

Announcements

GIS Analyst for Northern Virginia Regional Trails, Sponsored by the Institute for a Sustainable Earth

Apply skills in GIS and cartography to enhance regional recreation and transportation trails. GIS data and maps are essential for planning a complete and high-quality regional trail network, enhancing community health activity, and promoting the region's trail network to boost tourism and reduce road trips to make for a cleaner environment. Collaborate with team members from the Northern Virginia Regional Commission (NVRC) and the Institute for Sustainable Earth to assist with assessing existing jurisdiction bike/ped trails GIS data schemas and attribute values, along with researching national data standards. Provide recommendations on a regional data standardization solution that integrates the data and attributes existing across the region's GIS layers, while at the same time seeking to adhere to national data standards for the region's trails data. Migrate/maintain data and produce a technical report and GIS/map products that provides research findings.

Required Skills: Advanced undergraduate student pursuing a degree in Geography with a focus on GIS. Must be versed in basic research techniques, technical writing, GIS Desktop, ArcGIS Online, database design, and MS Office suite. **Applicants must be approved for Federal Work Study.** Accepting applications immediately, and the position is open until filled. Pay rate: \$14.00/hour, for ~10 hours a week through the end of the Spring 2024 semester.

Questions? Contact Dr. Jeremy Campbell at the Institute for a Sustainable Earth:
jcampb30@gmu.edu.

[Click Here to Learn More](#)

Summer Graduate Research Fellowships with Organizations on the Front Lines of Sustainability Challenges

Co-sponsored by Mason's [Graduate Division](#) and the [Institute for a Sustainable Earth](#), the 2024 **Sustainability Summer Fellowships for Graduate Research Partnerships** program provides financial support and professional development to graduate students

who will work with partner organizations on applied research projects. This opportunity is designed to connect students with organizations making a positive impact on our world. Together, fellows and partner organizations will identify research and action priorities for the period of the fellowship, allowing students to gain valuable experience and organizational access. Participants in the Sustainability Summer Fellowship program will then be able to leverage this research partnership in their dissertation or master's thesis work.

[Click Here to Learn More](#)



In the News

- [Mason researchers study physical and mental demands on collegiate dancers](#)
- [New Mason Nanofabrication Facility will help drive innovation in the commonwealth](#)
- [Mason scientists conducting experimental impact testing of utility poles](#)
- [Exploring new frontiers: A Year to Remember](#)
- [Campus Engagement Tip: Inspire Kindness on Campus](#)

Events

How Microgrids Can Help Localities on Data Center and Critical Infrastructure Energy Challenges. Enchanted Rock (Houston, TX) is one of the largest microgrid developers in the nation. Natural gas-powered microgrids provide localities an economically viable, quieter, and more environmentally friendly alternative to diesel-powered backup power for data centers and critical infrastructure. Microgrids also can meet electric demand requirements when utilities are delayed in providing power. Join NVRC and Enchanted Rock on January 30, 2024, at 12:00 – 1:00 pm to learn how

microgrids can help localities on energy challenges around data centers and critical infrastructure.

Tuesday, January 30, 2024 | 12:00 PM (ET) | [Click here](#) to register.

Tech Duels is excited to bring you our next **Tech Duels debate, Securing Tomorrow: Artificial Intelligence vs Augmented Intelligence** on Feb 7th from 6-9pm at George Mason University (3351 Fairfax Dr, Arlington, Va). This event is brought to you by Arlington Economic Development Agency, Ace of Cloud and Rapid Talent.

This debate will focus on the future of AI and Augmented Intelligence and which of these technologies will dominate our future. Will it be intelligence with human intervention or without. Augmented intelligence offers suggestions to humans to take decisions unlike artificial intelligence, which works through data and takes anonymous decisions.

Wednesday, February 7, 2024 | 6:00 - 9:00 PM (ET) | [Click here](#) to register.

TECH DUELS | **GEORGE MASON UNIVERSITY**

Mark your Calendars!
February 7, 2024
George Mason University

Augmented Intelligence

Jacqueline Tame
National Security Professional | Emerging Tech Advocate | Policy Innovator | Founder - GAMECHANGER, GAMEBREAKER.AI

Kathleen Walch
Focused on innovation and moving industries and public sector forward with emerging technologies and best practices

VS

Artificial Intelligence

Maureen "Marty" Fromuth
Tech Exec & National Security Leader || Currently Activated as Military Reservist

Noelle Russell
LinkedIn Top Voice in AI | Leading Data & AI Solutions & Responsible Generative AI | Award-Winning Technologist | Microsoft MVP in AI

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Funding Opportunities

Heather's Highlights: Each week we will highlight current funding opportunities, alternating between the six ISE Research Themes.

Research Theme 1: Human Health, Well-Being, and Capabilities

*The National Science Foundation (NSF) is soliciting proposals for the **Building Synthetic Microbial Communities for Biology, Mitigating Climate Change, Sustainability and Biotechnology** program.*

The purpose of this solicitation is to support research into synthetic microbial communities, including how they form and evolve, how to use them to address biological questions, and/or how to build them for biotechnology or bioengineering applications. The goal is to support research that addresses one or more of the three themes: 1) define the underlying mechanisms or rules that drive the formation, maintenance or evolution of synthetic microbial communities, 2) use synthetic microbial communities to address fundamental biological questions, including questions in molecular biology, cellular/organismal biology, ecology and evolution and/o 3) build synthetic communities with biotechnology, bioeconomy or environmental engineering applications, including but not limited to the production of novel biorenewable chemicals, biodegradation or recalcitrant or “forever chemicals,” enabling a circular bioeconomy, fostering sustainable agriculture and mitigating the impacts of climate change.

Application Due Dates: August 1, 2024

Funding Amount: Not Specified

Research Theme 2: Sustainable and Resilient Communities and Ecosystems

*The U.S. Fish and Wildlife Service has announced its **Coastal Program FY24**.*

The Coastal Program projects must support the mission of the U.S. Department of the Interior (DOI), U.S. Fish and Wildlife Service, and the Coastal Program and be based on biological principles and the best available science. The Coastal Program takes an adaptive approach to designing and implementing coastal ecosystem habitat protection and restoration strategies that anticipate and ameliorate the impacts of climate change and other environmental stressors. Coastal Program habitat improvement projects strive to increase coastal resiliency by improving the ability of coastal ecosystems to adapt to environmental changes and supporting natural and nature-based infrastructure projects to protect and enhance coastal habitats.

Application Due Date: May 30, 2024

Funding Amount: \$500,000

Research Theme 3: Harnessing the Digital Revolution for Sustainability and Education for All

*The Air Force Office of Scientific research has announced their **FY 2024 Science, Technology, Engineering and Mathematics (STEM) Program**.*

The Air Force Office of Scientific Research (AFOSR) seeks a broad range of applications for augmenting existing and/or developing innovative solutions that directly maintain and/or cultivate diverse, world-class Science, Technology, Engineering and

Mathematics (STEM) workforce to maintain the U.S. Air Force and Space Force's technological superiority. The goal of proposed efforts must provide solutions that establish, build, and/or maintain STEM educational pathways and workforce opportunities for diverse U.S. citizens directly relevant to AFOSR and technology areas.

Application Due Date: April 12, 2024

Funding Amount: \$450,000

Student Opportunities

EnergyTech University Prize

EnergyTech UP aims to cultivate the next generation of energy innovators while accelerating the transfer of energy technologies to market. This prize seeks to attract the talented students of today and help them develop into the engineers, policymakers, entrepreneurs, market analysts, and project developers of tomorrow. Multidisciplinary student teams develop and present a business plan that leverages National Laboratory-developed or other high-potential energy technologies, including university-developed technologies or other technologies of interest to student competitors.

This prize is sponsored by the Office of Technology Transitions (OTT) at the U.S. Department of Energy (DOE), as well as several other program offices. EnergyTech UP, in partnership with American-Made Challenges, is designed to be approachable, equitable, and scalable nationwide. Winners will be chosen based on the strength of their business proposals. Students interested in participating in this prize will be provided with a curated list of National Lab technologies that are ready for commercialization and that can be used for their business plan.

Click [here](#) to learn more.

NASA MSI Incubator: Wildfire Climate Tech Challenge

NASA's Wildfire Climate Tech Challenge, part of the MSI Incubator initiative, seeks innovative solutions for wildfire prevention and climate technology. NASA invites students and employees of Minority Serving Institutions (MSIs) to address the escalating issues caused by wildfires exacerbated by climate change. Successful participants will have the opportunity to join a startup incubator program and compete for a prize of \$100,000. Additionally, this initiative offers a platform for participants to present their ideas to venture capitalists and NASA experts, furthering the development of technology in the fields of wildfire prevention and climate change, while promoting inclusivity and diversity.

Click [here](#) to learn more.

Global Sustainability Scholars Fellows Program

The GSS Fellows program offers a 10-week paid immersive training and mentoring with a global sustainability organization. Fellows will gain professional work experience, receive professional mentorship and professional development training, and build an international professional network in sustainability science. We will accept 5 -10 fellows per year to join the GSS community, provide advanced professional development training, and build professional connections that foster opportunities for employment and/or graduate school opportunities.

Click [here](#) to learn more.

The Institute for a Sustainable Earth (ISE) aims to connect members of the Mason community with others across the Mason community—and with other communities, policy-makers, businesses and organizations—so that, together, we can more effectively address the world’s pressing sustainability and resilience challenges.

The ISE Newsletter provides up-to-date information on conferences, funding opportunities, and research pertaining to environmental science and sustainability. The biweekly newsletter aims to facilitate information sharing among researchers, practitioners, and relevant local, national, and international organization.



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