

THE WEEKLY

Dear Colleagues,

The Global Affairs Program in the College of Humanities and Social Sciences has begun a partnership with the [Indian Institute of Technology \(IIT\) Hyderabad](#) for future research and teaching collaborations. All faculty are invited to join an informal Zoom session on **Thursday, April 28 from 8 to 10:30 a.m. EDT** to meet members of the IIT faculty and share your teaching and research interests as well as ideas for collaboration (e.g., student exchange, conferences or seminars, grant proposals, course development, fieldwork, etc.). You are welcome to join the meeting when you are available and stay as long as you can.

RSVP [here](#) by April 24 to receive the Zoom link via email. Please contact [Cortney Hughes Rinker](#) or [Icha Basnyal](#) with any questions.

UPCOMING EVENTS

The Convergence of AI and Biology: Insights into the Biology of Tissues Workshop

The [Klarman Cell Observatory](#) and [Eric and Wendy Schmidt Center](#) have partnered to organize a virtual workshop on "The Convergence of AI and Biology: Insights into the Biology of Tissues" on Wednesday, April 27 starting at 8:45 a.m. EDT.

We welcome you to join us by registering [here](#).

We have an incredible lineup of speakers and panelists for the day who will present talks and lead discussions centered on tissue modeling, cell communication, and machine learning. The agenda for the day is below.

Workshop Agenda	
8:45 - 9:00	Welcome and Introductions Speakers: Anthony Philippakis, Caroline Uhler, Rannik Xavier
9:00 - 10:00	Keynote & Panel 1: Biology Speaker: Garry Nolan Panel: Alex Shalek, Evan Macosko, Beth Stevens
10:00 - 10:15	Break
10:15 - 11:15	Keynote & Panel 2: Technology Speaker: Emma Lundberg Panel: Fei Chen, Xiao Wang, Sangeeta Bhatia, Paola Arlotto
11:15 - 11:30	Break
11:30 - 12:30	Keynote & Panel 3: Computation Speaker: Dana Pe'er Panel: Faisal Mahmood, Nir Yosef, Barbara Engelhardt, Peter Kharchenko

NSF Civic Innovation Challenge

MetroLab is supporting a federal government research and action competition that funds ready-to-implement, research-based pilot projects that have the potential for scalable, sustainable, and transferable impact on community-identified priorities. The [Civic Innovation Challenge](#) ("CIVIC") aims to flip the community-university dynamic, inviting communities to identify civic priorities ripe for innovation and to then partner with researchers to address those priorities. CIVIC is a two-stage competition providing six-month planning grants of \$50K in Stage 1 with full awards of \$1M over 12 months in Stage 2 if selected.

NSF is accepting proposals to the second CIVIC cohort from now until May 5 that focus on one of the following two community-identified priorities:

1. Living in a Changing Climate: Pre-disaster action around adaptation, resilience, and mitigation;
2. Resource & Service Equity: Bridging the gap between essential resources and services & community needs

Learn more [here](#).

NEWS

New NIH Website on Scientific Data Sharing

NIH has announced the availability of a [new website on Scientific Data Sharing](#). Whether you are involved in an NIH-funded project and want to understand [which sharing policies apply to your research](#) and how to comply, or you are a researcher looking to [access scientific data](#) from NIH-affiliated repositories, this [site](#) provides helpful information on the process.

STUDENT OPPORTUNITIES

Cloud Innovation Conference 2022

About The Cloud Innovation Conference

April 30, 2022

The Cloud Innovation Conference is a student-led initiative that provides college students and professionals with insight into today's growing field of cloud computing. With the increase in globalization, students must understand the importance of cloud computing and the associated complexities, risks, opportunities, and achievements within it that affect their daily lives. Participants will immerse in the newly adopted tech culture and learn to use cloud computing tools such as AWS and more.

[To Learn More](#)

Schedule

- 10:00 | Keynote + Conference Orientation
- 11:00 | Introductory Session
- 12:00 | Lunch
- 1:00 | Exploratory Sessions
- 2:00 | Career Hour
- 3:00 | Closing Keynote

If interested, please reach out to the Conference Organizer at cloudinnovationconference@gmail.com by April 27.

Smart City Challenge 2022

Smart City Works, REFRACTION, VIRGINIA TECH, Girls in Tech DC, The Universities

Center for Mathematics and Artificial Intelligence (CMAI)

Two new math courses this fall provide both a mathematical foundation and hands-on learning experience in industrial applications for machine learning and artificial intelligence. Math 462/Math 662 and Math 463/Math 663 were developed by the Center for Mathematics and Artificial Intelligence, the Department of Mathematical Sciences, and BlackSky, and students will receive a certificate listing the skills gained upon completion.

The courses are available both virtually and in person, and students can register now.

Email hantli@gmu.edu to learn more.

Center for Mathematics and Artificial Intelligence (CMAI), Department of Mathematical Sciences and BlackSky have jointly developed two new courses for Fall 2022:

- Math 462/Math 662** Mathematics of Machine Learning with Industrial Applications I
- Math 463/Math 663** Mathematics of Machine Learning with Industrial Applications II

Professor: Hantli Hantli
Email: hantli@gmu.edu

What to expect

- These courses can be taken by undergraduate, graduate students and industry professionals.
- The courses will provide mathematical foundation of deep learning and hands-on experience on industry applications.
- Special emphasis is on the basics of optimization algorithms, stochastic optimization, and probability in the context of deep learning. These courses will incorporate modern tools such as Python or MATLAB.
- They also include industrial applications in scientific imaging, physics, and engineering.

Registration

- Dates:** Math 462/Math 662: Aug 22 - Oct 10, 2022; Math 463/Math 663: Oct 17 - Dec 7, 2022
- Times/Location:** On-campus meetings are on **Tuesday, 7:30-10 p.m.** Students can take courses in a fully virtual format (see details below).
- Audience:** Undergraduates, graduate students, and industry professionals or non-MSU students.
- Certification:** A certificate of completion will be provided by the CMAI upon successful completion of the courses (using the skills gained).

FUNDING OPPORTUNITIES

Faculty Mentors Needed: Research for Intelligence and Security Challenges (RISC) Summer Internship for Hard Security Problems

The University of Maryland Applied Research Laboratory for Intelligence and Security (ARLIS) is a Department of Defense University Affiliated Research Center (UARCR), and George Mason University is a member of the ARLIS university consortium, the Intelligence and Security University Research Enterprise (INSURE). ARLIS is seeking faculty technical mentors for a 10-week program this summer to supervise small teams of senior undergraduate and graduate students in several areas. Faculty should apply directly to ARLIS, per the instructions. Please inform [Mike Bunting](#) if you apply so we can gauge our faculty interest and involvement. More details and how to apply by April 24 are [here](#).

NSF Convergence Accelerator Phase 1 and 2 for 2022 Cohort

NSF's Convergence Accelerator

FUNDING OPPORTUNITY
NSF Convergence Accelerator Phases 1 and 2 for the 2022 Cohort - Tracks H, I, and J

The NSF Convergence Accelerator has issued a new funding opportunity for three new research track topics: Enhancing Opportunities for Persons with Disabilities, Sustainable Materials for Global Challenges, and Food & Nutrition Security. Researchers and innovators have two submission pathways to submit their proposals: Solicitation, NSF-22-583, and Broad Agency Announcement (BAA), NSF/BAA-CA22-02.

TRACK H: ENHANCING OPPORTUNITIES FOR PERSONS WITH DISABILITIES

This track will converge a wide range of disciplines to include social sciences, behavioral sciences, engineering, computer science, ethics, and economics to develop use-inspired solutions to enhance the quality of life, employment access, and opportunities for persons with disabilities (PWDs).

TRACK I: SUSTAINABLE MATERIALS FOR GLOBAL CHALLENGES

This track will converge advances in fundamental materials science with materials design and manufacturing methods with the goal to couple their end-use and full life-cycle considerations for environmentally and economically sustainable materials and products that address global challenges.

The Commonwealth Scientific and Industrial Research Organisation (CSIRO), an Australian Government agency, is partnering with the NSF Convergence Accelerator on Track I. Australian researchers have the opportunity to be on multidisciplinary teams that submit proposals aligned to Track I.

TRACK J: FOOD & NUTRITION SECURITY

This track will converge a wide range of disciplines to address interrelated challenges in supporting population health, combating climate change, and addressing the nutritional needs of the most vulnerable by empowering youth, women, and disadvantaged communities.

LEARN MORE: Who Can Apply:

Researchers and innovators from academia, industry, government, non-profit, and other organizations are encouraged to submit a letter of intent (required) and full proposal.

Funding Opportunity: Submit your proposal to one of the submission pathways:
Solicitation, NSF-22-583: <https://www.nsf.gov/bes/bes-sol/sol-22-583>
NSF/BAA-CA22-02: <https://www.nsf.gov/bes/bes-sol/sol-22-583>

Solicitation Key Dates:
Letter of Intent (required): May 31, 2022
Full Proposal Deadline: July 20, 2022
Full proposals are due 5 p.m. submitter local time.

Informational Meetings:
May 4, 2022
1 - 2:30 p.m. ET
May 5, 2022
3 - 4:30 p.m. ET

Webinar Registration:
[NSFConvergenceAccelerator.eventbrite.com](https://www.nsf.gov/bes/bes-sol/sol-22-583)

Questions:
ConvergenceAccelerator@nsf.gov

ABOUT THE CONVERGENCE ACCELERATOR
Research is often driven by a compelling societal or scientific challenge; however, it may take the researcher community years to develop a solution. To deliver tangible solutions that have a nation-wide societal impact and at a more accelerated pace, the NSF Convergence Accelerator brings together multiple disciplines, expertise, and cross-cutting partnerships to develop solutions through a convergence research approach and innovation processes.

To learn about future opportunities with the Convergence Accelerator, visit: <https://www.nsf.gov/funding/initiatives/convergence-accelerator>

AWARDS

Congratulations to:

Hart, David M. from the [Schar School of Policy & Government](#) for receiving the Information Technology and Innovation Foundation grant on *Decarbonizing Industrial Emissions*.

Hieb, Michael R. from the [College of Engineering & Computing](#) for receiving the NATO grant on 2022 Support for C2SIM Sandbox Enhancement & Operation.

Sherry, Lance C. and co-PIs **Raz, Ali Khalid**; **Berlin, Brett E**; **Shortle, John Friedrich**; and **Baldo, James** from the [College of Engineering & Computing](#) for receiving the Department of Defense grant on *Holistic Assurance Framework: Fast Time Emergent Scenario Simulation (FTSS)*.

IDIA AFFILIATION

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

- Compete for [internally funded IDIA projects](#)
- Serve as [IDIA Advisory Council members](#)
- Receive support for [IDIA relevant events](#)
- Get featured in our next weekly: [IDIA Weekly Spotlight](#)

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](#).

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 ida@gmu.edu