on zebrafish behavior. During college, I interned at the Rodale Institute in Kutztown, Pennsylvania researching the effects of conventional agricultural chemicals on the surrounding watershed.

I also led the establishment of a “rapid response” program with Potomac Riverkeeper that built a network of volunteers specially trained to respond to pollution tip-offs from the community. Chains of volunteers follow a protocol prompting them to document the area with photos, safely take water samples, deliver them to labs, and notify appropriate authorities. Though a tremendous amount of work, the program is still running and really taught me the power of community engagement.

Currently, I am working with Dr. Lance Yonkos, studying the effects of common legacy contaminants in historically polluted, urban rivers on sperm quality in *Fundulus heteroclitus* (mummichog). I am developing a suite of methods to assess reproductive viability,



including computer-aided sperm analysis (CASA) to track sperm motility, ATP quantification, and modification of the Comet assay for aquatic sperm samples. I’m presently getting ready for the busy field season to begin!

In my free time, I am a singer, avid baker, and have a (much too) large houseplant collection. I love hiking and taking advantage of the diverse variety of trails in the region, but most of all spending time with my cat, Bijou!

Having lived in the DMV for five years working in the Chesapeake Bay watershed, I feel a strong connection to this region and hope to focus my professional work towards this purpose. Therefore, I am so excited to get more involved with CPRC as the newsletter editor and I can’t wait to meet many of you in Easton!

# Welcome to our new Vice President: **Connie Mitchell**

Connie Mitchell is a Scientific Program Manager at the Health and Environmental Sciences Institute (HESI), a science non-profit based in Washington, DC, USA. Prior to joining HESI in early 2020, she was an ORISE Fellow at the US Environmental Protection Agency working on chemical prioritization under the Toxic Substances Control Act. She completed her graduate studies in Environmental Toxicology at the University of California Riverside. At HESI, Connie co-manages the Next Generation Ecological Risk Assessment Committees, which is a multi-partite, multi-stakeholder international effort that brings together key scientific experts to modernize ecological risk assessment. As a Scientific Program Manager, she provides scientific, strategic, and administrative support to collaborative scientific committees involving academic, government, nonprofit, and private sector scientists. She also co-manages other projects related to toxicology and risk assessment, including the Emerging Systems Toxicology for the Assessment of Risk (eSTAR) Committee and



the Botanical Safety Consortium. She has authored or co-authored 15 peer-reviewed papers and has presented at numerous national and international scientific meetings on topics ranging from toxicology, risk assessment, and new approach methodologies.

# Welcome to our new board member: Joseph Pitula



Pitula graduated with a PhD in Microbiology from the University at Buffalo in 2001. He went on to do post-doctoral studies in the Department of Nutrition at the University of Wisconsin. For 17 years he was a professor in the Department of Natural Sciences at the University of Maryland Eastern Shore, and served as director of the campus MEES graduate program from 2012-2020. Currently he is the Director of Research at UMES. His research approaches have utilized genetics, molecular biology, and ecological tools. For much of his career he has studied protozoan parasites and in particular the disease dynamics of *Hematodinium perezii*, a dinoflagellate-like parasite of blue crabs. His group has also analyzed the impact of nutrients on the development of harmful algal blooms, along with concurrent alterations in bacterial communities. Most recently, his laboratory has initiated a comprehensive project on the distribution of PFAS on the Delamarva Peninsula and associated

waterways, along with the potential impacts on regional flora and fauna. Soybean plants and an associated insect pest (beet armyworm larvae) have been used as model systems for experimentally-based exposure studies to Perfluorobutanoic acid (PFBA). Initial observations have indicated distinct physiological impacts on both plant and insect physiology, with stress markers such as enhanced oxidative species detected in both. Nevertheless soybeans appeared to display increased growth performance when exposed to environmentally relevant concentrations, and beetle armyworm larvae show evidence of enhanced molt rate. The mechanisms underlying these physiological responses are among the projects that his lab will be undertaking in the near future.

# MEMBER SPOTLIGHT



## Dr. Heather Govenor

IBERA Diplomate, Certified Senior Ecologist, EIT  
Risk Assessment Group Lead, EnSafe  
Blacksburg, VA



### How did you get involved with CPRC and how long have you been a member?

I somewhat randomly dropped in to the CPRC regional meeting during the SETAC NA 28<sup>th</sup> Annual meeting in Milwaukee in 2007 and decided to get more involved right away. I served as a board member from 2009-2012 and was treasurer and web editor in 2012-13. I went back to grad school in 2013, and life has been a bit crazy since then, so I have currently in more of a member-only role.

### What is your current professional role?

I lead the ecological and human health risk assessment group at EnSafe, Inc. We are an employee-owned engineering, environmental, health & safety consulting firm head-quartered in Memphis, TN with offices nation-wide. EnSafe is a partner along with AECOM in the joint-venture working on the most recent Superfund CLEAN contract – so there is a lot of exciting work to do in environmental site assessment and remediation!

### Tell us a bit about your career path and how you ended up in your current role.

It's been a windy road but a steady one. In high school I excelled at math and science and loved the outdoors – so I planned to pursue environmental engineering in college. Once I started school, I realized the engineering path was missing all the cool biological components, and I ended up majoring in biology instead. I went on to focus on ecology in grad school “round one” as I like to call it, and I was hired as an ecological risk assessor out of my master's program. After 12 years in consulting, I learned about the Department of Biological Systems Engineering at Virginia Tech near my home – BSE was the perfect blend of biology and engineering – and a bridge between the work I was doing as a risk assessor and the work of the engineers I had been collaborating with. I went back to school and earned my PhD while working as a consultant part-time. It was a long road to finally get that engineering degree! I still am focused on risk assessment but also do more and more remedial engineering and am



enjoying having a larger role in that end of the site remediation process.

**Congratulations on being in the first cohort of IBERA Diplomates! Can you tell us more about the certification and why you pursued it?**

Thank you! The International Board of Environmental Risk Assessors was established by SETAC in 2021, and 2022 was the first year that people could apply to sit for the certification exam. As many SETAC-ers (is that a word? – ha!) are likely aware, this certification program has been in the works a long time, and I recall a survey years ago from SETAC asking members “If there were an international certification program in environmental risk assessment, would you pursue certification?” I was a resounding “yes” – and jumped on the opportunity to pursue certification when it became available. I see a lot of value in certification programs in which specialized skill sets can be vetted and have to meet standards set by the technical community – this can provide employers and potential clients with peace of mind that their consultants know what they are talking about!

**Do you have any parting words or advice for those newer to CPRC?**

As with all things, the more you put into something the more you get out of it. CPRC is a great group of diverse professionals always welcoming to students and early career professionals – and to seasoned professionals new to the group! You are never too early in your career or too new to a group to contribute – fresh perspectives are very valuable. Do not wait to dive in and get involved!

# SETAC (AND CPRC) GOES TO PITTSBURGH

## BY BEN BURRUSS AND SCOTT LYNN



After two years of virtual annual meetings following the outbreak of COVID-19 pandemic, the Society of Environmental Toxicology and Chemistry (SETAC) held its first in-person annual North America meeting, and it lived up to the anticipation. The 43rd Annual Meeting was held in Pittsburgh (City of Bridges), Pennsylvania at the David Lawrence Convention Center, which sits at the confluence of the Allegheny River and Monongahela River forming the Ohio River (see picture below). The meeting's fitting theme was "Bridging Innovation and Sustainability". Several members from CPRC (Kathleen Stanton, Chris Salice, Paula Henry, Jennifer Flippin, Ben Burruss) served on the Program Committee for the meeting including a co-Chair (Scott Lynn).



Aerial View of Downtown Pittsburgh (By Popscreenshot - Own work, CC BY-SA 4.0, <https://commons.wikimedia.org/w/index.php?curid=124164026>)

For some, it was our first time in Pittsburgh (also referred to as the City of Bridges) and to others, it was an opportunity to visit childhood stomping grounds. The north view from the convention overlooking the Allegheny river was marvelous. The cold weather throughout the meeting was

characteristic of a winter in Pittsburgh and even included light snow flurries! Inside the comfortable, air-conditioned convention center, it was fun being together with fellow CPRCians and other friends and colleagues who were all very grateful to be finally back at a SETAC meeting in person.

The meeting had nearly 2,000 participants, 50 exhibitors, 1,400 presentations, 3 plenaries and more. Uniquely, this SETAC meeting was the first one with a hybrid format in which in-person and virtual attendance were allowed! As part of the hybrid meeting format, nearly all platform presentations were recorded so that attendees (virtual and in-person) would be able watch them after the meeting if they were missed for any reasons. In addition, this meeting included a new daily schedule in which platform sessions started in the mid-morning instead of at 8 am, which I believe was a welcomed change for the platform presenters.

Following the opening ceremony, the meeting kicked-off in a memorable fashion in the spacious exhibitor's hall (pictured below). The reception on Sunday evening featured delicious heavy appetizers and an energizing and upbeat band called the Gypsy Stringz (<https://www.facebook.com/gypsysstringz/>). This opening reception certainly set the stage for a tremendously fun meeting to match the stellar technical program.



Picture by Nathalie Lombard

A broad range of topics were covered in the technical sessions including nanoparticles, impacts on Climate Change on Ecological Risk Assessment, sunscreens, alternatives approaches to animal testing, microbiome as a tool for predictive ecotoxicology, environmental risk assessment of metals and much more! The meeting also included great plenary speakers which focused on leaders in the Pittsburgh area focused on sustainability (Joylete Portlock, Sustainable Pittsburgh) and initiatives for improvement of air quality and elimination of climate pollution (Matt Mehalik). In addition,

Todd Bridges from the US Army Corp of Engineers gave a thought-provoking plenary on the Engineering with Nature® program feeding into the theme of the meeting.

CPRC was well represented at the meeting with many members from the region in attendance as well as several posters and presentations from student and non-student members throughout the meeting, CPRC also had its own poster in the corner of the exhibit (see picture below).



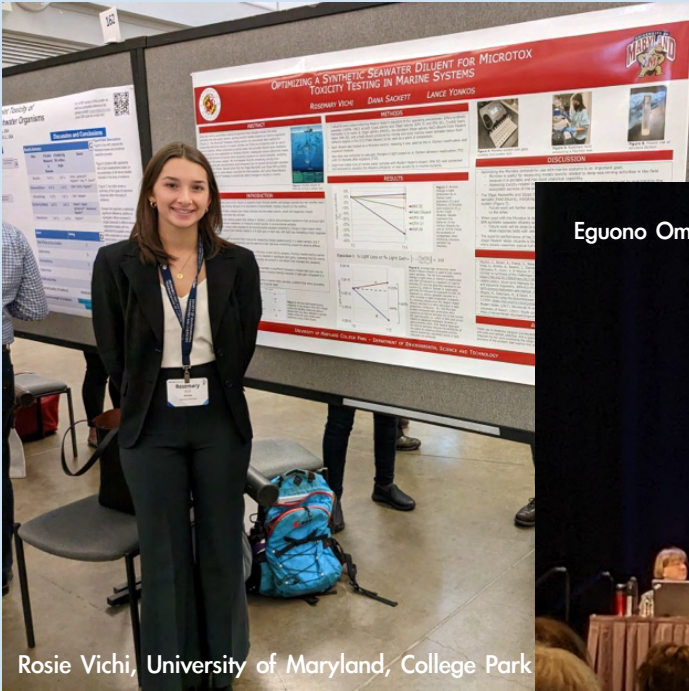
Picture by Nathalie Lombard

In addition, CPRC organized an informal get-together at a local brewery to enjoy each other's company and discuss the SETAC meeting!



Picture by Nathalie Lombard

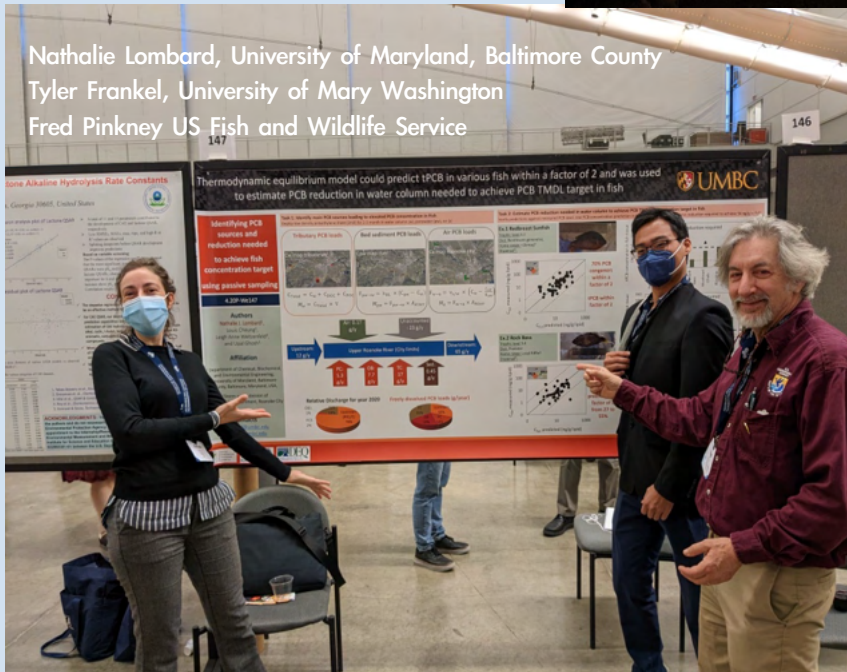
# CPRC members Sharing their research



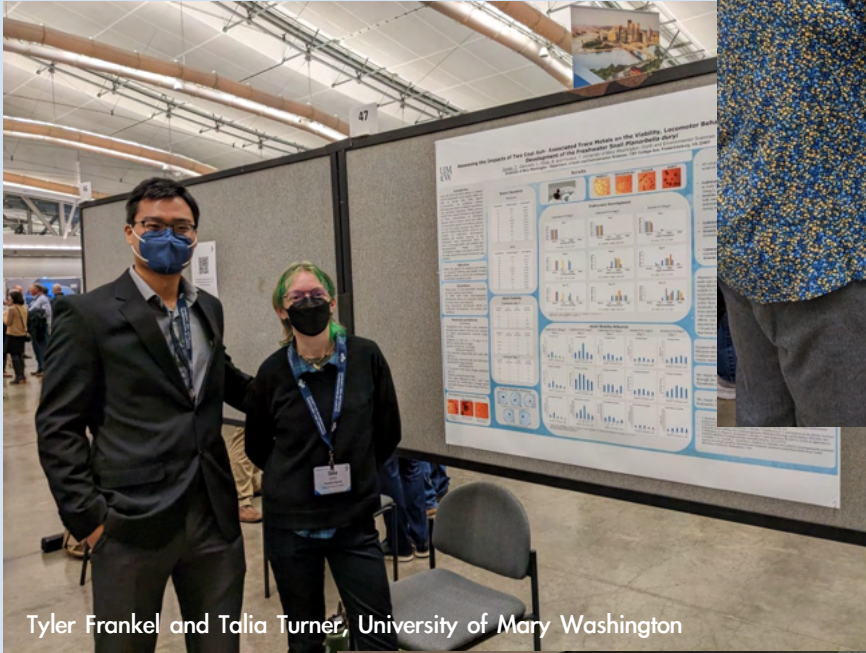
Rosie Vichi, University of Maryland, College Park



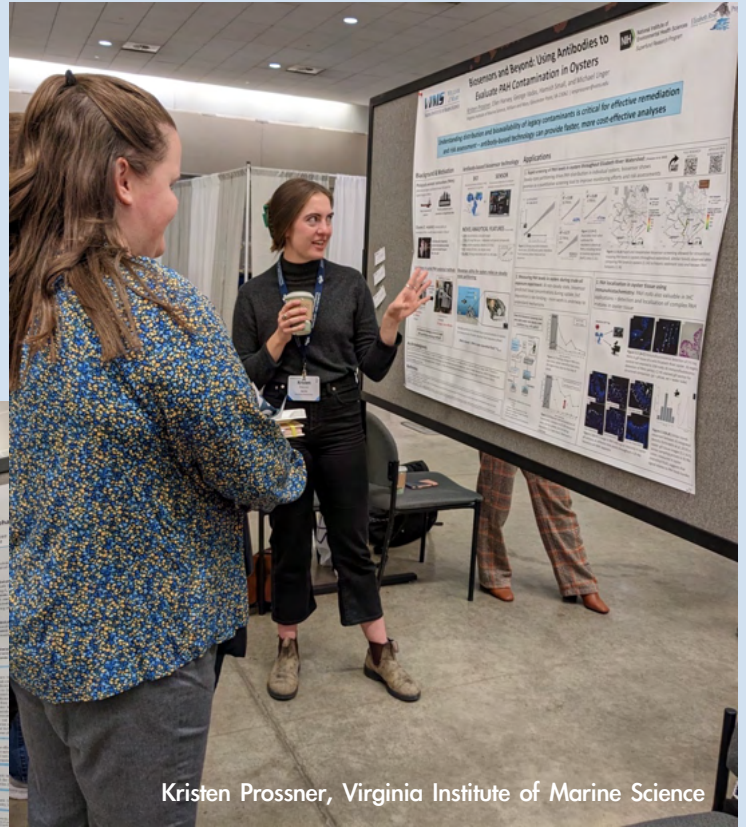
Eguono Omagamre, University of Maryland Eastern Shore



Nathalie Lombard, University of Maryland, Baltimore County  
Tyler Frankel, University of Mary Washington  
Fred Pinkney US Fish and Wildlife Service



Tyler Frankel and Talia Turner, University of Mary Washington



Kristen Prossner, Virginia Institute of Marine Science



Jada Damond University of Maryland, Baltimore County

# UPCOMING EVENTS



THE CHESAPEAKE AND POTOMAC REGIONAL  
CHAPTER OF THE SOCIETY OF ENVIRONMENTAL  
TOXICOLOGY AND CHEMISTRY



APRIL 16-18, 2023

## SAVE THE DATE

EASTON, MD

# RECENT CPRC EVENTS

## CPRC Does the Science Café

By Stuart Cohen

CPRC, in conjunction with the Rockville Science Center, Rockville, MD, presented its first Science Café on January 17th, 2023.

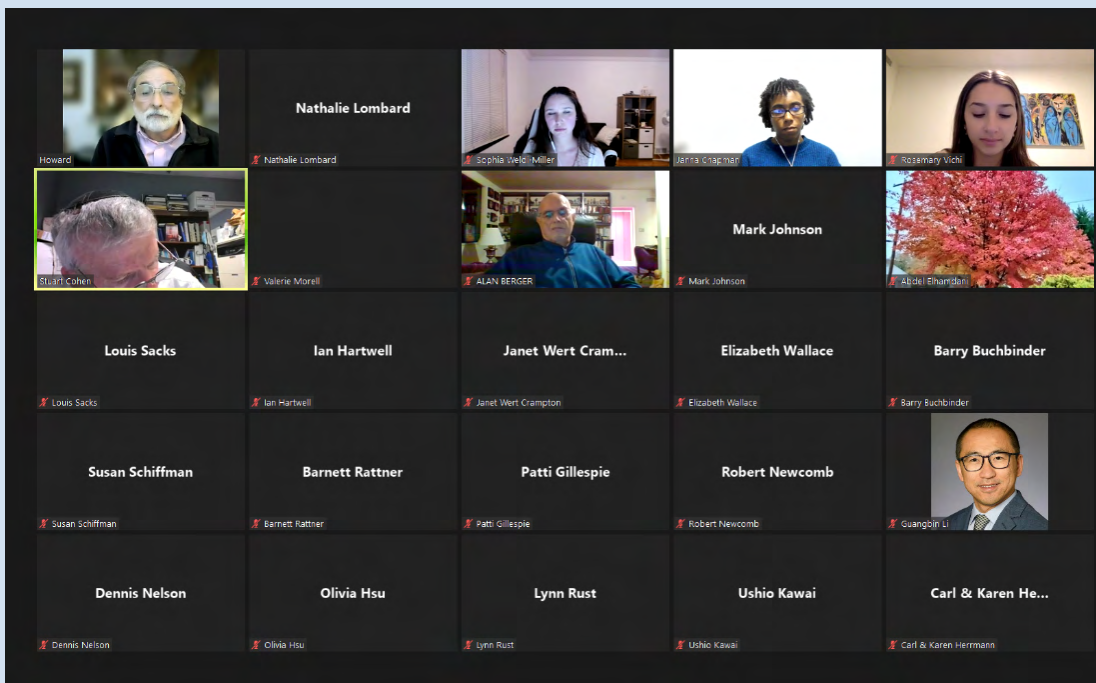
This effort began with Stuart Cohen's (Environmental & Turf Services, Wheaton MD) proposal to CPRC back in 2020. Initially, the science café was intended to be an in-person event, but this was delayed due to the pandemic. Rockville Science Center's "Science Tuesday" program served as a perfect platform to test the science café idea as a virtual event.



CPRC student members were invited to present their work to science enthusiasts. Rockville Science Center's Howard Lichtman hosted the event and Stuart Cohen himself provided moderation alongside Mark Johnson, Senior Scientist at the US Army Public Health Center, Aberdeen Proving Ground.

Undergraduate students Janna Chapman and Rosemary Vichi of University of Maryland College Park presented their work titled "How Toxic is the Ocean? Characterizing the Impact of Deep-sea Mining

on Ocean Toxicity in the Clarion Clipperton Zone." Their co-authors were Dana Sackett and Lance Yonkos. Then, Sophia Weldi-Miller of University of Mary Washington discussed "Comparing the Impacts of Common Deicing Agents NaCl and MgCl<sub>2</sub> on the Viability, Embryonic





Development, and Behavior of the Freshwater Gastropod *Physa acuta*.” Her co-authors were C. Crowell, L. Giancarlo, and T. Frankel.

There were over 30 Zoom participants, resulting in approximately 40 attendees. The students did an excellent job at presenting their work in an accessible way to a large and diverse audience.

Presentations were followed by a lively Q&A, with a broad range of questions, and great feedback from the attendees. Students also mentioned having a lot of fun sharing their work with everyone.

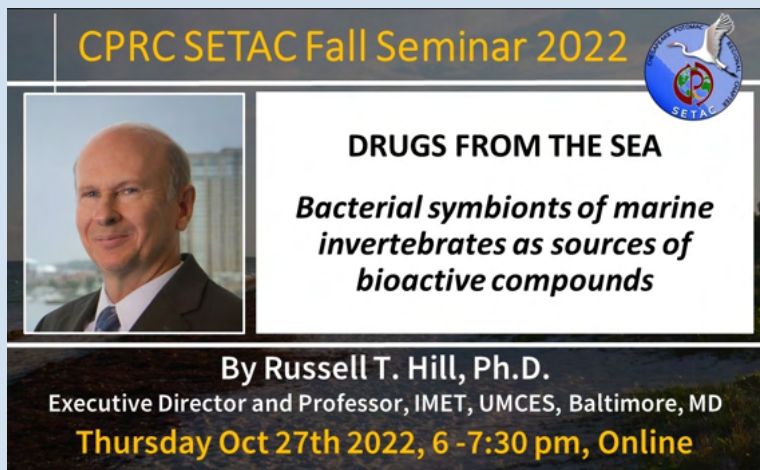
Stuart expressed an interest in holding a future science café and appreciates any recommendations for topics of interest. He wants more students to step forward and share their work at future science cafés not only so the participants can learn from the presenters, but also for newer researchers presenting to gain the valuable experience of sharing their work.

Please feel free to contact Stuart at: [ets@ets-md.com](mailto:ets@ets-md.com).

# RECENT CPRC EVENTS

## CPRC SETAC Fall Seminar & Dinner

By Nathalie Lombard

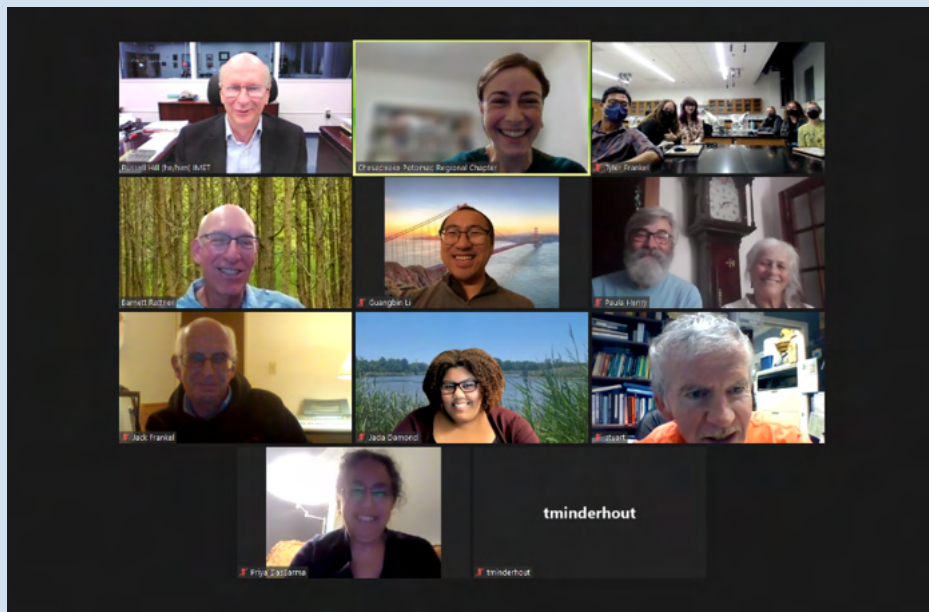


On October 27<sup>th</sup> 2022, we had the great pleasure to welcome Dr. Russell Hill, the Executive Director of the Institute of Marine and Environmental Technology (IMET) for our Annual Fall Dinner/Seminar.

This year, we were hoping to go back to the pre-pandemic format and host the seminar in a restaurant, as this favors informal networking with food and drinks after the lecture. Even though the venue was booked in

2019, and yearly contact with the restaurant was maintained, transitioning back to in-person events has its share of unexpected problems. Thanks to the adaptability of our guest lecturer, we were able to set up the seminar online with minor delays.

Dr. Hill delivered a fascinating talk on drug discovery through the study of bacterial symbiosis with marine invertebrates. Some of these marine symbioses produce bioactive compounds that could be used as pharmaceuticals. However, elucidation of the actual producer of the bioactive compound is not that straightforward as illustrated with the example of the anticancer kahalalide F. Identifying the producer is a critical step in the drug development process to overcome the “supply problem.” In the case of the kahalalide F, Hill et al. found a tripartite system involving a newly discovered bacteria named “*Candidatus Endobryopsis kahalalidefaciens*”, an alga *Bryopsis sp.*, and a sea slug *Elysia rufescens*. Although elevated concentrations of the bioactive compound were found in the sea slug, the actual producer is within the alga on which the sea slug grazes. The bacteria, obligate symbiont of the alga, host the



genetic information for the production of the compound and its production requires the alga molecular machinery [1].

The seminar was well attended with 15-20 participants in the video call. The lecture lasted 45 min followed by 15 minutes of Q&A questions and an additional 30 minutes of informal discussion.

## Reference

[1] Zan, J.; Li, Z.; Tianero, M. D.; Davis, J.; Hill, R. T.; Donia, M. S. A Microbial Factory for Defensive Kahalalides in a Tripartite Marine Symbiosis. *Science (80-. )*. **2019**, *364* (6445), eaaw6732. <https://doi.org/10.1126/science.aaw6732>.

# CHESAPEAKE BAY UPDATE

## Wildlife refuge in Maryland pushing back against development pressure

Timothy B. Wheeler

*Republished from the Bay Journal with permission.*

Look down from 30,000 feet up in the sky, and a patch of green stands out amid the web of concrete and asphalt covering the landscape between Baltimore and Washington, DC.

At the core of that verdant oasis is the Patuxent Research Refuge, 13,000 acres of forest, meadow and wetlands that a former U.S. senator once described as the “lungs” of the region. Established in 1936, it’s the only national wildlife refuge dedicated to research.

Those green lungs are at risk these days, though, because the forested lands on the periphery of the refuge are attracting development interest.

Last year, it was a largely wooded 105-acre tract on the refuge’s southern border, which the National Aeronautics and Space Administration wanted to put up for sale. That got tabled amid pushback from refuge advocates.

Now, Prince George’s County is weighing plans to develop 97 mostly forested acres of public land along the refuge’s southeastern border. The county last summer called for proposals to build a “mixed-use transit village” next to the MARC commuter rail station at Bowie State University.



Sandy Spencer, a biologist with the U.S. Fish & Wildlife Service at the Patuxent Research Refuge in Maryland, looks at a lake on county-owned land adjacent to the refuge. The county is weighing plans to build a “mixed-use transit village” on the site. (USFWS Patuxent Research Refuge)

“The site is central to Prince George’s County’s broader economic development goals, the growth of Bowie State University and the needs of the surrounding community,” said a county-sponsored report by the Urban Land Institute. The 2020 report envisioned graduate student housing, shops and eateries, plus possibly some offices, a brewery and data center.

Refuge manager Jennifer Greiner hopes it's not too late to get the county to reconsider. That land has served the refuge for decades as a buffer from the noise, light and pollution of nearby traffic and development, she said.

Greiner wrote the county's economic development chief in December suggesting that the U.S. Fish & Wildlife Service would like a chance to buy that tract, along with another 100-plus mostly wooded acres of adjoining county-owned land, to add to the refuge.

"There are a lot of reasons not to build in there," Greiner said in an interview. "Even if it weren't next to the wildlife refuge, it still seems ill-advised to develop there."



Jennifer Greiner, manager of the U.S. Fish & Wildlife Service's Patuxent Research Refuge in Maryland, kneels in a mature forest adjacent to the refuge on land owned by Prince George's County. The site, which may be developed, includes hardwood trees estimated to be 50-75 years old. (USFWS Patuxent Research Refuge)

Much of the 219 acres of public land between the refuge and Bowie State is high-quality forest, she said. Satellite images show more than 11,000 trees there that a NASA scientist estimated sequester 3,500 tons of carbon, she said.

Those woodlands also have effectively shielded sensitive forest habitat on the refuge used by birds and bats, Greiner added, including endangered northern long-eared bats.

would increase sediment runoff to streams that feed into the Patuxent River, a Chesapeake Bay tributary that flows through the refuge. Development in the DC suburbs is already taking an environmental toll. Prince George's, which is Maryland's second most populous county, lost more forest than any other county in the state from 2013 to 2018, according to a recent study by the Harry R. Hughes Center for Agro-Ecology of the University of Maryland.

Preserving the forest would help air quality, she said, while clearing trees and disturbing wetlands on the site

[The refuge] "is beset by threats on every boundary now," said Richard Dolesh, board chair of the Friends of Patuxent. "Times have changed. What was kind of a sleepy rural undeveloped part of the Baltimore-Washington corridor is now facing intense development pressures."

Indeed, in addition to threatened encroachment along its borders, the refuge itself faces potential incursion. A group of investors has proposed building a superconducting magnetic levitation rail line from DC to Baltimore, and one of the two routes being considered would run through the refuge.

During the decades since its establishment, scientists at Patuxent have worked on the captive breeding of endangered whooping cranes and traced the toxic DDT pesticide through the wildlife food chain, among other projects.

Since 1996, research there has been conducted by the U.S. Geological Survey. But the refuge, managed by the U.S. Fish & Wildlife Service, remains vital deep-forest habitat for migratory songbirds such as the scarlet tanager and the wood thrush. The late ornithologist Chandler Robbins, who spent 60 years working there, used it and nearby lands to document the harmful impacts of forest fragmentation on bird populations.

Angie Rodgers, the county's deputy chief administrative officer for economic development, referred queries about the project to others on staff. Jose Sousa, an assistant, replied by email that the county and Bowie State have been talking about developing the site for more than a decade. The county issued a public request for expression of interest from potential developers in 2021, he noted, and followed that up with a request for specific proposals in June 2022.

But Greiner said she only learned about the proposed development last summer from someone who had seen the county's call for proposals. The wildlife service has long been interested in acquiring that land, she said. The agency attempted to buy it years ago when it was owned by a different public entity.



Signage guides hikers along a wooded section of Cash Lake Trail at the Patuxent Research Refuge in Laurel, MD. [Dave Harp](#)

“As a neighbor, an immediate neighbor, and as a prospective buyer, we should have been engaged in the process,” she said. She had planned to voice her concerns at a county public hearing on the development in September, but it was canceled and has not been rescheduled.

Thomas Dernoga, chair of the Prince George's County Council, said through a spokesperson that he knows the county and Bowie State are interested in developing around the MARC station but had not



Autumn colors grace a peaceful scene along Lake Redington at the Patuxent Research Refuge. [Dave Harp](#)

heard concerns about the project before. While unwilling to state a firm opinion without knowing more, he said that generally, “I am very supportive of expanding the Patuxent Wildlife Research Refuge.”

Janet Gingold, chair of the Prince George’s group of the [Maryland Sierra Club](#), called it a “complex situation,” noting that her group generally supports transit-oriented development.

“We hope that a plan can be developed that limits the development to the area closest to, and within walking distance, of the MARC station and preserves most of the forest land as part of the Patuxent Research Refuge,” she said in an email.

Part of the county-owned land had been a sand and gravel mine, she noted, and is still recovering from that disturbance.

“I hope that appropriate biological and soil experts will be able to assess the property to determine its current status,” she concluded, “and that all efforts will be made to conserve the mature forests. The Patuxent Research Refuge is a treasure that must be safeguarded.”

The [Patuxent River Commission](#), a multijurisdictional advisory body created by the legislature to look out for the river’s welfare, wrote the county in December urging it to consider the wildlife service’s offer to buy or protect via easement all or part of the 219-acre tract.

Dolesh of the Friends of Patuxent said he fears that the MARC station development project is “hardwired” at this point and it’s too late to head it off. He suggested there still could be a “win-win” outcome if the county would set aside the other 100-plus acres of county-owned land to buffer the refuge.

But refuge manager Greiner said that the acreage closer to the MARC station has the most mature forest.

“All of it is ecologically valuable land,” she said, “or we wouldn’t have had it [in mind] for so many years.” But she added, “A lot of the big trees are on what I call the front half, the half closer to Bowie State. That’s kind of the pickle of it.”

Greiner said that the county's plan to develop this forested land appears out of step with its new "climate action plan."

Adopted by the county council in July, the plan sets a goal of reducing greenhouse gas emissions in Prince George's 50% below 2005 levels by 2030, with a further goal of carbon neutrality by 2050. Among its more than two dozen recommendations, the plan calls for maintaining countywide forest and tree cover at 52% through 2030 and expanding it to 55% by 2050.

"This is a very important test of how we take climate change mitigation and adaptation into account as we make land-use decisions, not just developer profits," the Sierra Club's Gingold said.

Greiner said she's not insensitive to the needs of Bowie State, Maryland's oldest historically Black university. She hopes the refuge and the university could collaborate on using the forest as a "giant outdoor learning laboratory" for students while limiting development to the 3 acres or so of land the school owns adjacent to the MARC station.

The refuge manager said that she's received no response to her letter seeking time to put in an offer to buy the tract. She did get a meeting in September with three county economic development staffers and told them then the federal wildlife service would need about six months to evaluate and assess the property, then another six months or so to get funding approved for a purchase.

"I'm hopeful that maybe they'll press the pause button," Greiner said.



# CAREER CORNER

## JOB POSTINGS

### ***Toxicology opportunities at the Defense Health Agency***

The Defense Health Agency's Defense Centers for Public Health - Aberdeen is a matrixed organization founded and dedicated to ensure the health of people, communities, animals and the environment located at Aberdeen Proving Ground, Maryland. Our mission is to enhance Army readiness by identifying and assessing current and emerging health threats, developing and communicating public health solutions, and assuring the quality and effectiveness of the Department of Defense's Public Health Enterprise. The Toxicology Directorate, in collaboration with a host of DoD, government, private, and international entities, provides data about the toxicity of military-unique and military-relevant compounds and the risks they pose to Soldiers, civilians and the environment. The Toxicology Directorate is looking for candidates to join their workforce in two positions to include Biologist/Toxicologist (GS-11-13) and Veterinary Histopathologist (GS-13-14). Those interested in any of those career tracks are welcomed to contact Dr. Michael Quinn at michael.j.quinn104.civ@health.mil or call at 410-404-7705.

### ***Opportunities for young professionals (courtesy of Raquel Wetzell & Fred Pinkney)***

Name	Eligibility	Weblink
Hispanic Association of Colleges and Universities National Internship Program	Must be enrolled in a degree-seeking program	<a href="https://www.hacu.net/hacu/Apply.asp">https://www.hacu.net/hacu/Apply.asp</a>
Smithsonian Environmental Research Center Internships	See weblink for details	<a href="https://serc.si.edu/get-involved/internships-and-fellowships">https://serc.si.edu/get-involved/internships-and-fellowships</a>
VA DWR Internships	N/A	<a href="https://dwr.virginia.gov/internships/">https://dwr.virginia.gov/internships/</a>
National Science Foundation International Research Experiences	Specifically for currently enrolled undergraduates	<a href="https://www.nsfetap.org/search?program=IRES">https://www.nsfetap.org/search?program=IRES</a>
National Science Foundation Research Experiences for Undergraduates (REU)	Specifically for currently enrolled undergraduates	<a href="https://www.nsfetap.org/search?program=REU">https://www.nsfetap.org/search?program=REU</a>
National Science Foundation Research and Mentoring for Postbaccalaureates in Biological Sciences (raMP)	Graduated/graduating from Bachelor's program	<a href="https://www.nsfetap.org/search?program=RaMP">https://www.nsfetap.org/search?program=RaMP</a>
Memphis Zoo Amphibian Research	Enrolled students and post-grads	<a href="https://memphiszoo.applicantpro.com/jobs/2752685.html">https://memphiszoo.applicantpro.com/jobs/2752685.html</a>

Chesapeake Research Consortium Student Research and Mentorship Internships	enrolled students (undergrad/grad school)	<a href="https://chesapeake.org/c-stream/">https://chesapeake.org/c-stream/</a>
Student Conservation Association Internships	Enrolled students and post-grads	<a href="https://www.thesca.org/serve/positions/">https://www.thesca.org/serve/positions/</a>
Pathways to the Federal Government	Enrolled students and post-grads	<a href="https://usajobs.gov/Search/?d=IN&amp;show=hp&amp;hp=student&amp;p=1">usajobs.gov/Search/?d=IN&amp;show=hp&amp;hp=student&amp;p=1</a>
Oak Ridge Institute for Science and Education STEM Internships and Fellowships	Enrolled students and post-grads	<a href="https://orise.orau.gov/internships-fellowships/index.html">https://orise.orau.gov/internships-fellowships/index.html</a>
Misc Federal Government internships and fellowships	Enrolled students and post-grads	<a href="https://www.zintellect.com/Catalog">https://www.zintellect.com/Catalog</a>
American Conservation Experience at Potomac National Wildlife Refuge	Enrolled students	<a href="https://usaconservation.applicantpool.com/jobs/919086.html">https://usaconservation.applicantpool.com/jobs/919086.html</a>
EPA Pathways	enrolled students	<a href="https://www.usajobs.gov/job/705008000">https://www.usajobs.gov/job/705008000</a>
NOAA Internships	Enrolled students	<a href="https://chesapeake.org/ncbo/">https://chesapeake.org/ncbo/</a>
Texas A&M Natural Resources Job Board	NA	<a href="https://wfscjobs.tamu.edu/job-board/">https://wfscjobs.tamu.edu/job-board/</a>

## PROFESSIONAL DEVELOPMENT

**Strategic Environmental Research and Development Program/Environmental Security Technology Certification Program (SERDP/ESTCP):** <https://www.serdp-estcp.org/events>

**American College of Toxicology:** <https://www.actox.org/education/toxchats-podcasts.asp>

*Available Podcasts:*

- Artificial Intelligence (AI) Use in Toxicology
- Moving from Minion to Manager
- Toxicology Salary Survey
- Shining a Light on the Science and Strategy of Phototoxicity Assessments
- In Vitro and Alternative Models for Regulatory Submission
- Biomarkers
- Microbiome

**U.S. Environmental Protection Agency; Exposure Assessment Tutorials:**

<https://www.epa.gov/expobox/exposure-assessment-tutorials>

*Risk Assessment Training and Experience (RATE) Modules:*

The Risk Assessment Training and Experience (RATE) Program modules were developed to cover scientific subject matter and methodologies considered to be essential knowledge and skills for EPA's Integrated Risk Information System (IRIS) Chemical Managers and risk assessors within and outside of the Agency.

Topics:

General Concepts of Exposure Assessment  
Approaches for Quantifying Exposure  
Developing Exposure Scenarios and Calculating Dose  
Fate and Transport  
Monitoring and Modeling Strategies  
Obtaining and Using Exposure Factor Data  
Assessing Uncertainty and Variability in the Context of Exposure Assessment  
Interpreting Biomonitoring Data and Using Pharmacokinetic Models in Exposure Assessment

## Events:

### 04/20/2023

Demonstration and Implementation of PFAS-Free Firefighting Foams  
Jerry Back, Jensen Hughes, Inc.  
Tom Ruffini, Naval Sea Systems Command

### 05/04/2023

Risks, Resilience and Readiness of Military Lands Facing Coastal Flooding  
This SERDP and ESTCP webinar focuses on DoD-funded research efforts to improve natural resource management by refining our understanding of how disturbance and climate variability impact DoD lands. Specifically, investigators will cover modeling assessments to address flooding and rising water levels on DoD lands.  
Jack Puleo, Ph.D., University of Delaware  
Daniel Gambill, Ph.D., Engineering Research and Development Center-Construction Engineering Research Laboratory (ERDC-CERL)

## CHECK OUT THE CAREER HUB TAB ON OUR NEW WEBSITE FOR MORE!

The Career Hub page on our new website was established for CPRC members to share job listings in environmental-related fields. Forums are created for government, non-profit/NGOs, academia, and industry. If you know of any opportunities, we encourage you to post them in the Career Hub! Click the link

**here**

**to check it out!**

# SOT 2023 NASHVILLE RECAP



By Krisa Camargo  
(DCPH-A)



Society of Toxicology (SOT) held their annual meeting in Nashville this year and had 70+ Featured and Scientific Sessions! It was exciting to participate and

explore all the available toxicological research, catchup with colleagues, and learn new content.

For those not familiar with SOT, it is a professional and scholarly society for US and international scientists practicing toxicology. There are also many ways to become involved and SOT is committed to diversity, equity, and inclusiveness. I became involved in SOT when I was a graduate student at Texas A&M University and quickly explored available volunteer opportunities. One of which was the Undergraduate Diversity Program (UDP), which offers a Student Travel Award that is awarded annually. The purpose of the award is to recruit students from diverse backgrounds into biomedical graduate programs and at SOT we highly encourage they consider a career in toxicology.

When I first started with the UDP I was a peer mentor, where I would share my graduate student experiences, encourage exploration of a biomedical and toxicological career, and answer any questions the students may have about the

graduate school. Now as a Biologist with the Defense Centers for Public Health – Aberdeen, I was afforded the opportunity to serve as a panelist on the “UDP Career Roundtables – Opportunities in Toxicology.” I represented a government toxicologist career path, while my colleagues represented academia and industry. After we gave a brief overview of who we were and what we do, the students were then able to ask questions that ranged anywhere from what our daily activities looked like to challenges we face to how regulatory toxicology factors into our roles. I found it extremely rewarding to share how unique a government, and in particular a Department of Defense, toxicologist position is.

While SETAC emphasizes environmental toxicology, so does SOT and there are so many ways it can be presented! As I am interested in evidence-based methods, one example that comes to mind is the feature of the USEPA’s ECOTOX database during the morning Continuing Education Course and in a few of the poster sessions. However, other research highlighted environmental exposures, fate and transport, and of course chemical specific toxicological endpoints.

To help bring awareness to the opportunities SOT offers and bridge the gap between SETAC and SOT, I will be writing a follow-up article

about ways to explore SOT in the Fall CPRC Newsletter. For now, I hope I've piqued your interest and stay tuned!

Thank you for reading and I look forward to sharing more about SOT!

# INCLUSIVE DIVERSITY

## Acknowledge the Land

By Nathalie Lombard

As we are getting closer to the 2023 Annual Spring Meeting, we may want to take a moment to acknowledge the land where we are presenting and congregating. SETAC NA Inclusive Diversity Committee shared a useful tool called Native Land Digital, (<https://native-land.ca/>) which can be used to discover former and current indigenous territories, languages, and treaties through an online, interactive globe.



The authors created this map as a pedagogic tool using a multitude of sources to shape the indigenous landscape including online maps, discussions, mail, books, or other sources. The maps are continuously updated as part of an ongoing conversation between researchers and indigenous communities.

This year, the CPRC SETAC Annual Meeting will take place in Easton, Maryland. As of March 30, 2023, Native Land Digital noted three indigenous territories overlapping the region of Easton: The Choptank, Susquehannock, and Ozinie lands, with the Nanticoke language spoken in that area.

These names are familiar to me, but until recently I was not fully aware of their meaning. The watershed and rivers that I work on, and spend my time by recreationally, reflect the names of these groups and others: Choptank, Assateague, Patuxent and Susquehanna, to name a couple, but only recently did I take the time to learn more about the tribes who used to live there.

As I embarked in this learning journey, I stumbled upon a Native American webpage hosted by Maryland.gov that provides several interesting resources and links such as Mayis, a database of indigenous records in the Chesapeake Bay region; Maryland American Indian Sites and Experiences which could be a more immersive way to learn about culture and tradition of the indigenous tribes; and description of People, Tribes and Bands living in Maryland.

Both the Choptank and Ozinie Tribes, located within the Delmarva Peninsula, were among the Algonquin peoples, with Choptank being one of the four most prominent Algonquin subtribes in Maryland. Due to tribal wars and

colonial incursions, a large portion of the Maryland Algonquin had emigrated by the end of the 17th century [1]. Susquehannock (or Conestoga) tribes on the other hand were part of the Iroquois people that lived along the Susquehanna from New York to Maryland [2]. Their population was estimated between 5,000 to 7,000 in 1600, with the largest town exhibiting a population of 3,000 [2]. The population rapidly declined in 1700s and in 1763, European colonists massacred members of the tribe and declared them extinct [2]. For another perspective on this, I found a website from Conestoga Susquehannock descendants that recounts the history of their tribe prior to European contact through the modern day (<https://www.conestogasusquehannocktribe.com/our-history>).

In 2010, nearly 60,000 people living in Maryland identified themselves as either Native American or part Native American [4]. In Maryland, the Tribes of Piscataway, followed by the Accohannock were recognized by the state of Maryland in 2012 and 2017, respectively [1]. In 2016, 63 tribes were state-recognized tribes in 11 states, including Maryland [5]. As of January 2021, 574 American Indian and Alaska Native tribes are federally recognized in 48 states [6]. I am just beginning to learn about the history of native peoples in my adopted home of Maryland and I hope to continue learning through the sites and resources that have been researched and preserved by those who dedicate their time to educate others.

### **References:**

[1] <https://msa.maryland.gov/msa/mdmanual/01glance/native/html/01native.html>

[2] <https://www.susquehannaheritage.org/discover-river-history/susquehannock-native-landscape/>

[3] <https://www.conestogasusquehannocktribe.com/our-history>

[4] The American Indian and Alaska Native Population: 2010, <https://www.census.gov/history/pdf/c2010br-10.pdf>

[5] <https://www.ncsl.org/quad-caucus/state-recognition-of-american-indian-tribes#:~:text=There%20are%2063%20state%2Drecognized,formal%20process%20for%20recognizing%20tribes.>

[6] <https://www.usa.gov/tribes#:~:text=for%20Native%20Americans-,Federally%20Recognized%20Indian%20Tribes,contracts%2C%20grants%2C%20or%20compacts.>

### **More resources:**

Graphic novel and teaching material related to the “Paxton massacre” in 1763 in Conestoga Town can be found in the [Ghost River project](#).

# WINTER ACTIVITIES



Fred Pinkney and Raquel Wetzell giving a seminar at UMW



Tyler Frankel's students doing sediment sampling along Accokeek creek





# CPRC SETAC MEMBERSHIP



**SETAC:** The Society of Environmental Toxicology and Chemistry is an independent, nonprofit professional society that provides a forum for individuals and institutions engaged in the study of environmental issues, management and conservation of natural resources, environmental education, and environmental research and development.

**CPRC:** The Chesapeake and Potomac Regional Chapter of SETAC is a nonprofit organization started in the year 1983. CPRC's mission is to promote the exchange of information among environmental scientists in the Mid-Atlantic States.

**Note: you do not have to be a SETAC member to be a member of CPRC.**

There are three ways to join/renew:

- 1) Preferred Method: SETAC North America (SNA) ([LINK](#)). SNA will send us your contact information so we can add you to our chapter mailing list. You do not have to be an SNA member to use this option.
- 2) PayPal CPRC ([LINK](#)): Credit cards accepted, no PayPal account needed. Enter appropriate fee amount (\$5 student, \$15 professional). Please note that it is easier for us to track your membership when you join via the SNA site (option 1 above).
- 3) Snail Mail: Check and money orders accepted. Please include your name, affiliation and address with your payment.

SETAC-CPRC P.O. Box 2728

Brooklyn, MD 21225

Attn: Nathan Sell, Treasurer

Membership renewals occur every December. If you have any difficulty with your membership application or payment, please contact Nathan Sell ([treasurer.cprc.setac@gmail.com](mailto:treasurer.cprc.setac@gmail.com)).



*Want to get more involved?  
The CPRC is looking for volunteers to  
help with:*

- *Communication Committee*
- *Diversity/Inclusivity Committee*
- *Event Planning Committee*

Student members are *especially* encouraged to participate.  
Educators and mentors - the CPRC can be a great resource for a  
student's professional development!

If you are interested in sharing your time and  
talent, please contact Guangbin Li.  
([president.cprc.setac@gmail.com](mailto:president.cprc.setac@gmail.com))



# CPRC SETAC SPONSORSHIP OPPORTUNITIES

## SPONSORSHIP BENEFITS BY TIER

Benefit	Primary Producer (\$250-499/year)*	Secondary Producer (\$500-999/year)*	Keystone Sponsor (\$1000+/year)*
Complimentary Spring Meeting Registration(s)**		1	2
Table and poster display space at a CPRC Annual meeting (if requested)			✓
Logo appears in CPRC newsletter and meeting documents. Logo and link posted on CPRC website***	2 years	3 years	5 years
Advertising in newsletter	Half Page	Full Page	Full Page
Advertising in Spring Meeting Program		Half Page	Full Page

\*Sponsorship Tier is determined by the total amount given on an annual basis.

\*\*Complimentary Spring Meeting Registrations are granted on an annual basis according to the sponsorship tier with the recommendation that they are to be used within a year

\*\*\*Length of time during which the logo appears in the newsletter, meeting documents, and website is a benefit only and does NOT represent a commitment to provide sponsorship money on an annual basis.

## EXAMPLE OF CPRC SETAC SPONSORSHIP USE

### STUDENT AWARDS and TRAVEL SUPPORT

- Annual Spring Meeting Student Awards
- Student Travel Award to SETAC NA
- Annual Spring Meeting Travel Support

### CPRC EVENTS

- Poster Social / Coffee Break at the Annual Spring Meeting
- Student-Mentor Luncheon during the Annual Spring Meeting
- Annual Autumn / Winter Dinner Event with Guest Speaker

Please visit our webpage: <https://cprcsetac.wildapricot.org/Sponsorship>  
 Fill the sponsorship [online form](#)

# CPRC SETAC SPONSORS: **Keystone**



agroscience services

# CPRC SETAC SPONSORS: **Keystone**



Integral Consulting Inc. is a national science and engineering firm providing multidisciplinary services in the fields of health, environment, technology, and sustainability.



We are currently seeking highly motivated individuals for the following positions to support our growing environmental practice on the East Coast:

- Senior-level Toxicologist
- Junior- and Mid-level Toxicologists/Human Health Risk Assessors
- Senior-level Ecological Risk Assessor
- Junior- and Mid-level Ecological Risk Assessors
- Mid-, Senior-, and Principal-level Engineers
- Mid- and Senior-level Geologists
- Mid-, Senior-, and Principal-level Hydrogeologists



### Why work for Integral?

#### Technically Stimulating

Every day, our staff is involved in a diverse range of projects for a variety of clients—applying skills and making recommendations that lead to positive change.

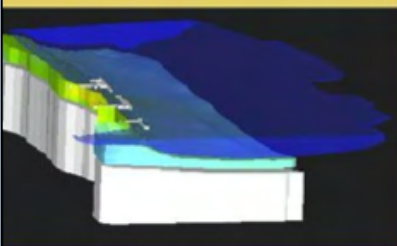
#### Unique Collaboration

The Integral name reflects our very purpose: To gather teams of professionals with distinctly different yet complementary skills, and to apply their integrated knowledge and perspective in ways that surpass our clients' expectations.

#### Supportive Environment

Outstanding benefits include company-subsidized medical, dental, and vision plans, company-paid life and short- and long-term disability insurance, a 401(k) plan and company match, flexible spending accounts (cafeteria plan), health club reimbursement of \$20 per month, and vacation/sick leave.

For more information, please visit our web site at [www.integral-corp.com/careers](http://www.integral-corp.com/careers)



Health ■ Environment ■ Technology ■ Sustainability

[www.integral-corp.com](http://www.integral-corp.com)



# CPRC SETAC SPONSORS: **Keystone**



*Reference Standards for PFAS, PCBs,  
PCDDs, PCDFs, BFRs and more*

*Certified to ISO 9001:2015, ISO/IEC  
17025:2017 and ISO 17034:2016*

[www.well-labs.com](http://www.well-labs.com)



# CPRC SETAC SPONSORS: **Keystone**

The image features a large, bold, red logo for FMC. The letters are thick and blocky, with a slight shadow effect. The 'F' is on the left, followed by 'M' and 'C' on the right. The entire logo is centered horizontally and occupies a significant portion of the page.

# CPRC SETAC SPONSORS: Secondary Producers

Whether you need the scientific explanation for the cause of an event, or you are charting a course for the future, Exponent can give you the knowledge to make informed, intelligent decisions.

Exponent is a global engineering and scientific consulting firm specializing in the investigation, analysis, and prevention of accidents and failures, as well as third-party support for issues related to products, process, health, and the environment.

[www.exponent.com](http://www.exponent.com) | 888.656.EXPO

**Exponent**<sup>®</sup>

**When you need to know**