



A Tennessee Flagship Carnegie R1 Research Institution

# RESEARCH + INNOVATION

## NEWSLETTER



Two UofM Faculty Receive NSF CAREER Award

Nascimento and Jazaei, recognized by the National Science Foundation with prestigious award.

[Read Full Story](#)



## Greenhouse Gas Emissions and Agriculture

Impacts of cover cropping on soil health in an Urban farm in the Mid-South.

[Read Full Story](#)





## Spotlight on Innovation and Open Education

Access, advancement and diversity within the dynamic field of educational transformation.

[Read Full Story](#)



## Research Collaboration with El Salvador

CERI expands earthquake research and preparedness work to volcanos in Central America.

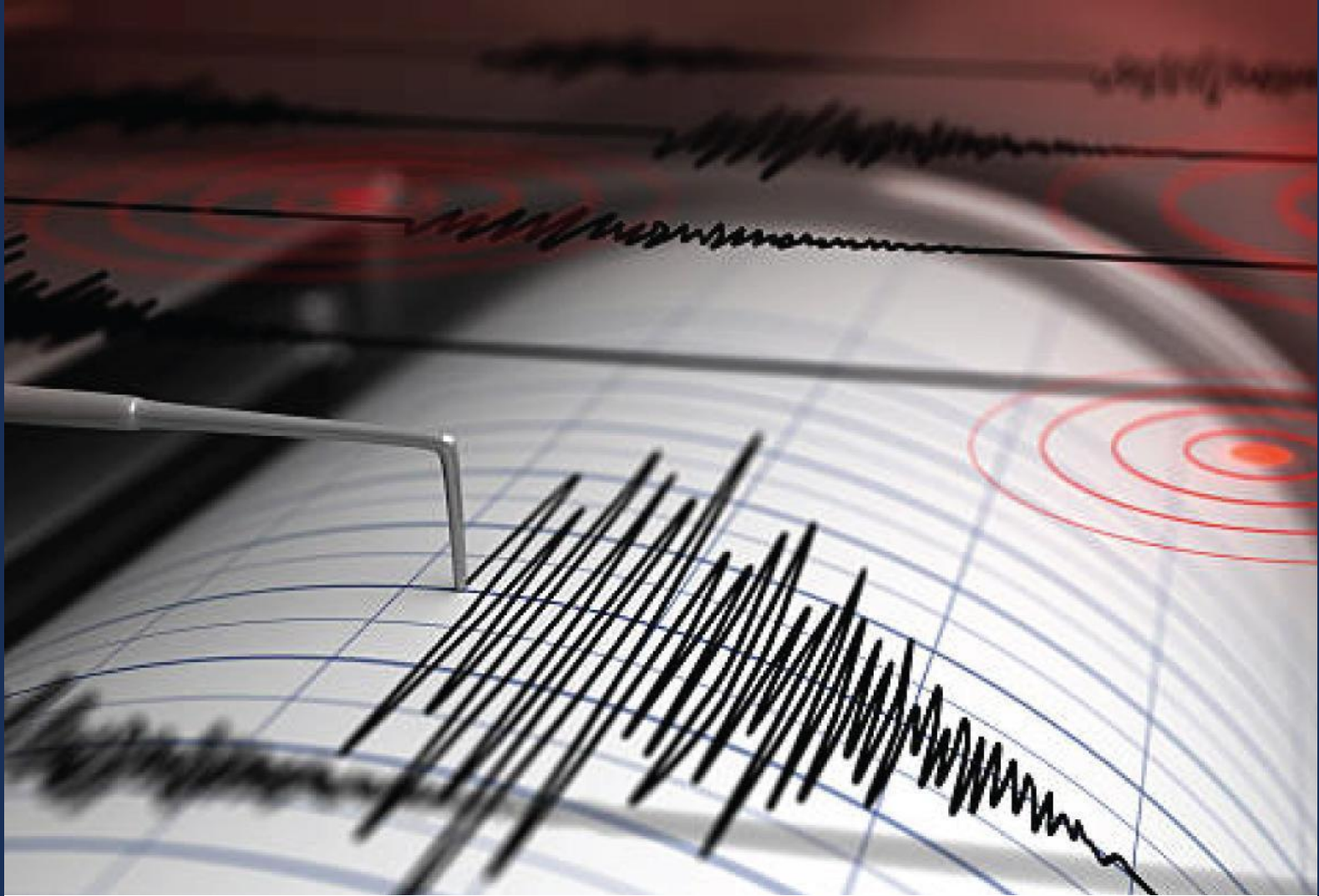
[Read Full Story](#)



## Affecting Overall Gut Health in Adults

Project focuses on measurement of zonulin in response to milk oligosaccharides.

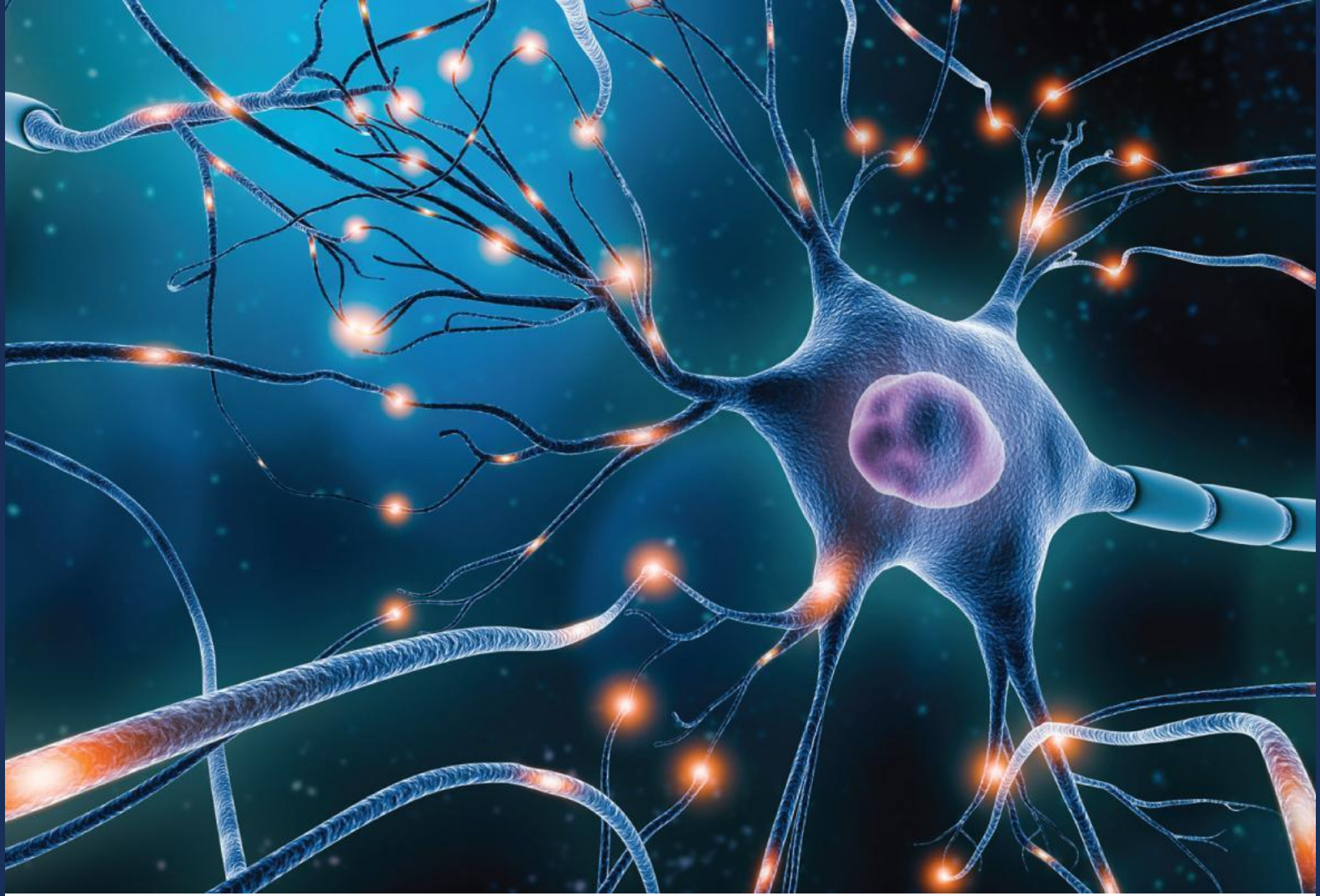
[Read Full Story](#)



## Mid-America Integrated Seismic Network

Earthquake monitoring network at the UofM Center for Earthquake Research and Information.

[Read Full Story](#)

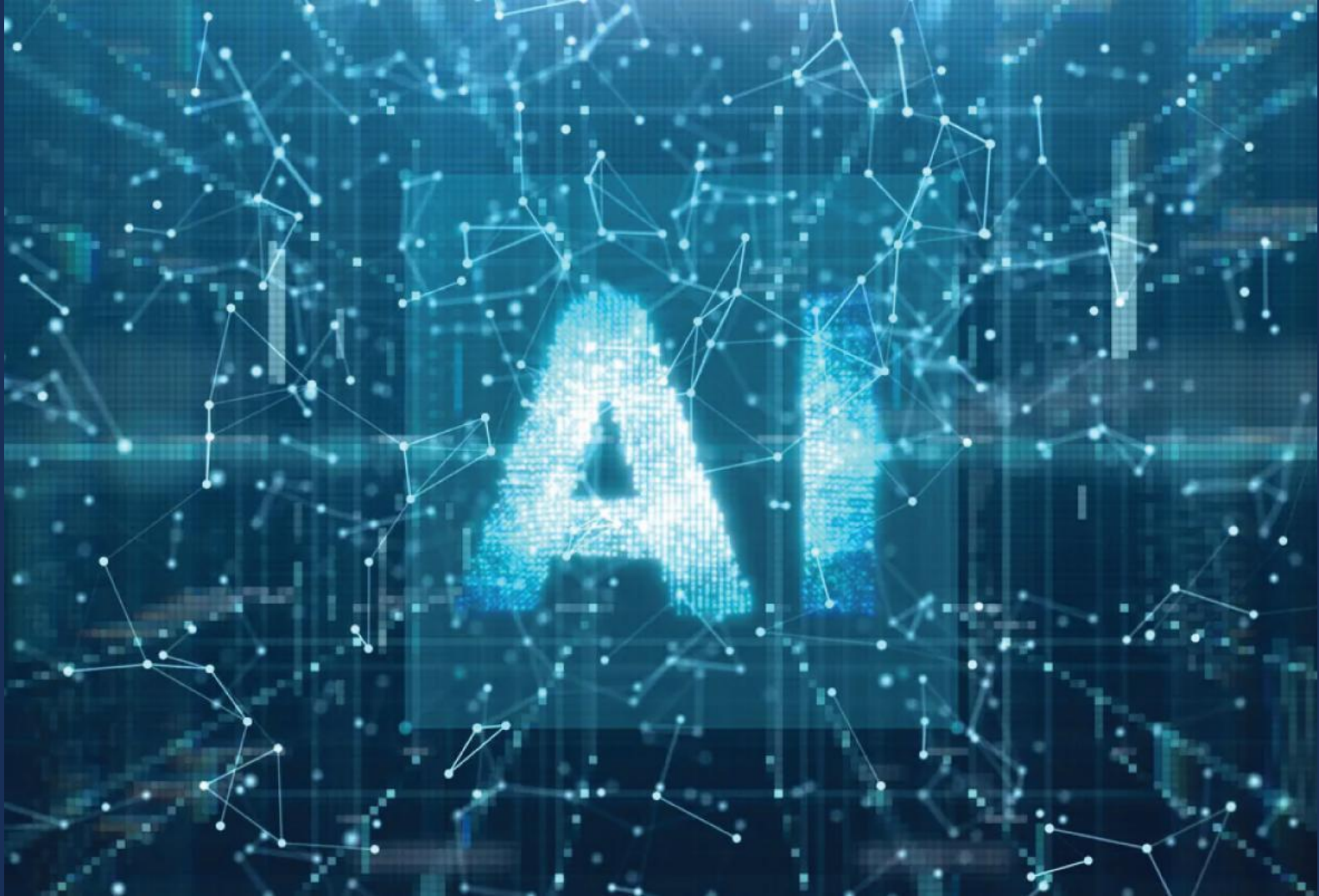


## Memphis Neuroscience Symposium

Second annual gathering of neuroscientists from across the UofM and other area institutions.

[Read Full Story](#)





## Building International AI Research Collaborations

UofM and Universitat Autònoma de Barcelona conducting AI Intelligence Research Exchange Talks.

[Read Full Story](#)



## Dietary Supplements and Overall Health

ASTRA (AI-based STRategy Discovery) is a tool analyzing math-learning strategies in big-data.

[Read Full Story](#)



## Wind Energy with Integrated Servo-Control

Floating offshore wind turbines harness energy creating innovative renewable energy systems.

[Read Full Story](#)



## THSO Continues Funding of Distracted Driving Grant

Comparative analysis of reduced distracted driving among Shelby County adolescents.

[Read Full Story](#)



## Treatment of Alcohol Use Disorder

Leveraging systems pharmacology to advance precision medicine for Gabapentin treatment of AUD.

[Read Full Story](#)



## Behavioral Concerns and Children

Working with parents to understand problems children face so they are able to work with them at home.

[Read Full Story](#)



## DOC, DOD, NIH and NSF Funding Opportunities

Recently published federal agencies' funding opportunities outlining upcoming grants.

[See Full List](#)



## Calendar of Events April 2024

Research Development, Research Enterprises, UMRF Research Park and FedEx Institute of Technology.

[See Full List](#)

---

## Research Awards March 2024

**Dr. Santosh Kumar** awarded \$1,019,403 from the National Institutes of Health.

**Dr. Susan Elswick** awarded \$300,000 from Shelby County Schools and \$46,994 from the University of Tennessee-Knoxville.

**Dr. Shahram Pezeshk** awarded \$300,000 from Shelby County Emergency Management and Homeland Security.

**Dr. John Sabatini** awarded \$241,470 from MindTrust Labs LLC.

**Dr. Dursun Peksen** awarded \$238,262 from Arizona State University.

**Dr. Wendy Griswold** awarded \$265,000 from Kansas State University.



**Dr. Mark Gillenson** awarded \$195,000 from Alion Science and Technology with the Department of Homeland Security.

**Dr. Marian Levy** awarded \$175,000 from the Robert Wood Johnson Foundation.

**Dr. Chunrong Jia** awarded \$156,946 from RTI International with the U.S. Environmental Protection Agency.

**Dr. Latrice Pichon** awarded \$136,691 from Vanderbilt University Medical Center with the Center for Disease and \$104,231 from Vanderbilt University Medical Center with the National Institutes of Health.

**Dr. Richard Bloomer** awarded \$116,680 from Nestle USA, Inc.

**Dr. Tracy Bruen** awarded \$48,557 from the University of Tennessee Health Science Center.

**Lauren Beaupre** awarded \$44,280 from the Jobs for the Future Inc.

**Dr. Bert Burraston** awarded \$43,234 from the Methodist Le Bonheur Community Outreach with the U.S. Department of Justice.

**Dr. Lindsey Feldman** awarded \$25,000 from the The Wenner-Gren Foundation.

**Dr. Mohammed Yeasin** awarded \$21,127 from Pennsylvania State University with the National Institutes of Health.

**Dr. Marika Snider** awarded \$19,803 from the National Concrete Masonry Association Foundation.

**Dr. Debra Bartelli** awarded \$10,000 from the Memphis Child Advocacy Center.

**Dr. Laura Casey** awarded \$7,000 from the Tennessee Department of Mental Health and Substance Abuse Services with the Substance Abuse & Mental Health Services Administration.

**Dr. Napoleon Overton** awarded \$6,384 from the Tennessee Valley Authority.

**Dr. Emily Srisarajivakul** awarded \$2,500 from Universidad de Navarra.

**Dr. Xinhua Yu** awarded \$1,400 from The Campbell Foundation.

*\* Data reported the 18th of each month. Awards finalized after the 18th will be reported the following month.*

[Full project and award details available here.](#)

---

## Upcoming Events & Announcements



# 901 AI | Kickoff



## FedEx Institute of Technology

Launches

### 901 AI Kickoff

Join us during this free event open to the public, students, faculty and staff for networking, speakers and reception to launch **901 AI**, a new initiative for innovators to keep Memphis on the cutting-edge and to learn more about the newest AI tech trends.

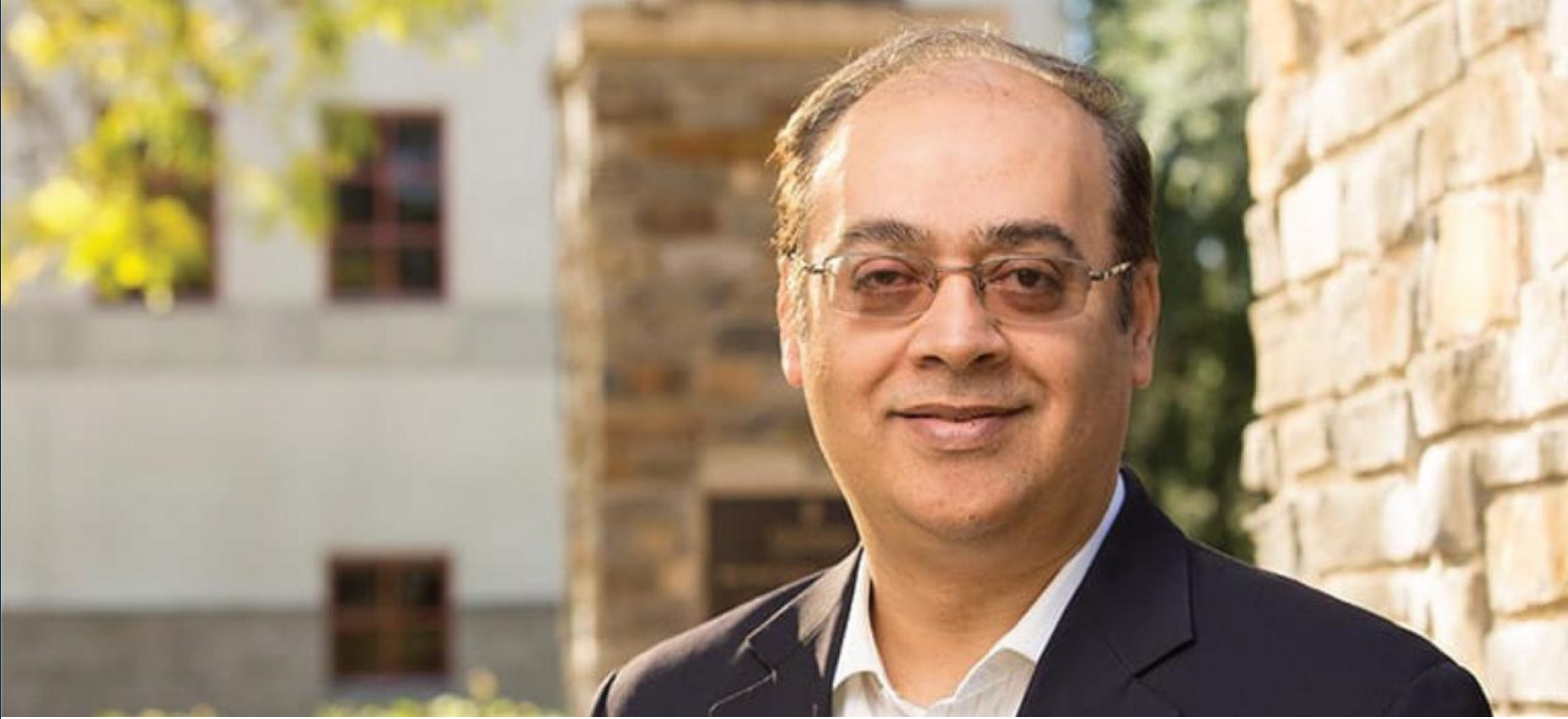
The kickoff meeting will provide an overview of artificial intelligence and machine learning and a glimpse into current AI projects in the Memphis area. Attendees will be able to network with others interested in AI and gain insight into how AI might impact businesses and the local community.

- **Keynote speaker:** Pete Nicoletti, Field CISO of the Americas at Check Point Software Technologies
- **Talk:** AI-Risks, Countermeasures and Opportunities

The 901 AI meetups will take place quarterly, is free to attend and open to the public.

**Tuesday, April 9 | 4 PM | FedEx Institute of Technology  
Methodist Presentation Theatre & Lobby**

REGISTER



## **FedEx Institute of Technology Technology Serving Humanity Speaker Series**

Welcomes

### **Dr. Samir Chatterjee**

Fletcher Jones Chair of Technology Design & Management,  
Center for Information Systems & Technology  
Claremont Graduate University

Given the profound impact of the global pandemic on stress, employment and economies, the pursuit of human flourishing has become increasingly crucial. Human flourishing is a state in which individuals can function at their fullest capacity, fostering growth and holistic well-being. To gain insights into the various facets of human flourishing, understand people's well-being, and identify ways to help them achieve a state where all aspects of their life are positive, this talk will present how we can use Machine Learning techniques to find the strongest predictors of human flourishing.

Additionally, we will delve into a cutting edge topic of "Artificial Consciousness". We know humans are conscious. But can AI be sentient and what happens if AI is conscious? How can we get to a pathway towards Artificial General Intelligence and what role will consciousness play in that? These are some of the questions we will tackle and discuss in the presentation.

**Talk Title:** "Innovating with Artificial Intelligence for Social Good: Towards Human Flourishing and Artificial Consciousness."

Join us in-person or via ZOOM

**Thursday, April 11 | 3 PM | FedEx Institute of Technology  
Methodist Presentation Theatre (103)**

[REGISTER](#)



**Institute for Intelligent Systems**  
THE UNIVERSITY OF MEMPHIS

**Institute for Intelligent Systems**  
Hosts

## **Spring 2024 Lightning Talks**

Join the Institute for Intelligent Systems for faculty and faculty affiliate research talks, a student poster session and reception. This event is free and open to the public.

**Friday, April 12 | 4-5 PM**  
**FedEx Institute of Technology | Methodist Presentation Theatre (103)**

[FOR MORE INFORMATION](#)



## **FedEx Institute of Technology Distinguished Speaker Series**

Welcomes

**Dr. Bill Hardgrave**  
President  
University of Memphis

In 2003, Hardgrave began working on a small Radio Frequency Identification (RFID) project for Walmart. Shortly thereafter, he founded the RFID Lab which is now in its 19th year of existence. Along the way, Hardgrave and his teams have assisted numerous companies in understanding, utilizing, and extracting business value from RFID. This work, via the RFID Lab, has resulted in an estimated \$40+ million in grants and contracts, numerous publications in leading journals, and hundreds of students who have gained real life experience.

In this presentation, Hardgrave will (1) provide an overview of the technology; (2) trace the use of RFID and the major projects that have contributed to the academy and practice over the past two decades; (3) discuss the current state of RFID in retail and other major industries; and (4) look at the future of the technology.

**Talk Title:** "The State of Radio Frequency Identification (RFID) in Retail and Beyond: Past, Present, Future."

Join us in-person

**Monday, April 15 | 3 PM | FedEx Institute of Technology  
Methodist Presentation Theatre (103)**

[REGISTER](#)



## **FedEx Institute of Technology Distinguished Speaker Series**

Welcomes

**Dr. Jeffrey Parsons**  
Research Professor  
Memorial University in Newfoundland

Although there are strong expectations for validity in science, validity in Design Science Research (DSR) is neither well-understood nor consistently addressed. A DSR Validity Framework and a process model are needed to address this gap by defining three high-level claim and validity types: Criterion, Casual and Context (along with validity subtypes). The DSR framework aims to help researchers integrate validity considerations into DSR projects and contribute to the field's development.

Parsons is a research professor at Memorial University in Newfoundland. Parsons' research focuses on representing information in ways that better match how humans think about objects in their physical or social environment.

**Talk Title:** "Validity in Design Science Research"

Join us in-person or via ZOOM

**Tuesday, April 16 | 3 PM | FedEx Institute of Technology  
Methodist Presentation Theatre (103)**

[REGISTER](#)



## FedEx Institute of Technology Distinguished Speaker Series

Welcomes

### **Dr. Roman Beck**

Professor of Business IT, Head of European Blockchain Center  
IT University of Copenhagen

No worries, only the title is in German in reference to "Das Kapital". The way values are created as well as what is considered value has changed, while theorizing about value creation and capture is still based on concepts and models going back to the industrial age. With the emergence of information technology, foremost the Internet, the creation and capture of value became possible in more or less virtual environments, where digital, non-physical forms of value became increasingly new forms of "hard" capital (sometimes also described as "from moving atoms to moving bytes"). Theorizing about the role of information technology as transformative force for value creation and capture focused is still based on existing concepts of goods and capital, as well as how they can be created by companies, disseminated on markets.

In this presentation, Beck will talk about the role of reciprocity and embedded ties in value creation and how they are extended by decentralized technologies, as well as how decentralized systems overcoming market failure in providing goods typically not provided by companies or markets. With decentralized systems at the center of this economic shift, we will discuss the move away from reactive automatic to proactive autonomous digital systems.

**Talk Title:** "*Das nicht-physische Kapital*" ("The Non-Physical Capital")

Join us in-person or via ZOOM

**Thursday, April 18 | 3 PM | FedEx Institute of Technology  
Fishbowl (203/205)**

[REGISTER](#)



## **FedEx Institute of Technology Distinguished Speaker Series**

Welcomes

**Barclay Rogers**  
Founder & CEO  
GRAPHYTE

Major companies are making serious climate pledges with carbon neutrality being the most common. The major question is how to fulfill these pledges.

[Barclay Rogers](#), Founder and CEO of [Graphyte](#), a carbon removal startup, offers insights into the current state of emissions abatement and carbon removal. He covers trends in greenhouse gas emissions since 1990 and categorical methods for considering abatement options, will provide a 'deep dive' into emerging technologies with respect to carbon removal (including nature-based solutions, engineered solutions, and hybrid approaches) and assess the dominant forms of carbon removal -- including agriculture and forestry, carbon capture and storage and direct air capture, and biomass-based approaches – based on the key inputs of cost, energy, and land and includes an assessment of the scale of deployment of the various technologies to date.

Rogers will briefly explain the story of Graphyte, a carbon removal startup that he founded in Memphis, Tennessee with initial investment from Breakthrough Energy Ventures, the venture capital fund created by Bill Gates to accelerate the transition to a low-carbon economy. He includes Carbon Casting, the carbon removal technique pioneered by Graphyte, in the assessment of the dominant forms of carbon removal.

**Talk Title:** "Carbon Capture and Removal: Current Status and Key Challenges"

Join us in-person or via ZOOM

**Wednesday, April 24 | 3 PM | FedEx Institute of Technology  
Fishbowl (203/205)**



REGISTER



## Enabling Career-Life Balance through Supplemental NSF Funding

To help reduce the rate at which early-career researchers are leaving the STEM workforce, The National Science Foundation (NSF) has a Career-Life Balance (CLB) initiative that provides supplements to attract, retain, and advance graduate students, postdoctoral students, and other researchers in STEM fields.

Career-Life Balance supplemental funding to existing awards can be requested as described below:

a. Research award recipients may request supplemental funding:

- To support additional personnel (e.g., a technician or research assistant) to sustain research when the PI, co-PI, or other member of the senior personnel is on family leave for either primary dependent care responsibilities or other direct family considerations; and
- To support additional personnel to sustain research while a postdoctoral researcher or graduate student being supported by NSF on the award is on family leave for either primary dependent care responsibilities or other direct family considerations.

b. Postdoctoral fellowship awardees may request supplemental funding:

- Provided that a postdoctoral fellowship award, funded through one of NSF's postdoctoral fellowship programs, is made to an organization and not directly to the fellow, the awardee may request supplemental funding for the following purpose:
- To support additional personnel to sustain research while the postdoctoral fellow being supported by NSF on the award is on family leave for either primary dependent care responsibilities or other direct family considerations. NSF postdoctoral fellows who receive funding directly from NSF rather than through an organization are ineligible to receive CLB supplements.

c. Graduate Research Fellowship Program (GRFP) awardees may request supplemental funding:

- To support additional personnel, sustain the research of the NSF Graduate Research Fellow on approved medical deferral due to primary dependent care (family leave) situations.

For all the eligible categories, the supplemental funding request may include up to six months' salary support or stipend for a maximum of \$30,000 in direct costs of salary compensation or stipend.

To learn more about preparing a CLB supplemental funding request, reference the NSF's Proposal & Awards Policies and Procedures Guide at this [website](#).

FOR MORE INFORMATION



## INTEGRIT-E

Presents

### **Annual Delta Regional Collaboration Conference** Building the City of Inclusion

Across Mississippi, Tennessee and Arkansas we have worked to assemble partnerships to create place-based solutions that create economic growth. For two days we will bring together nonprofit organizations, higher education institutions, government entities, industry and other stakeholders to do the work of building teams to break the cycle. We will celebrate good work done, share stories of our communities, and build partnerships to transform the region. We will work together to pursue funding.

#### **GOALS Enhance capacity for transformative change by:**

- Establishing research and industry collaborations.
- Building communities and teams for future grant applications.
- Strengthening connections between regional institutions.

[Register »](#) Registration is free, but donations are welcome to support the conference.

**Keynote Speaker:** Mehrsa Baradaran is a professor of Law at the University of California, Irvine and Northwestern University, Chicago. She writes about banking law, financial inclusion, and racial inequality, and is the author of “How the Other Half Banks”, “The Color of Money,” and “The Quiet Coup” (forthcoming). The Color of Money has received multiple awards, including the 2019 Best Book Award by the Urban Affairs Association. Baradaran and her books have received significant media coverage. She has advised U.S. Senators and Congressmen on policy, served on two presidential transition teams, testified before the U.S. Congress, and spoken at forums like the U.S. Treasury and the World Bank.

**Panel topics at the conference include:**

- Intentionally Addressing the Core of Poverty to Move Communities to Thriving
- Grassroots Organizing for Change
- Making STEM Accessible to More Sectors of the Population
- Women and Mothers in the Economy
- Bringing People to the Table: Reengaging Excluded Sectors in the Workforce
- Building Equitable Economies with Real Estate
- Engaging Justice Involved Citizens in the Economy

**Sponsored By:** Integrit-E , DRIVE, UofM, and University of Memphis School of Public Health

**June 17-18 | All Day**  
**FedEx Institute of Technology**  
**The Zone, Lobby, Methodist Presentation Theatre (103),**  
**Fishbowl (203/205), 225, 226, 227, VCC (313), Digital Living Room (315)**

REGISTER



## Research Studies

### Participation Opportunities

Currently available:

- [Center for Information Assurance »](#)
- [Cognition, Language and Speech Lab \(CLaSLab\) »](#)
- [College of Health Sciences »](#)
- [Department of Psychology »](#)
- [Hearing Aid Research Laboratory »](#)
- [Loewenberg College of Nursing \(Heart Failure Study\) »](#)

If your department or college would like to have its research study participation opportunities listed, email [thisweek@memphis.edu](mailto:thisweek@memphis.edu).

---

## Quick Links

[Research & Innovation News](#)

[Research Compliance](#) | [Emerging Tech Training](#)

[FedEx Institute of Technology](#)

---

[Subscribe Now](#)



[Previous Newsletters](#)

[Manage](#) your preferences | [Opt Out](#) using TrueRemove™  
Got this as a forward? [Sign up](#) to receive our future emails.  
View this email [online](#).

365 Innovation Drive, Suite 303 | Memphis, TN 38152 US

This email was sent to .  
To continue receiving our emails, add us to your address book.

emma®

[Subscribe](#) to our email list.