

VEEKLY-

Dear Colleagues,

government entities.

Join our first IDIA CONNECT event, where we connect you with Figure 8 Federal. RSVP here.

The Institute for Digital Innovation (IDIA) is launching its IDIA CONNECT series to connect Mason faculty, researchers, and students with industry and non-governmental organizations, as well as local, regional, and national

September 30, 2022, 1 - 2 PM Zoom Meeting information sent over email

Institute for Digital InnovAtion

The Institute for Digital Innovation (IDIA) is launching its IDIA CONNECT series to connect Mason faculty, researchers, and students with industry, non-governmental organizations, as well as local, regional, and national government entities. Join us for our first DIA **ECT** event, where we connect you with Learn more at idia.gmu.edu (a) @GMUDigitalInnov (a) @GMUDigitalInnov Not subscribed to our weekly newsletter? ← @GMUDigitalInnov in GMUDigitalInnova Email idia2@gmu.edu

UPCOMING EVENTS = ACM EAAMO coming to Arlington in October Department of Computer Science is hosting ACM EAAMO, the Conference on Equity and Access in Algorithms, Mechanisms, and Optimization, in partnership with GMU IDIA, at GMU's Mason Square campus in Arlington from October 6-9! Registration is now open here. The goal of this event is to highlight work where techniques from algorithms, optimization, and mechanism design,

impact, exploratory research efforts to help identify breakthrough technologies for the Department of Defense. More information is here.

Artificial Intelligence for Critical Mineral Assessment Competition

techniques to accelerate critical mineral assessments. The goal is to significantly speed up the assessment of the nation's critical mineral resources by automating key steps in the process. Today through September 23, we're seeking participants with machine learning, computer vision, and/or AI experience

for the following challenge as part of the broader competition. The first challenge is already underway.

More information is here.

Daniel Larremore, University of Colorado September 28, 2022, 1-2 p.m. Register here.

Past Climates Inform Our Future Jessica Tierney, University of Arizona October 11, 2022, 1-2 p.m. Register here.

Innovation Summit and Expo.

SEPTEMBER 27-29, 2022 | WASHINGTON, DC

DEFENSE TECHCONNEC

INNOVATION SUMMIT & EXPO

Learn more.

Assessment Competition

Artificial Intelligence for

Critical Mineral

NSF 2022 Waterman Lectures Join the U.S. National Science Foundation for a three-part lecture series featuring the laureates of the 2022 Alan T. Waterman Award, the nation's highest honor for early-career scientists and engineers. Trends in U.S. Faculty Hiring and Retention from Ten Years of Data: A Study of Prestige, Diversity and Inequality

Lara A. Thompson Jessica E. Tierney Daniel B. Larremore The Alan T. Waterman Award Defense TechConnect Innovation Summit and Expo Connect with \$4 billion+ in funding opportunities with SBIR Offices and Agencies at the Defense TechConnect

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ASEE Southeastern Section Conference March 12-14, 2023 College of Engineering and Computing George Mason University Fairfax, VA

COMPETE TO DEVELOP PROPOSED SOLUTIONS FOR MAJOR ENERGY CHALLENGES. AND FOR RECOGNITION AND PRIZES (\$10,000 FIRST PRIZE) AND INCLUDING OPPORTUNITIES FOR PAID AES ENERGY INNOVATION **CHALLENGE INTERNSHIPS**

> ALL PARTICIPANTS WILL RECEIVE STUDENT ENERGY INDUSTRY ASSOCIATION MEMBERSHIPS AND OPPORTUNITIES TO NETWORK WITH AES PROFESSIONALS

AES Energy Innovation Challenge

The SprinternshipTM Application for 2023 is Now Open!

= VARIOUS OPPORTUNITIES =

CIP2 2022 Annual Fall Conference

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C-IP² Presents an Academic Conference

IP on the Wane:

BREAK THROUGH TECH

Sprinternships[™] are paid 3-week micro-internships for first-, second-, or third-year undergraduate students pursuing

computing degrees. Sprinternships™ give students a resume credential that makes them more competitive when applying for summer internships and provides employers a chance to engage with a diverse tech talent pipeline. Working in teams of five, 'Sprinterns®' are immersed in their host site's business and

email breakthroughtech@cs.gmu.edu.

You can apply here.

culture, complete a challenge project, and build their industry network and knowledge.

Applications close at 5:00 p.m. on Friday, September 30. If you have any questions,



On Digital Ethics, Ethos, and Morals for **Artificial Intelligence in the Defense Domain** Professor Wolfgang Koch, Chief Scientist of Fraunhofer FKIE, Germany

ABSTRACT To protect their common heritage of culture, personal freedom, and the rule of law in an increasingly fragile world, democracies must be able to defend themselves "at machine speed" if necessary. However, with the advent of AI technology in the defense domain, this technology, meant for the benefit of humanity, may

This poses a timeless question: How to decide 'well' according to what is recognized as 'true'? To answer this question, we feel that responsible controllability needs to be turned into three tasks of systems engineering: (1) Design artificially intelligent automation in a way that human beings are mentally and emotionally able to master each situation. (2) Identify technical design principles to facilitate the responsible use of AI in defense. (3) Guarantee that human decision makers always have full superiority of

To argue more specifically, we consider documents from Germany's post WW II armed forces spanning from its founding in the 1950s, when also the term 'AI' was coined, to its most recent statements on the matter. A current example will be the ongoing European efforts toward future generation air combat systems where artificially intelligent automation is inevitable. Moreover, we sketch ongoing IEEE 7000-2021 standardization

Wednesday, Sept. 14th

12:00 pm – 1:30 pm EDT

information, decision-making, and options of action.

activities on "Ethically-aligned Engineering."

One of a series of talks on Artificial

and George Mason University.

BIOGRAPHY Professor Wolfgang Koch, Fellow IEEE, earned his PhD in theoretical physics at RWTH Aachen and his habilitation in computer science at the University of Bonn, where he teaches signal processing, data fusion, and resource management. In these fields he has published a monograph, edited handbooks, and written numerous handbook chapters and technical articles. For many years, he has worked for the

Intelligence and Machine Learning that are jointly sponsored by Metron, Inc.

Navigating Economic Uncertainties

Navigating Economic Uncertainty

How consumer trends, data, and technology shape retailer strategies

September 15, 2022, from 12 noon - 1 pm ET

Retail Transformation

Center for

Sponsored by: Microsoft

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CIA DDI Digital Hammer Call for White Papers

CIA DDI is seeking white papers outlining potential solutions for managing legal holds. These legal holds require data and records to be preserved and streamlined in order to improve the records management process. White papers may be selected for formal request for proposal, and possibly for a prototype development. The software solution would perform electronic discovery, processing, logging, inventory, audit, ingestion,

The SOO for the BAA is available here. A new version of the Digital Hammer BAA's Concept of Operations (CONOPS) will be released shortly with updated information. The current CONOPS is available here.

document review, data recovery, and production tasks accurately and in a timely manner.

Moderated by:

Gautham Vadakkapati Associate Professor & Center Directo

* AIM-AHEAD Research

Fellowship 2022

David Leibowitz

The AIM-AHEAD Research Fellows Program will engage early-career

researchers from underrepresented populations to actively participate in

biomedical research involving AI/ML methodologies on Electronic Health Record Data. Selected mentors will receive a stipend of up to

Questions? Contact Mike Bunting at mbuntin@gmu.edu

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Deadlines:

003").

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Pathways to Enable Open-Source Ecosystems Deadline: October 21, 2022 Geothermal Energy from Oil and Gas Demonstrated Engineering (GEODE) Deadline: October 28, 2022



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along with insights from the social sciences and humanistic studies, can improve access to opportunity for historically underserved and disadvantaged communities. The conference aims to foster a multi-disciplinary community, facilitating interactions between academia, industry, and the public and voluntary sectors. The program will feature keynote presentations from researchers and practitioners as well as contributed presentations in the research and policy & practice tracks. There will be a series of keynote speakers from a variety of fields: Marcella Alsan (Professor of Public Policy, Harvard Kennedy School), Sello Mokwena (Senior Lecturer and Head of Department, Tshwane University of Technology), Neema Iyer (Founder and Director of Policy. Practitioner Fellow, Digital Civil Society Lab, Stanford PACS), Karen Smilowitz (Professor in Industrial Engineering and Management Sciences, Northwestern University). Questions? Contact Sanmay Das at sanmay@gmu.edu DARPA Innovation Fellowship Program A new DARPA effort aims to recruit standout scientists and engineers beginning their careers for a two-year position at the agency. The DARPA Innovation Fellowship Program will select fellows to develop and manage a portfolio of high-The United States depends on a variety of raw, non-fuel materials dubbed "critical minerals" to manufacture products considered essential to national security. These products can range from rare earth minerals in electric motors and generators to the carbon fiber used for airplanes. Increasing demand, limited domestic supply, and reliance on foreign companies to import these critical minerals pose significant risks to the U.S. supply chain. DARPA has partnered with the U.S. Geological Survey (USGS) to explore the potential for machine learning and artificial intelligence tools and

community. The deadline for accepting applications is October 3, 2022, at 5 p.m. Learn more. Carbon Neutral Pitch and Pilot

REGISTER TO COMPETE

Competition On: October 19, 1-3:30pm

2023 American Society for Engineering Education Southeastern Section

Conference

The 2023 American Society for Engineering Education (ASEE) Southeastern Section Conference will be hosted at Mason on March 12-14, 2023. The conference is open to everyone interested in improving their engineering education

Energy Coordination

Smart INNO City Works

and technology experience.

More information is here.

AES ENERGY INNOVATION CHALLENGE LEARN ABOUT THE EXCITING AES ENERGY INNOVATION CHALLENGE (FOR GRADUATE STUDENT TEAMS FROM ACROSS THE U.S. NETWORK WITH GEORGE MASON GRADUATE STUDENTS AND CREATE YOUR TEAM. Networking hosted by CESP SEPT 8 & 9 2022 @ 330 pm Via Zoom Deadline to Register a Team: SEPT 23, 2022 Scan the QR for the Zoom Link:

Examining the Impacts as IP Rights Are Reduced Co-Hosted with the Global Antitrust Institute (GAI) and the National Security Institute (NSI) **SEPTEMBER 22-23, 2022** George Mason University, Antonin Scalia Law School Property x Innovation Policy Arlington, Virginia (in person only)

German Armed Forces and defense industry. His work comprises all aspects of Intelligence, Surveillance, and Reconnaissance ISR, Electronic / Navigation Warfare, resources management, and Manned-Unmanned Teaming. Being the Chief Scientist of Fraunhofer FKIE, Professor Koch coordinates on a broad scale of R&D activities related to digitalization in the defense and security domain. At the international level, he is active in the International Society of Information Fusion ISIF, the IEEE Aerospace and Electronics Systems Society AESS, and the NATO Science and Technology Organization STO. This talk is open to the public and available via Zoom Meeting. To register, please email registration@metsci.com 2023 Next System Fellows - Applications Open The Next System Fellows now accepting applications for admission to the Spring 2023 cohort of Next System Fellows. Please read more about our courses, internship program, and the new field of Next System Studies - a truly transdisciplinary approach to preparing for a transition to a better society that unites the social sciences and humanities, business and management, environmental and biological sciences, and technology and computer sciences. Read about last year's cohort, our first Next System Fellows. Take a <u>look at this short video</u> to get a sense of one of the activities experienced by our Fellows. Application deadline is November 15th, but our admissions committee begins the formal review of applications on October 1st. If you are interested, you can learn more and apply here.

=AWARDS =

Compete for <u>internally funded IDIA projects</u> Serve as **IDIA Advisory Council members**

Koizumi, Naoru from the Schar School Policy and Government and Co-Pi El-Amine, Hadi for receiving the National Science Foundation grant on D-ISN: Evolution of Global Illicit Kidney Trade Networks: Identification, Lee, Myeong from the College of Engineering and Computing for receiving the National Science Foundation grant on DASS: Exploring how convergence methods foster shared accountability to reveal, map, and mitigate the sources and dynamics of bias across social service provisioning systems Kwiatkowski, John M. from the College of Science for receiving the National Aeronautics and Space Administration grant on PPS Data System Sustaining Engineering and Support.

Did you know that, as an IDIA faculty affiliate, you are eligible to:

Get featured in our next weekly: <u>IDIA Weekly Spotlight</u> Become part of the dynamic multidisciplinary faculty network focused on digital techniques and technologies to advance fields as diverse as finance, education, built infrastructure, science, economics, agriculture, health, transportation, entertainment, national security, and social justice. There is no financial burden to you or your departments for affiliation with the institute. Participation in IDIA does not prevent its members from being associated with other university centers. If you are not already

affiliated, we encourage you to submit your profile here.

Questions are due September 15 by 5 p.m. ES (via the "Q&A" tab under "BAA Call 003") White papers are due October 14 by 5 p.m. EST (via the "BAA Call 003 Resps" tab under "BAA Call — FUNDING OPPORTUNITIES —

SHARE WITH US = We are eager to hear from you! As we work with your colleges to compile updates on digital innovation-related research activities at Mason, we would love to hear about your research activities, awards, and recent publications. Please share any successes, concerns, or ideas with us at idia2@gmu.edu

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