Mason SCIENCE

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Thursday, July 14, 2022 **science.gmu.edu**

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NanoIMAGINE the Possibilities

by Fernando Miralles-Wilhelm

I often say it's an exciting time to be learning and performing research at George Mason University's College of Science. We are a young academic institution, compared to a number of our peers in the Commonwealth of Virginia. Yet our pace of innovative thought and research has brought us to the forefront of discovery within many emerging fields, including neuroscience, climate science, systems biology, data science, quantum and materials science and nano technologies.

The average person already encounters nanotechnology in a range of everyday consumer products. When you think about it, everything is made up of atoms– our food, clothing, the buildings we live in, and even our own bodies. Nanoparticles of silver are used to deliver antimicrobial properties in hand washes, bandages, and socks, and zinc or titanium nanoparticles serve as active UV-protective elements in today's sunscreens. But these nanoparticles were impossible to see until microscopes like scanning tunneling microscopes (STM) and atomic force microscopes (AFM) were invented in the 1980s. The field has emerged in the last decade as a critical economic growth sector for the region.

Mason's Office of Research, Innovation, and Economic Impact, Mason engineers, and our College of Science colleagues recently received a $3.75 million GO Virginia grant to create a Nano-IMAGINE program. This groundbreaking collaboration, grant, and initiative has the capacity to grow the nanotechnology workforce in our state and nationwide.

Read full message



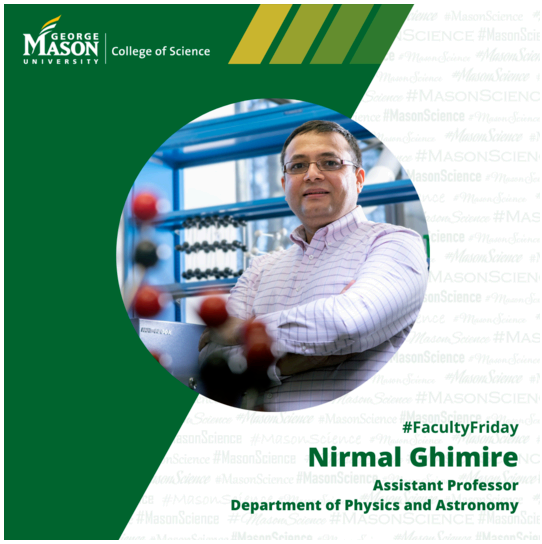
ESP student receives prestigious Boren Fellowship

by John Hollis



Environmental Science and Policy MS student Ashley Robertson recently received a Boren Fellowship and will travel overseas to immerse herself in foreign languages while working towards her master's degree. *Photo provided*.

About Ashley



#FacultyFriday highlights physics and astronomy assistant professor

This week's #FacultyFriday features Nirmal Ghimire, Assistant Professor, Department of Physics and Astronomy. His research focuses on discovering and understanding novel emergent phenomena in quantum materials via designing and synthesizing materials and measuring their magnetic and transport properties. Currently he is studying topological materials that are a new state of quantum matter beyond the classical metals, insulators and semiconductors, and have potential for smaller, more energy efficient, and faster devices. The impact these materials can have in transforming the current technology is what drives Ghimire's passion for designing and discovering new materials.

Read Ghimire's bio

RESEARCH & DISCOVERY

Community approach to reducing single-use plastic beverage bottles wins major EPA award

by Aikwan Chong



High school students in the collaborative project, A Community Approach to Reducing Single-Use Plastic Beverage Bottles, funded by the NOAA Marine Debris Program, were awarded the prestigious President's Environmental Youth Award.

Community partners on this project include Mason Environmental Science and Policy faculty: Cindy Smith (PI), Scott Glaberman (Co-PI), T. Reid Nelson (Co-PI), as well as University of Southern Mississippi Assistant Professor Kim de Mutsert (Co-PI); Mason students in the Fisheries Ecology Lab, Glaberman's Environmental Toxicology class, and Smith's lab all played/are still playing key roles in the project.

More on this initiative

IN THE NEWS

Mason scientist comments on Hurricane Agnes: 50 years later

by Bradon Long



Jim Kinter, Professor, Department of Atmospheric, Oceanic, and Earth Sciences, Director, Center for Ocean-Land-Atmosphere Studies, recently spoke to *Fox 43* warning "storms that used to be called 100-year return period storms, we're now seeing those with a ten-year return period."

Find out what this means



Mason receives $3.75M to launch nanotechnology workforce training

by Hannah Denham

The recent grant, reported by *Washington Business Journal*, will allow Mason to establish Nano-IMAGINE, a new program that is a response to the exploding nanofabrication industry. The new program is being established in partnership by Mason's College of Science, College of Engineering and Computing, and Office of Research, Innovation, and Economic Impact.

More on this project

Happening at Mason

Take part in STEM Summer Saturdays

Facilitate, coach, and interact with students from various backgrounds at Mason's newly offered STEM Summer Saturdays. These will be hosted at the Fairfax campus on July 16, July 23, and July 30 from 9 a.m. to 4 p.m. by the Office of Diversity, Outreach and Inclusive Learning (DOIL) in the College of Engineering and Computing. The event targets students in grades 3 to 12, with the goal of introducing them to STEM curriculum as early as possible.

July 16, 2022 | 9 a.m. to 4 p.m. — 3 to 5 graders
July 23, 2022 | 9 a.m. to 4 p.m. — 6 to 8 graders
July 30, 2022 | 9 a.m. to 4 p.m. — 9 to 12 graders

Email the DOIL office to participate

Sign up for Career Influencers Network training on August 11

Register now for the next Career Influencers Network intro training on **August 11**. Those who complete training learn to support students seeking career path and job-search advice, describe and share the career development process with students, refer students to University Career Services for career counseling and industry-specific advising, support employer recruitment efforts in compliance with Mason policies and NACE ethical standards, and promote Handshake and other career resources available to Mason students,

Register for training today



Women of Color STEM Leadership Lab
July 20, 2022 | 3 p.m. or July 27, 2022 | 1 p.m.
Join this free, 1-hour webinar that will provide tools and resources to help grad students and early career women of color in STEM. Hear from Dr. Scyatta Wallace, a child of immigrants who grew up in low income housing and made it to Yale. She obtained her PhD by 30, pulled through the tough academic ranks obtaining tenure and served as PI on research grants from NIH and CDC. Registration required.

Pro-Choice and Pro-Life Scholars to Discuss Legal Impact of Dobbs
July 21, 2022 | 7 to 8:30 p.m. | Virtual
To assist the entire Mason community to understand the majority and dissenting opinions in Dobbs v. Jackson Women's Health Organization, and their legal impact, the Antonin Scalia Law School will host a webinar featuring Kathryn Kolbert, a pro-choice attorney who argued on behalf of Planned Parenthood in the Casey case, and Erika Bachiochi, a pro-life attorney and author of numerous books and articles treating pro-life feminism. Registration required.

Science Communication Training for Faculty, Post-Docs, and Graduate Students
August 1 to August 3, 2022 | 9 a.m.
Faculty in communication and psychology at Mason are offering free science communication training this summer. Participants learn to communicate with audiences about the value and importance of their work as well as science more generally. Registration required. ***Registration deadline is Friday July 15.***

Sayas Numerics Day 2022 (formerly DelMar Numerics Day)
September 17, 2022 | 9 a.m. to 6 p.m. | University of Maryland, Baltimore County
Join Mason and other organizing institutions for this annual event to connect researchers of computational mathematics in VA, MD, DC, DE and adjacent areas and to provide opportunities to students, postdocs and other

early career researchers.

Society for Industrial and Applied Mathematics (SIAM) Sectional Meeting

November 4, 2022 | Noon to 5 p.m. | Virginia Tech Research Center

The Society for Industrial and Applied Mathematics (SIAM) Washington D.C. Section invites you to attend the section meeting. The event consists of two keynote talks and panelists from three funding agencies: National Science Foundation, Air Force Office of Scientific Research, and Office of Naval Research. There will also be a contributed poster session. This is a unique opportunity to network, learn about new research areas, and to know what funding agencies are looking for. Registration required.

See Full Calendar

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