Department of Environmental Science

Fall 2023 Volume 1, Issue 1

# Baylor Highlights Research Collaboration

#### Baylor Press September 2023

#### WATER & HEALTH

Drs. Bryan Brooks and Ryan McManamay were part of a group of scientists who happily participated in a Q & A discussion on water security.

Water is a basic need that's challenged from a variety of angles—urbanization, climate, population growth, pollution—how do you approach a multifaceted problem from the lens of your own discipline?



#### **Bryan Brooks:**

Understanding complexity requires all of us, regardless of discipline, to think comprehensively and critically. We're interested in mechanisms and in understanding causality of these challenges. So that interface among the disciplines is very important.

We're blessed to work with fantastic colleagues here, and Baylor's secret sauce to scientific discovery is our culture. Our unique mission helps shape that. We work together

with colleagues down the hall or in buildings across campus to put forth our energies together, align our creative juices toward understanding the world in which we live and addressing some of the greatest challenges that people face together.

How does that culture you describe impact Baylor water research beyond individual research projects?

#### Ryan McManamay:

We learn from one another. I learn from colleagues with different areas, and I learn from our collaborators in computer science and data science. It's a reciprocal benefit for us and for our students. And when you have colleagues like you have at Baylor, instead of sharp elbows you find people who are great researchers and great teachers—and they've been great teachers to me



as we elevate research projects beyond what they would be without that interdisciplinary environment.



#### INSIDE THIS ISSUE

New SAC/EPA Chair4
Cherry Award Finalist8
Scholarship Winners10
Graduates12-16
Fall Seminar Schedule18
Grants20
Publications21

#### SPECIAL POINTS OF INTEREST

- Green Comte Conf ......3
- AGU Presentation ......6
- SETAC LA .....7
- Post-Doc Appreciation ......9
- New GAs .....17

Whether it's Baylor's work with the Department of Energy and the National Alliance for Water Innovation, editorship of American Chemical Society journals, or projects that impact policy, what does it mean for Baylor to have the opportunity to speak into these problems in meaningful ways?

### **Bryan Brooks:**

I'm grateful that we've been able to be at the table on a variety of topics, convening others in Latin America or Asia to talk through local challenges, or on projects where we essentially think about moonshots. What are the big challenges that are out there? We have the chance to sit down with people from around the world, not just from academia but also from business and government. And we do it in a structured way.

You look, and we're in a number of positions now that are pretty unique. But none of it was planned. For me, it all started with curiosity and then the realization that it's a complex world. You need to work with other people across disciplines, across sectors, across continents. And you add in great colleagues and incredible students, Baylor's unique mission and you find your-selves in places where you can have an impact.

For many of the challenges you describe, Baylor's home state of Texas serves as a lab to study up close. How does Baylor's location serve your work?

### Ryan McManamay:

This is a huge state. It's second only to Alaska in size and so there is an immense amount of diversity in ecosystems—from high mountains to desert environments to tropical-like areas. There's so much to study. The natural ecosystem, the human infrastructure. The amount of work and money it takes to keep up our infrastructure in our state and the extreme climates that we have, to keep that infrastructure running is an amazing thing. And I think our colleagues are well-adapted to continue researching the issues that arise from that.

### **Bryan Brooks:**

And I think the key is that what we're doing at Baylor has, certainly international dimensions, but even the work that we're doing in our backyard matters to our family and our friends and our neighbors, we're learning a lot that actually can help us much more broadly. And when you factor in Baylor's distinct mission—clean water is Biblical—it's something that truly connects with us all. What we're working on matters to rural, urban, poor, affluent—it's universal and it's meaningful to be able to address it with the outstanding people who are our colleagues and students.

To see more about all of Baylor's celebrated researchers, click here.

# Collaboration for a Higher Purpose.

## **GREEN COMMUNITIES CONFERENCE**

Baylor was well-represented during the 2023 Waco Green Communities Conference by Keynote Speaker and Environmental Chemist Dr. Sascha Usenko, as well as undergraduate and graduate students during the poster presentation session on September 18. Representing the Department of Environmental Science were Reed Hildenbrandt and Luke Sullivan, Mackenzie Ramirez and Meghan Guagenti, and Mike Penrose. Additionally, Hailey Miller represented the Department of Theater Arts, and S M Islam with Advisor Dr. Lulin Jiang represented the School of Engineering and Computer Science. Congratulations and thank you for sharing your expertise from such diverse disciplines!



## BAYLOR ENVIRONMENTAL SCIENTIST SELECTED AS CHAIR OF THE SCIENCE ADVISORY COMMITTEE FOR CHEMICALS TO THE EPA

#### Baylor Press, August 2023



George Cobb, Ph.D., leads a committee that provides independent scientific advice and recommendations to the EPA for chemicals regulated under the Toxic Substances Control Act

George Cobb, Ph.D., professor and chair of the Department of Environmental Science at Baylor University, has been selected to serve as chair of the Science Advisory Committee on Chemicals (SACC), which provides independent advice on science and technical issues to assist the Environmental Protection

Agency (EPA) in implementing the Toxic Substances Control Act (TSCA), as amended in 2016 by the Frank R. Lautenberg Chemical Safety for the 21st Century Act.

The SACC is composed of experts in toxicology; environmental risk assessment; exposure assessment; and related sciences, including synthetic biology, pharmacology, biotechnology, nanotechnology, biochemistry, biostatistics, physiologically based pharmacokinetic modeling (PBPK), computational toxicology, epidemiology, environmental fate and environmental engineering and sustainability. Cobb's area of expertise is environmental chemistry, analytical chemistry and exposure assessment.

"I am honored and humbled to be named as the chair of the <u>Science Advisory Committee for Chemicals</u>. Serving on any U.S. EPA Advisory Committee is a great honor. Serving as chair of the SACC is especially gratifying," Cobb said. "First, the SACC membership includes a true who's who of scientists, physicians and engineers, and it's a privilege to serve alongside them. Second, the SACC advises EPA's approaches for assessing chemicals that are regulated by the Toxic Substances Control Act. Thus, the Committee speaks directly to the science that is used to evaluate the human and environmental risks posed by chemicals used in commerce."

SACC provides its science-based advice to the EPA Office of Pollution Prevention and Toxics for risk assessments, methodologies and pollution prevention measures or approaches, including models, tools, guidance documents, chemical category documents and other chemical assessment and pollution prevention products.

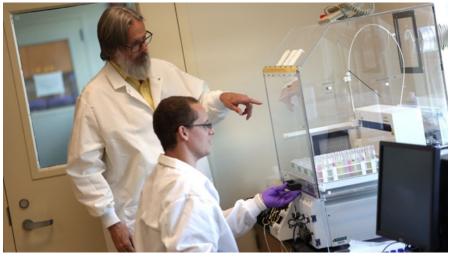
"This advice can address approaches that are being considered and are proposed for use in evaluations of whether an overall assessment has been conducted using the most appropriate techniques," Cobb said. "Ultimately, our committee speaks directly into the process that determines if chemicals are retained for use in commerce, have modifications to conditions of use or are removed from use. That is a tremendous responsibility for protecting our citizens while allowing commerce to proceed in a reasonable manner."

## SACC FOR CHEMICALS-CONT.

Cobb has more than 35 years of experience assessing the fate and effects of chemicals in the environment. He has published over 140 peer-reviewed journal articles in this area of inquiry and has successfully assessed adverse effects that contaminants cause in organisms, both in the environment and in controlled laboratory studies. Successful field assessments include normal-use pesticide applications, National Priorities List sites, and state and municipal air and water quality.

Most recently, Cobb's research group has emphasized personal care product transformation in wastewater treatment; nanomaterial alteration of amphibian development; metal toxicant accumulation by rice; airborne steroid movement from concentrated animal feeding operations; transformation of explosives in mammals; and ultra-high resolution Mass Spectrometry screening.

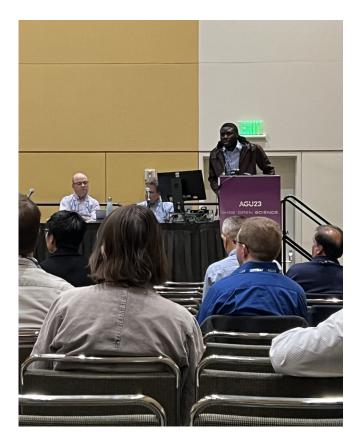
In addition to his leadership of SACC, Cobb has been named a Fellow of the American Chemical Society and has served as the immediate past chair of the Environmental Chemistry Division and a member of the Committee for Environmental Improvement. He is a Society of Environmental Toxicology and Chemistry (SETAC) Fellow and the former president of SETAC, North America. He is an editor for the journal *Environmental Toxicology and Chemistry*.



Dr. Cobb and Ph.D. candidate Mike Penrose

### PHD STUDENT PRESENTS AT AGU

Students from the labs of Dr. Yang Li and Dr. Rebecca Sheesley attended the Fall 2023 AGU Conference in San Francisco, CA in December.



Second year PhD student, Akinleye Folorunsho, presents on his research entitled, *"High-Resolution Modeling of Atomospheric Oxidation Capacity"* during elevated Ozone Pollution in Houston, Texas".

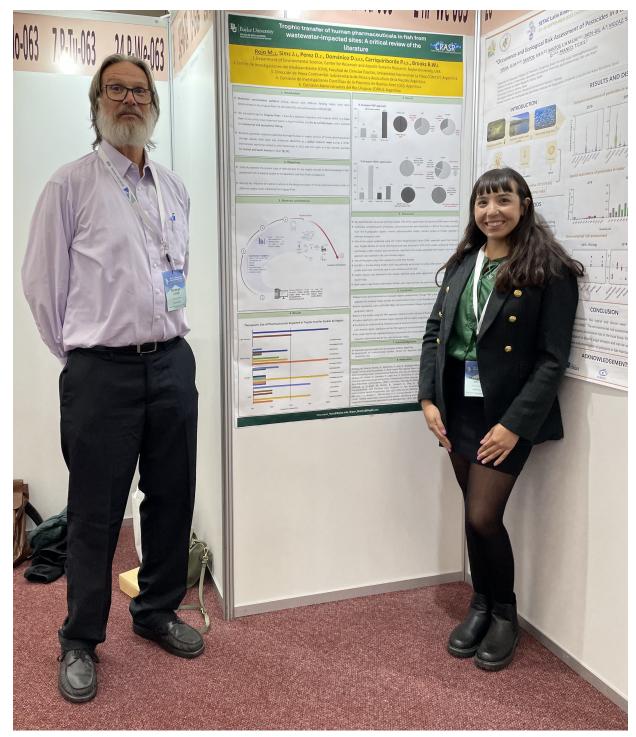
Pictured from left to right: Akinleye Folorunsho, Jeewan Poudel, Sujan Shrestha, Dr. Manisha Mehra, Prakash Sharma, and Nilkamal Jaisawal.



# SETAC LATIN AMERICA-2023

Pictured left to right: Dr. George Cobb and Dr. Macarena Rojo.

Dr. Rojo presented her work entitled: "Trophic transfer of human pharmaceuticals in fish from wastewaterimpacted sites: a case study in the Uruguay River, South America", at the SETAC Latin America 2023, organized in Montevideo, Uruguay.



### ROBERT FOSTER CHERRY AWARD

#### Baylor Press October 2023

The Robert Foster Cherry Award is the only national teaching award – with the single largest monetary reward – presented by a college or university to an individual for exceptional teaching. The Cherry Award recipient will receive a prize of \$250,000 and will teach in residence at Baylor during the 2024 fall or 2025 spring semester. In addition, the award recipient's home department will receive \$25,000. The winning professor will be announced Spring 2024.

Baylor selected three finalist and one of them was Dr. Jay Banner from University of Texas in Austin.

Jay Banner, Ph.D., F.M. Bullard Professor in the Department of Geological Sciences in the Jackson School of Geosciences and director of the

Environmental Science Institute at the University of Texas, presented his Cherry Award finalist lecture on "21st Century Texas: Climate, water, science, and society" on Tuesday, Oct. 24, in room B.110 of the Baylor Sciences Building, 101 Bagby Ave. The Cherry Award exposes Baylor students to the best teachers in the country. The three finalists are invited to campus to participate in teaching demonstrations and give a public lecture.

"These events provide an opportunity for Baylor students and faculty to observe the most innovative teachers in action," said Kevin Dougherty, Ph.D., committee chair and professor of sociology at Baylor. "Responses from students and faculty are part of the decision-making process in selecting a recipient."

Banner's teaching interests are in sustainability, environmental science, geochemistry, and environmental justice. His K-12 and community engagement initiatives include *Hot Science – Cool Talks*, the *Scientist in Residence* program, which partners STEM graduate-student researchers with K-12 teachers, and a new project (<u>CRESSLE</u>) that partners researchers and community members to address resilience challenges in underserved communities.

Jay is a member of UT Austin's Academy of Distinguished Teachers, a recipient of the Friar Centennial Teaching Fellowship Award and the UT System Regents Outstanding Teaching Award, and a Fellow of the Geological Society of America.

### ENVIRONMENTAL SCIENCE POST-DOC AND RESEARCHERS

Baylor University recently celebrated it's Post-Docs during the week of September 18—22. The Environmental Science department showed appreciation to our post-docs by offering different lunches and snacks each day of the week. Our post-docs are highly valuable personnel to not only our graduate and undergraduate students but also to their PIs as they help to advance research objectives and provide mentorship. The following are ENV's post-docs:



Dr. Jeong Weon Choi-Shin Lab



Dr. Manisha Mehra -Sheesley & Usenko Labs





Dr. Ba Reum Kwon -Brooks Lab



Dr. Perpetua Okoye -McManamay Lab



Dr. Amanda Sevcik - Sayes Lab Research Scientist



Dr. Macarena Rojo - Lavado Lab

The Department of Environmental Science awarded scholarships of various amounts to the following students for the 2023—2024 school year.

# **Clara Wieland Scholarship -**

Benjamin Marsh, Junior - Environmental Science

# Elizabeth & Russell Hallberg Scholarship -

Hope Tucker, Junior - Environmental Science Nick Imo, Sophomore - Environmental Studies

## Galen Green Scholarship -

Anna Brewer, Junior - Environmental Studies

### Diedra & Ward Flora Scholarship -

Emily Lessman, Junior - Environmental Science

### Tony & Donna Robert Scholarship -

Taylor Frost, Junior - Environmental Studies

### **Glasscock Energy Scholarship -**

Riley Kennedy, Senior - Environmental Studies Emily Lessman, Junior - Environmental Science

## Doris Kayser Stark Graduate Scholarship -

James Liu, PhD candidate, Sayes Lab Jaylen Sims, PhD Candidate, Brooks Lab Mikaela Sako, PhD Student, McManamay Lab Micah Bowman, PhD student, McManamay Lab



# **Glasscock Endowed Fellowship -**

Asha Ashraf Solomon Ayisire Alex Cole Akinleye Folorunsho Alisha Janiga Madusha Malalage Rafia Rifa Mikaela Sako Adam Wronski



CONGRATULATIONS 2023 GRADUATES

# **ENVIRONMENTAL SCIENCE - (B.S.)**

Erin Lynes—magna cum laude

Kacie Kaneshiro

Ethan Agnew

Alexis Rodriguez

### **ENVIRONMENTAL STUDIES - (B.A.)**

Brock Buford: summa cum laude

Jordan Cook

Avery Jensen Jacob Suchecki Madeline McDonald: *summa cum laude* 

Andrew Hernandez

Riley Kennedy

THIS FALL SEMESTER, ENVIRONMENTAL SCIENCE HAD TWO PHD CANDIDATES SUCCESSFULLY DEFEND THEIR DISSERTATIONS. CONGRATULATIONS TO MIKE AND KENDALL! WELL DONE.







On October 10, 2023 Mike Penrose defended on, "Evaluating Paraben and Paraben Transformation Product Release in Effluent Following Wastewater Treatment and Their Movement into River Water and Fish Tissues in the Surrounding Environment".

Mike will be working as an ORISE appointed postdoc at the EPA facility in Cincinnati, OH under the Office of Research and Development. He will graduate in December 2023.





On October 12, 2023 Kendall Scarlett made her defense on, "Examining Aquatic Hazards of the Cyanobacterial Toxin, Cylindrospermopsin in Common Larval Fish Models ". Kendall has accepted a position with the EPA and will graduate in December 2023.







Pictured from top left: Sujan Shrestha; middle: Grace Aquino and Megan Solan; front right: Kayla Garrett. Congrats August graduates!

### CONGRATULATIONS DOCTORAL GRADUATES: August 2023

#### Grace V. Aquino

Dissertation, Environmental Science: Evaluating the Cytotoxicity and Adverse Effects of Diesel Exhaust Particle Exposure on the Brain's First Line of Defense, the Blood-Brain Barrier and Microglia

Mentor: Dr. Erica Bruce



#### **Kayla Paige Garrett**

Dissertation, Environmental Science: Overcoming Social,

Technological, and Environmental Obstacles in Regional-to-

**Global Renewable Energy Transitions** 

Mentor: Dr. Ryan McManamay



#### Lea Marie Lovin

Dissertation, Environmental Science: Developing an Understanding of Behavioral and Transcriptional Implications for the Chiral Cyanotoxin Anatoxin-a and Caffeine in Common

Larval Fish Models

Mentor: Dr. Bryan Brooks

#### Sujan Shrestha

Dissertation, Environmental Science: Impacts of Long Rang Transport of Biomass Burning on Air Quality in Texas Mentor: Dr. Rebecca Sheesley



#### **Megan Eulene Solan**

Dissertation, Environmental Science: Toward Improved In Vitro Models for Human Health Risk Assessment: Mechanisms of Short-Chain Per- And Polyfluoroalkyl Substances (PFAS) Toxicity Mentor: Dr. Ramon Lavado



### CONGRATULATIONS DOCTORAL GRADUATES: December 2023

Pictured from l to r; Back row: Dr. Sascha Usenko, Dr. George Cobb, and Dr. Bryan Brooks. Front row: Sarah VerPloeg, Mike Penrose, Kendall Scarlett



#### Sarah Lynn Guberman VerPloeg

Dissertation, Environmental Science: Assessing urban atmospheric chemistry effects on the environmental fate of current-use pesticides in the Houston Metropolitan Area Mentor: Dr. Sascha Usenko



#### **Michael Thomas Penrose**

Dissertation, Environmental Science: Evaluating Paraben and Paraben Transformation Product Release in Effluent Following Wastewater Treatment and Their Movement into River Water and Fish Tissues in the Surrounding Environment Mentor: Dr. George Cobb



#### Kendall Rose Scarlett

Dissertation, Environmental Science: Examining the Aquatic Hazards of the Cyanobacterial Toxin, Cylindrospermopsin in

Common Larval Fish Models Mentor: Dr. Bryan Brooks



## ENVIRONMENTAL SCIENCE WELCOMES FALL 2023 INCOMING GRADUATE STUDENTS

This summer the Environmental Science graduate faculty had another successful recruiting term to ultimately bring in another excellent group of 8 graduate students. Having reached a total enrollment of 44 PhD students, the department has already exceeded the overall enrollment target number of 34 for 2023. The students will begin their research journey and ultimately complete their PhD degrees within a few years. We are so happy to have them be a part of our program and wish them all great success!

\* \* \* \* \* \* \* \* \* \*

Nafi Ba - University of Pennsylvania, PA Luke Calder - University of Texas, Arlington Gracen Collier - Wofford College, SC HyunA Jang - Sookmyung Women's University, S. Korea Taylor Jefferis - Howard Payne University, TX Noshin Anjum Kamal - Jahangirnagar University, Bangladesh Sini Macheri - Kerala Veterinary and Animal Science University, India Levi Sweet-Breu –University of Tennessee, Knoxville



## SEMINAR SCHEDULE—FALL 2023

### Department of Environmental Science Seminar Series – ENV 5102 & 4102 Fall 2023 - Wednesdays BSB C.105 @ 4:00 PM

Date	Speaker name	Affiliation	Position	Area
8/23/2023	Thomas McKone	UC Berkelely	Professor Emeritus	Exposure, modeling
9/6/2023	Jennings Sheffield	Baylor University	Associate Professor	Art
9/13/2023	Yike Shen	UT Arlington	Asst Professor	Env Health
9/20/2023	Alan Wang	Baylor University	Professor	Sensors
9/27/2023	Michelle Hummel	UT Arlington	Assistant Professor	Climate change
10/11/2023	Donghai Liang	Emory University	Assistant Professor	Exposomics
10/18/2023	Arlene Blum	Green Science Policy Institute	Co-founder	
10/25/2023	Scott Bartell	U California-Irvine	Professor	PFAS, epidemiology
11/1/2023	Elizabeth Pearce	Boston University	Professor	Thyroid
11/8/2023	Luke Skala	Johns Hopkins APL		
11/29/2023	Aaron Wright	Baylor University	Professor	Metabolomics
12/6/2023	Inkyu Han	Temple University	Associate Professor	Air pollutants



### ENVIRONMENTAL SCIENCE CHILI COOK-OFF

This past October, the Environmental Science department held it's first-ever Chili cook-off along with the Biology, Chemistry, and Physics, departments. The top three chili's came from Chemistry, Environmental Science, and Physics but Environmental Science won the bragging rights with Erica Johnson's Green Chili Chicken chili winning overall. As part of the entry requirements, participants had to dress up for the occasion.

Chemistry were clowns, Biology came as ghosts, Environmental Science hosted as witches, and Physics showed up as mad scientists.





- 1. Bryan Brooks: Health and human Services Commission | TX HHSC \$86,480.00
- 2. Ramon Lavado: National Inst Health | NIH–Gulf Killifish \$418,702.00
- 3. Christie Sayes: US Department of Agriculture | SIT \$171,697.00
- 4. Christie Sayes: US Department of Agriculture | Nano Thera HLB \$253,354.00
- 5. Rebecca Sheesley: Univ of Houston | Texas Commission on Environmental Quality | TCEQ 2023 Air Quality \$75,00.00
- 6. Rebecca Sheesley: U.S. Dept of Energy | DOE Gas Phase Precursors \$437,379.00
- 7. Sascha Usenko: Univ of Houston | Texas Commission on Environmental Quality | AQ2 Analysis \$85,500.00
- 8 . Sascha Usenko: Univ of Houston | Texas Commission on Environmental Quality | Carbon Monitoring \$675,000.00



**Cole, A.R.\*, Brooks, B.W.**— Comparative Endpoint Sensitivity of Bioanalytical Tools for Glucocorticoid Receptor Agonism Surveillance in Aquatic Matrices (2023) ACS ES and T Water, 3 (9), pp. 3082-3092. DOI: 10.1021/acsestwater.3c00253

**Cole, A.R.**\*, **Brooks, B.W.**— Global occurrence of synthetic glucocorticoids and glucocorticoid receptor agonistic activity, and aquatic hazards in effluent discharges and freshwater systems (2023) Environmental Pollution, 329, art. no. 121638, . DOI: 10.1016/j.envpol.2023.121638

Thapar, I., **Langan, L.M.**, Davis, H., Norman, R.S., Bojes, H.K., **Brooks, B.W.**— Influence of storage conditions and multiple freeze-thaw cycles on N1 SARS-CoV-2, PMMoV, and BCoV signal (2023) Science of the Total Environment, 896, art. no. 165098, . DOI: 10.1016/j.scitotenv.2023.165098

Ataria, J.M., Murphy, M., McGregor, D., Chiblow, S., Moggridge, B.J., Hikuroa, D.C.H., Tremblay, L.A., Öberg, G., Baker, V., **Brooks, B.W.**— Orienting the Sustainable Management of Chemicals and Waste toward Indigenous Knowledge (2023) Environmental Science and Technology, 57 (30), pp. 10901-10903. DOI: acs.est.3c04600

Rushing, R., Schmokel, C., **Brooks, B.W.**, Simcik, M.F.— Occurrence of Per- and Polyfluoroalkyl Substance Contamination of Food Sources and Aquaculture Organisms Used in Aquatic Laboratory Experiments (2023) Environmental Toxicology and Chemistry, 42 (7), pp. 1463-1471. DOI: 10.1002/etc.5624

Lovin, L.M.\*, Scarlett, K.R.\*, Henke, A.N.\*, Sims, J.L.\*, Brooks, B.W.— Experimental arena size alters larval zebrafish photolocomotor behaviors and influences bioactivity responses to a model neurostimulant (2023) Environment International, 177, art. no. 107995, . DOI: 10.1016/j.envint.2023.107995

Burket, S.R., **Sims, J.L.**\*, Dorman, R., Kemble, N., Brunson, E., Steevens, J.A., **Brooks, B.W.**— Bioaccumulation Kinetics of Model Pharmaceuticals in the Freshwater Unionid Pondmussel, Sagittunio subrostratus (2023)

Steevens, J.A., Dorman, R., Brunson, E., Kunz, J., Pulster, E.L., Burket, S.R., **Stroski, K.M.\*, Sims, J.L.\***, Simcik, M.F., **Brooks, B.W.**— Laboratory-Derived Bioaccumulation Kinetic Parameters for Four Per- and Polyfluoroalkyl Substances in Freshwater Mussels (2023) Environmental Toxicology and Chemistry, 42 (6), pp. 1190-1198. DOI: 10.1002/etc.5606

Mihelcic, J.R., Barra, R.O., **Brooks, B.W.**, Diamond, M.L., Eckelman, M.J., Gibson, J.M., Guidotti, S., Ikeda-Araki, A., Kumar, M., Maiga, Y., McConville, J., Miller, S.L., Pizarro, V., Rosario-Ortiz, F., Wang, S., Zimmerman, J.B.— Environmental Research Addressing Sustainable Development Goals (2023) Environmental Science and Technology Letters, 10 (3), pp. 210-213. DOI: 10.1021/acs.estlett.3c00093

**Wronski, A.R.\***, **Brooks, B.W.**— Global occurrence and aquatic hazards of antipsychotics in sewage influents, effluent discharges and surface waters (2023) Environmental Pollution, 320, art. no. 121042, . DOI: 10.1016/ j.envpol.2023.121042

Cheng, F., Huang, J., Li, H., Escher, B.I., Tong, Y., König, M., Wang, D., Wu, F., Yu, Z., **Brooks, B.W.**, You, J.– Text Mining-Based Suspect Screening for Aquatic Risk Assessment in the Big Data Era: Event-Driven Taxonomy Links Chemical Exposures and Hazards (2023) Environmental Science and Technology Letters, . DOI: 10.1021/ acs.estlett.3c00250



**Solan, M.E**.\*, Schackmuth, B., **Bruce, E.D., Pradhan, S.\*, Sayes, C.M., Lavado, R.**— Effects of shortchain per- and polyfluoroalkyl substances (PFAS) on toxicologically relevant gene expression profiles in a liveron-a-chip model (2023) Environmental Pollution, 337, art. no. 122610, . DOI: 10.1016/j.envpol.2023.122610

**Aquino, G.V.**\*, Dabi, A., Odom, G.J., **Lavado, R.**, Nunn, K., Thomas, K., Schackmuth, B., Shariff, N., Jarajapu, M., Pluto, M., Miller, S.R., Eller, L., Pressley, J., Patel, R.R., Black, J., **Bruce, E.D.**— Evaluating the effect of acute diesel exhaust particle exposure on P-glycoprotein efflux transporter in the blood–brain barrier co-cultured with microglia (2023) Current Research in Toxicology, 4, art. no. 100107, . DOI: 10.1016/j.crtox.2023.100107

**Penrose**, **M.T.\***, **Cobb**, **G.P.**— Evaluating seasonal differences in paraben transformation at two different wastewater treatment plants in Texas and comparing parent compound transformation to byproduct formation (2023) Water Research, 235, art. no. 119798, . DOI: 10.1016/j.watres.2023.119798

**Penrose, M.T.\***, **Cobb, G.P.—** Influences of Wastewater Treatment on the Occurrence of Parabens, p-Hydroxybenzoic Acid and Their Chlorinated and Hydroxylated Transformation Products in the Brazos River (Texas, USA) (2023) Archives of Environmental Contamination and Toxicology, 85 (2), pp. 105-118. DOI: 10.1007/s00244-023-01025-x

**Solan, M.E.**\*, Koperski, C.P., **Senthilkumar, S.**\*, **Lavado, R**.— Short-chain per- and polyfluoralkyl substances (PFAS) effects on oxidative stress biomarkers in human liver, kidney, muscle, and microglia cell lines (2023) Environmental Research, 223, art. no. 115424, . DOI: 10.1016/j.envres.2023.115424

**Solan, M.E.**\*, **Lavado, R.**— Effects of short-chain per- and polyfluoroalkyl substances (PFAS) on human cytochrome P450 (CYP450) enzymes and human hepatocytes: An in vitro study (2023) Current Research in Toxicology, 5, art. no. 100116, . DOI: 10.1016/j.crtox.2023.100116

Ball, A.L., **Solan, M.E.**\*, Franco, M.E., **Lavado, R.**— Comparative cytotoxicity induced by parabens and their halogenated byproducts in human and fish cell lines (2023) Drug and Chemical Toxicology, 46 (4), pp. 786-794. DOI: 10.1080/01480545.2022.2100900

Possamai, B., Back, J.A., **Mansfield, C.M.**\*, **Moran, Z.S.**\*, Machado, R.C., **Matson, C.W.**— Estimating the influence of carbonates in the stable isotopic values of suspended particulate organic matter: implications in ecological studies (2023) Aquatic Sciences, 85 (2), art. no. 42, . DOI: 10.1007/s00027-023-00941-3

Tseng, C.Y., Custer, C.M., Custer, T.W., Dummer, P.M., Karouna-Renier, N., **Matson, C.W.**— Multi-omics responses in tree swallow (Tachycineta bicolor) nestlings from the Maumee Area of Concern, Maumee River, Ohio (2023) Science of the Total Environment, 856, art. no. 159130, . DOI: 10.1016/j.scitotenv.2022.159130

Morrison, R.R., Simonson, K., **McManamay, R.A.**, Carver, D.— Degradation of floodplain integrity within the contiguous United States (2023) Communications Earth and Environment, 4 (1), art. no. 215, . DOI: 10.1038/s43247-023-00877-4,

\* denotes student



**McManamay, R.A.**, Larson, K., Tagestad, J., Jager, H.I., DeRolph, C.R., Bevelhimer, M.S.— Mutually beneficial outcomes for hydropower expansion and environmental protection at a basin scale (2023) Science of the Total Environment, 896, art. no. 165298, . DOI: 10.1016/j.scitotenv.2023.165298

**Lueders, M.B.\***, **McManamay, R.A.**— Species depletion profiles as an alternative to streamflow alteration thresholds in a hydroecological risk assessment (2023) Ecological Indicators, 147, art. no. 109989, . DOI: 10.1016/j.ecolind.2023.109989

**Ayorinde, T.\*, Sayes, C.M.**— An updated review of industrially relevant titanium dioxide and its environmental health effects (2023) Journal of Hazardous Materials Letters, 4, art. no. 100085, . DOI: 10.1016/j.hazl.2023.100085

**Pradhan, S.H.\***, Gibb, M., **Kramer, A.T.\***, **Sayes, C.M.**— Peripheral (lung-to-brain) exposure to diesel particulate matter induces oxidative stress and increased markers for systemic inflammation (2023) Environmental Research, 231, art. no. 116267, . DOI: 10.1016/j.envres.2023.116267

**Collom, C.\***, **Pradhan, S.H.\***, **Liu, J.Y.\***, Liu, J., Sharma, V., **Sayes, C.M.**—Toxicity of binary mixtures of copper, lead, and glyphosate on neuronal cells (2023) Journal of Hazardous Materials Advances, 11, art. no. 100355, . DOI: 10.1016/j.hazadv.2023.100355

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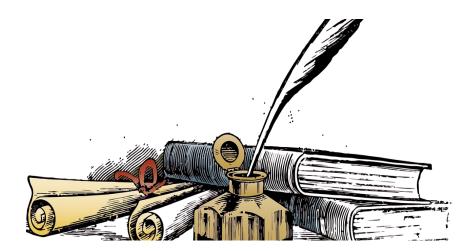
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