Mason SCIENCE

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Transforming our future through water

by Fernando Miralles-Wilhelm

If you think about your first history lesson, water was in it. Remember the Tigris and Euphrates rivers in Mesopotamia? Battles over this invaluable resource have been happening for a long time; they're happening now, and they will continue to happen in the future.

As a trained hydrologist and water resources engineer, for decades I've studied water and its connection to food, energy, ecosystems, health, and economics around the world. A portion of my research considers how humans drive future water scarcity changes across future socioeconomic development pathways. I've also explored climate-hydrology-vegetation interactions and the resilience of the natural systems that provide us with this vital elixir. The vast majority of my work has concentrated on modeling surface and groundwater systems and applying remote sensing techniques to hydrologic cycle processes and water quality.

I recently had the opportunity to join George Mason University President Washington and Mason's Honors College students and University Scholars on the Our Future, Transformed series to think

about water as a commodity like oil, and its optimized use and effect on people and communities that rely on it.

Sometimes there's too much water. And other times, not enough of it. And we're even trading it for what we might need in the future.

Although most think of rivers and lakes as the places that contain vast amounts of water, the largest amount of water worldwide is actually contained in the soil. Soils and natural systems are the biggest water regulators globally.

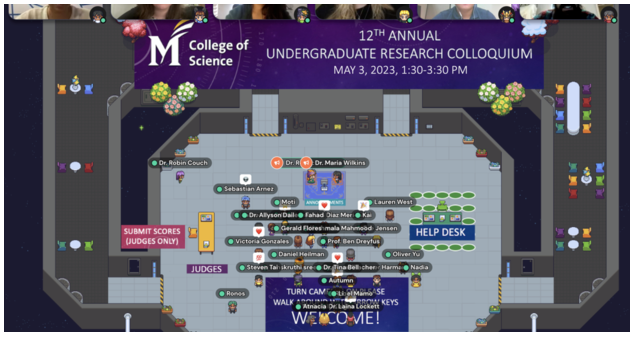
When water becomes concentrated in places where we built too much infrastructure, urban flooding becomes a bigger issue.

Read full message

MASON SCIENCE COMMUNITY

Mason Science Undergraduate Research Colloquium recognizes 2023 winners

by Rebecca Jones

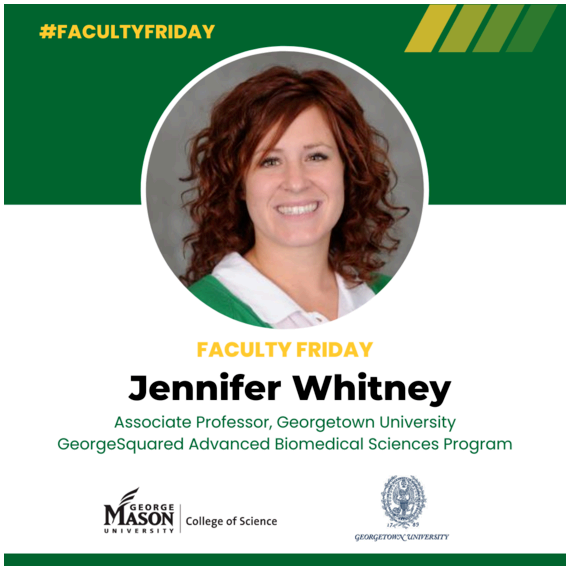


The College of Science and STEM Accelerator hosted the Twelfth Annual Undergraduate Research Colloquium (URC) where undergraduate students showcased a variety of research projects from the College of Science to the Mason community. This year's virtual event featured a student poster session and awards, including overall, category, and student's choice awards. Presentations were judged in three categories: Environmental and Earth Sciences, Life Sciences, as well as Physical Sciences and Mathematics. View the full list of research posters. *Photo courtesy of Rebecca Jones.*

See this year's winners

#FacultyFriday highlights GeorgeSquared associate professor

Last week's #FacultyFriday featured Jennifer Whitney, Associate Professor, GeorgeSquared (G2) and the Director of the Special Physiology Master's Program at Georgetown. She joined G2 due to her deep desire to educate, as well as motivate and mentor her students toward success. G2 is a unique program with built-in time for students to do additional activities outside of their academics, like participating in



clinical work or volunteering. View the original Instagram post.

See recent faculty highlights

Our Future, Transformed: Is water the new oil?



In the second episode of the video series (Our Future, Transformed), College of Science Dean Fernando Miralles-Wilhelm speaks with President Gregory Washington about water, why there is too much in some places, not enough in others, and what we can do, in a warming world, to avoid water catastrophes. *Photo by Cristian Torres/Strategic Communications.*

Watch the video

RESEARCH & DISCOVERY

Peripheral nerve regeneration biomaterial focus of Mason Cosmos Scholar Grant recipient

by Laura Powers



Mason Neuroscience PhD student Dylan Scarton received a 2023 Cosmos Scholar Grant to support research aimed at developing a biomaterial for peripheral nerve regeneration. Working under Remi Veneziano, Assistant Professor in the Bioengineering Department, this study looks at novel DNA-based conductive hydrogels with finely controlled mechanical and electrical properties that can match those of natural nerve tissue.

Scarton also shares the student perspective on the advantages of this interdisciplinary program. *Photo provided*.

More on Scarton's work



Four Mason Science students named as summer 2023 Sustainability Research Fellows

Congratulations to the eleven Mason graduate students, four from Mason Science, recently selected as Sustainability Summer Research Fellows. Unique among summer research opportunities, this fellowship pairs Mason doctoral or master's students with organizations engaged in applied and impactful research on a host of sustainability, resilience, and environmental justice initiatives. Mason Science recipients include Earth Systems Science PhD student Tunaggina Khan, Environmental Science and Policy PhD student Shawn Smith, Environmental Science and Policy PhD student Meaghan Caruso, and Geographic and Cartographic Science MA student Canan Atakul. *Photo by Evan Cantwell/Creative Services.*

More on their fellowships

IN THE NEWS

Dust Storms growing problem in parts of the U.S.

by Phil McCausland and Evan Bush



A 72-car pileup took place in Illinois last Monday after a severe dust storm, leading to the hospitalization of 37 people. “This problem is heavily underestimated, understudied, and underreported,” said Daniel Tong, Associate Professor, Atmospheric, Oceanic and Earth Sciences in a recent story by *NBC News*. *Photo by Nathan Cormier.*

Be sure to read Tong's other recent news highlights on *The Weather Channel*, *NOAA Research*, and *12 News*.

Read the full article

Happening at Mason

P-Card Procedures Transitioning to Mason Finance Gateway

by Lauren Steppe



Mason will transition from Bank of America Works (BOA) to the Mason Finance Gateway (MFG) for P-Card allocation and approvals beginning with fiscal year 2024 (FY24). Additionally, Mason will work with the George Mason University Foundation (GMUF) to streamline employee reimbursements from GMUF through the Mason Finance Gateway.

You're invited for the first training on these new processes, benefits of this change, and additional information about transition timing. Join the first training Tuesday, May 16 from 10 a.m. to noon. Registration is not required. The meeting information and link to join the session are available on the Fiscal Services Calendar.

Attend the training

Events

Share your recent book publication(s) for inclusion in *Mason Spirit*
May 10, 202 | 11:59 p.m.
Mason's alumni magazine, Mason Spirit, seeks book publications released by faculty this past year. The magazine's editors will select a limited number of submissions for inclusion in the Fall 2023 issue. Submit publication information to Tracy Mason.

CAMMO Voices
May 13, 2023 | 8 p.m. | Hylton Performing Arts Center, Merchant Hall
The Center for American Military Music Opportunities (CAMMO) joins with George Mason University's Veterans and the Arts Initiative to present a concert that honors our service members, their spouses, and families. Hear the world-renowned Voices of Service and American Military Spouses Choir. Get tickets.

Chemistry in the Kitchen Poster Session
May 15, 2023 | 1:30 to 3 p.m. | Exploratory Hall Atrium

See what students from CHEM 460 achieved this semester and the results of their final food experiments.

George Mason University Commencement

May 18, 2023 | 10 a.m. | EagleBank Arena

Celebrate the Class of 2023 at Mason's university-wide graduation celebration.

College of Science Degree Celebration

May 19, 2023 | 10 a.m. | EagleBank Arena

Celebrate the College of Science 2023 graduates at our college-level degree celebration.

Mason Science Series

May 23, 2023 | 4 to 6 p.m. | Country Club of Fairfax

Join the conversation with Jim Kinter, Professor, AOES and Director of the Center for Ocean-Land-Atmosphere Studies (COLA) to discuss the role of the Virginia Climate Center to help communities in the commonwealth increase resilience to the impacts of climate change.

See Full Calendar

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