

<u>University of Memphis Research + Innovation Magazine</u>

RESEARCH

Leading Through Innovation

UofM Joins the National Academy of Inventors



The University of Memphis, through the Office of Technology Transfer (OTT) within the Division of Research & Innovation, was recently welcomed as a new member of The National Academy of Inventors® (NAI). The NAI is a member organization

that includes both U.S. and international

universities, as well as governmental and

non-profit research institutes. Currently, there are over 4,000 individual inventor members covering more than 250 institutions worldwide. The goal of the NAI is to recognize and encourage inventors with patents issued from the U.S. Patent and Trademark Office, to increase the visibility of researchers' achievements and to highlight the capabilities of academic technology and innovation. In addition, the organization encourages disclosure of intellectual property as well as

communicates the inventions of its members in hopes of benefitting society as a whole. The NAI also publishes the multidisciplinary journal Technology and Innovation, Journal of the National Academy of Inventors®. Read full press release <u>here</u>. For more information on this announcement, contact Trieu at httrieu@memphis.edu. For more information about research and innovation at the UofM, visit research.memphis.edu. **Harvard JPB**

Fellowship Workshop held at the UofM Supports Innovative Research The Harvard-JPB Environmental Health Fellowship <u>Program</u>, funded by the JPB Foundation, recently held a week-long

workshop at the UofM. The workshop was

Technology and School of Public Health at

the University of Memphis March 18-22.

hosted by the FedEx Institute of

Environmental Health

This <u>program</u> supports early career academic and federal agency scientists who are engaged in innovative multidisciplinary research on both the social and environmental determinants of health in vulnerable communities. The fellows are working on environmental and social justice issues in their communities across the U.S.

<u>Dr. Chunrong Jia</u>, associate professor of Environmental Health in School of Public Health of University of Memphis, is a senior fellow of this program.

Sabri Awarded NSF Grant for Research Experiences for Undergraduates (REU) Impacts Six Undergrads from Around

the Country

Physics.

their website.

Dr. Firouzeh Sabri, associate professor of Physics and Materials Science, will serve as principal investigator and director on an NSF-funded grant titled Research Experiences for Undergraduates, which will provide research experiences for six students from around the region and country, including a 10-week researchintense summer program. Dr. Jingbio Cui, professor and chair of Physics and Materials Science, will serve as coinvestigator and co-director. Students will choose to work with UofM faculty around four research themes: Nanomaterials for Energy Applications; Biophysics; Photonics

and Plasmonics; and Computational

To learn more about the program, visit

Faculty Collaborate with Libraries over Health,

Technology and Mental Health CoRS Hosts Event for Students The Health and Technology Community of Research Scholars (CoRŠ) at the University is hosting an educational event for students, faculty, and their community collaborators—employees of the Memphis

Public Library. The CoRS is hosting Ms.

Tameka Tobias, executive director of the National Alliance on Mental Illness (NAMI)

for Mississippi, to speak on mental health. Ms. Tobias' address is titled, "Think Again: Mental Illness Overview" and will provide

attendees with ways the library staff and

important health challenge. The CoRS is

include Dr. Joy Goldsmith, professor, and

Department of Communication and Film;

Loewenberg College of Nursing; and Dr. Andrew Tawfik, assistant professor,

Department of Instruction and Curriculum

Dr. Sohye Lee, assistant professor and Dr.

Dr. Sachiko Terui, assistant professor,

Y'Esha Williams, assistant professor,

led by Dr. Seokwon Jin, assistant professor of Social Work; members

members of the public can respond to this

Leadership. The event will be held on April 10. For more information, contact Dr. Sachiko Terui via email. Call for Research **Proposals** Czech Academy of Sciences UofM and the Czech Academy of Sciences (CAS) are partnering to grow research coopération. On April 1, the two organizations issued a joint call for proposals open to UofM faculty and researchers affiliated with one of the Institutes of the CAS. The competition will award seed funds to two projects to support preliminary work that will lead to larger scale proposals. Proposals must be submitted by May 31. Details, guidance and proposal documents may be found <u>here</u>.

of Technology will provide seed funding averaging approximately \$10,000 per project. <u>Detailed guidelines for the calls for</u> proposals available here.

Call for Research

Food Technologies

Research Cluster FedEx Institute of Technology

Proposals: Agriculture and

The Agriculture and Food Technologies Research Cluster is calling for proposals from faculty at the University of Memphis

for interdisciplinary research pertaining to all aspects of agriculture and food

technology research. The FedEx Institute

Proposals must be received by **April 5**. Please submit proposals as email

attachments to fedex@memphis.edu.

regardless of outcome in mid-April.

For further information, including the

relevance of proposed research to this

Those submitting proposals will be notified

RFP, please contact the cluster co-leaders Dr. Duane McKenna at dmckenna@memphis.edu and Dr. Pratik Banerjee at pbnerjee@memphis.edu. **UofM Lindner** featured in

ACS Editors'

Published in ACS

Choice

Sensors

Bradford D. Pendley, all from the Department of Biomedical Engineering. The full article (DOI: 10.1021/acssensors.8b01651) is available for access here.

Economics and Computer Science Come Together to

Interdisciplinary Research Efforts Pay

UofM graduate students, Scott Koskoski

and Stephen Lee from the UofM's

Win Wells Fargo

Challenge

Dr. Erno Lindner, professor in the

Department of Biomedical Engineering and Chemistry, was recently notified that

his article Reference Electrodes with Ionic Liquid Salt Bridge: When Will These Innovative Novel Reference Electrodes

Gain Broad Acceptance? is featured as ACS Editors' Choice in the ACS Sensors Journal. Co-authors of the paper are Dr. Marcin Guzinski, Taskia A. Khan and Dr.

Department of Economics and Department of Computer Science respectively, collaborated to win the Wells Fargo Campus Analytics Challenge in late 2018. One of Wells Fargo's priorities is to promote environmental sustainability, with a focus on accelerating the transition to a low-carbon economy. The Campus Analytics Challenge: Live Green and Live Happy invited higher education degree-seeking students to write computer programs to find quality

substitutes for high carbon emitting

utility from these activities.

activities such as long showers or driving a

car, without reducing the happiness and

The Challenge winners each received \$2,200 and a 3-day/2-night trip to San Francisco, CA in March 2019 to attend a Wells Fargo Analytics Summit, and \$500 for travel expenses. The other four

winning teams were from Duke University,

University of Illinois Urbana-Champaign,

Georgia Tech and Indiana University.

Faculty Workshop Series Commercialization and Tech Transfer April 12 | NOON – 2 PM | Fishbowl (203/205)Join the Division of Research & Innovation Team for these free, monthly sessions designed to help faculty and doctoral students answer frequently asked questions, provide professional development around critical skills and

create opportunities for networking and

SMART CITIES

Cody Behles, associate director in the FedEx Institute of Technology, was

Services, Incorporated for his project

the National Institutes of Health in collaboration with Baptist Cancer Center for his project "Improving pathologic nodal

staging of resected lung cancer.

Transportation/US Department of Transportation for her project "Best

Dr. Charles Camp, professor of Civil Engineering in the Herff College of

the Tennessee Department of

Transportation/US Department of

Parking Needs in Tennessee" and

Transportation/US Department of

Latrice Pichon, PhD, MPH, CHES,

associate professor of Social and Behavioral Sciences in the School of Public Health, was awarded \$75,000 from Gilead Sciences, Inc. in collaboration with

"COMPASS Transformative Grant:

Institute for her project "Community Partnership to Enhance Kindergarten Readiness Through Quality

Tennessee Department of

respectively.

Strategies for Diversity.

Dr. Stephanie Ivey, associate dean for Research in the Herff College of Engineering and professor of Civil Engineering, was awarded \$69,710.00 from the Tennessee Department of

and Development Grant."

awarded \$199,000 from FedEx Corporate

"FedEx Additive Manufacturing Research

Matthew Smeltzer, PhD, Mstat, assistant professor of Epidemiology, Biostatistics, and Environmental Health in the School of Public Health, was awarded \$33,259 from

Decision Making via 3D Measurement and Advanced 3D Dynamic Analysis." Dr. Mihalis M. Golias, associate professor of Civil Engineering in the College of Engineering, was awarded \$99,997 and \$200,000 from the Tennessee Department

"Planning Guidebook for Commodity and Freight Movement in TN" respectively.

Dr. Sabya Mishra, assistant professor of Civil Engineering in the of Engineering was awarded \$174,999 and \$300,000 from the

Transportation for his projects "Work Zone Alert Systems" and "CAV adoption"

the Southern AIDS Coalition for her project

Mobilizing PLWH and Faith Leaders in HIV Prevention and Care."

Dr. Loretta Rudd, clinical associate professor in the University College, was awarded \$271,119 from The Urban Child

Engineering, was awarded \$149,691 from

Caregiver/Parent-Child Interactions." Dr. Beverly Cross, Holder of the Chair Excellence in Urban Education in the College of Education, was awarded \$150,000 from the Memphis Housing Authority/HUD for her project "South City Choice Neighborhood.' Michael Hagge, MArch, MCRP, MPA, professor and Chair of the Department of Architecture in the College of

Communication & Fine Arts, was awarded \$26,301 from the Tennessee Department

Distinguished Professor of Psychology, was awarded \$170,070 from the Department of Defense in collaboration with University of Utah for his project "Brief Cognitive Behavioral Therapy (BCBT) Replication Trial." * Data is reported on the 18th of each month. Any awards finalized after the

CLUSTERS ADDITIVE MANUFACTURING AGRICULTURE & FOOD **TECHNOLOGIES**

DRONES New Awards: March

BIOLOGISTICS

CAST

DATA SCIENCE

Transportation for his project "Bump at the End of the Bridge: Enhanced Remediation of Transportation/US Department of Transportation for his projects "Truck

of Commerce and Insurance. Dr. Russell J. Deaton, associate dean of Academic Affairs and Administration and Kanuri Professor of Engineering, was awarded \$27,916 from the Tennessee Department of Commerce and Insurance for an Equipment Grant. Dr. Scott Sundvall, assistant professor of English and director of the Center for Writing and Communication, was awarded \$8,600 from the National Council of

Teachers of English for his project

Digital and Multimodal Writers."

Dr. M. David Rudd, president and

"Electrate Ethnography: Observing and Testing the Composing Processes of

18th of each month will be reported in the following month's report. **Green Mountain Technology Moves in the UMRF Research**

WHO WE ARE.

interdisciplinary collaboration across campus. Contact research@memphis.edu with specific questions regarding the series, and to RSVP. A light lunch is provided. RESEARCH

Resilience Research Collaboration focusing on Response and Recovery One Concern, a Menlo Park, Calif., -based Al company, is partnering with the UofM Center for Earthquake Research and Information (CERI) to help communities disasters.

One Concern Partners

with UofM's CERI

deficiency for the purpose of providing insights and building long-term resilience both inside and outside of Tennessee.

In addition to collaborating in the AI and machine learning space, the partnership will also create educational opportunities, explore the licensing UofM inventions and technologies, and build pathways for collaborative partnerships that deploy One Concern's resiliency platform in unique ways. The research collaboration between

CERI and One Concern is an example of how the University of Memphis is providing a new avenue for innovators in aligned research areas to find success in Tennessee. Read full press release here.

Data Science Summit Growing the Data Science Community

grow a data science community of practice that will include members from both public and private sectors in West Tennessee and the Mid-South. Keynotes featured were Dr. Henry Kautz, with the National Science Foundation, and

future data scientists and to create an

environment to foster research in this area. Initiatives such as these will help to

Dr. Bala Vaidyanathan, director of the

Advanced Analytics & Industry Research at FedEx. For more information on this research cluster, contact cluster coleaders Dr. David Kemme dmkemme@memphis.edu and Dr. Vasile Rus vrus@memphis.edu.

SBIR/STTR Workshop Resources for Entrepreneurial Researchers April 5 | 9 AM – NOON | FIT MPT (103)The FedEx Institute of Technology is partnering with Launch Tennessee to host

University affiliates everything they need to

know about engaging this critical public

private partnership funding opportunity.

SBIR/STTR are a critical part of the University's drive to increase defense funding in line with the goal of achieving

Register <u>here</u> for this free workshop.

UMRF Research Park **Welcomes Green Mountain Technology** Company Officially Moves In The UMRF Research Park recently welcomed its newest tenent, Green Mountain Technololgy, to 460 S. Highland St. On March 18, the company held a grand opening to celebrate the completion of their new home in the University District.

Green Mountain Technology is a data-

retailers in the United States. Their new

facility at the research park will focus on

opportunity for companies to engage

technology innovation, collaborating with researchers and hiring students. The

driven parcel delivery management

solution that works with the biggest

Mountain

RESEARCHROUNDU 2019 FORUM FOR ADMINISTRATORS OF RESEARCH AND SPONSORED PROGRAMS **ELECTRONIC SYSTEMS AND SUBMISSIONS** This overview session will cover internal software systems used to support research and sponsored activity as well as external systems such as eRA Commons, research.gov, grants.gov, G-5 and many, many 5 UC SENATE CHAMBER (UC261) | 10:30 - NOON MEMPHIS. Loewenberg

April 5, at the University of Memphis Holiday Inn. ACEs are adverse childhood experiences, which have been linked to chronic health conditions, early death, and risky health behaviors. Keynote speaker is Dr. Wendy Ellis, project director for

Collaborative at the Milken Institute School for Public Health, George Washington University. Free CEUs are available for

College of Nursing and iIMPACT are

Building Community Resilience

Cognitive Science Seminar Talks

FEDEX INSTITUTE OF TECHNOLOGY, 405

STEVE RITTER, PH.D. FOUNDER AND CHIEF SCIENTIST CARNEGIE LEARNING

APRIL 10 | 4-6 PM

hosting an ACEs Symposium on Friday,

As part of the Spring 2019 Cognitive Science Seminar series "Models of Human Learning", presented by the Institute for Intelligent Systems (IIS) in the FedEx Institute of Technology, will host their next talk April 10, featuring Dr. Steven River, former of Committee and the steven states of the steven states of the steven states of the states founder of Carnegie Learning, Inc., and currently serves as its Chief Scientist. Talk will be held in the FedEx Institute of Technology, room 405. Register for this free event here. **DESIGN THINKING**



The algorithm cache the most popular table entries in a fast-memory cache, while storing the full routing table in lower cost, slower memory. Their experimental results show that FIB caches require only 5% of the memory installed in today' routers to achieve similar performance. This novel technology can lower the operating cost of Internet Service Providers and enterprise networks to buy, maintain and upgrade expensive routers. This new technology can lower the operating cost of Internet Service Providers and enterprise networks to buy, maintain and upgrade expensive routers.

For more information on UofM

IIS: Cognitive Science Seminar Talk April 10 | 4 – 6 PM | FIT 405 <u>Lab Tour: Integrated Microscopy Lab</u> April 10 | NOON – 2PM| Life Science Bldg MEMPass/Power BI Meetup April 11 | 5:30 - 8:30 PM | FIT 225 <u>Design Thinking Workshop</u> April 11-12 | 8 AM – 5 PM |Fishbowl Faculty Workshop Series: Introduction to Commercialization and Tech Transfer April 12 | 12 - 2 PM | FIT 225 Memphis Python User Group April 15 | 6:30 – 8:30 PM | FIT 226

SAS Programming II: Data Manipulation Techniques April 15–16 | 8 AM – 5 PM |

Research & Networking Breakfast Series:
DataSets April 24 | FIT VCC (313)

Memphis PHP User Group April 23 | 6:30 – 8 PM | FIT 225

CORS Lightning Talk April 25 | 3 – 5 PM | FIT 225

<u>Data-Focused Workshop</u> April 25 | 8 AM – 5 PM | FIT 226

<u>Design Thinking Workshop</u> April 11-12 | 8 AM – 5 PM | Fishbowl 203/205

SAS Programming II: Data Manipulation

<u>Techniques</u> April 15-16 | 8 AM – 5 PM | FIT 225

<u>Data-Focused Workshop</u> April 25 | 8 AM – 5 PM | FIT 226

CAST Cybersecurity Fundamentals Workshop

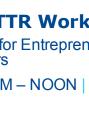
April 29 - May 3 | 8 AM – 5 PM | FIT 225

build long-term resilience against natural The collaboration centers around the application of machine learning technology to Tennessee datasets, with the two organizations spearheading a data collection project for areas with data

On March 29, the Data Science **Research Cluster** at the FedEx Institute of Technology hosted the 2019 Data Science Summit. The conference was to support the Data Science Initiative and bring together the local community, train

LaunchTennessee

R1 status.

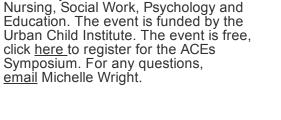






directly with the University through the research park represents a new chapter in public-private partnerships on campus. For more information on the research park, visit <u>umrfresearchpark.org</u>. Learn more about the company at this link.

College of **Nursing and Sponsor ACEs** Symposium Awareness to Action April 5 | 8 AM - NOON | Holiday Inn Ballroom The University of Memphis Loewenberg



April 11 & 12 | 8 AM - 5 PM Room 203/205 (Fishbowl) Research and Networking **Breakfast Series** Data Storage, Data Management and Legal Aspects

April 24 | 7:30 AM - 9 AM | FIT VCC

interactions among faculty from various disciplines around common areas of

interest, this series features brief research updates and time for 1:1 conversations

featured nine faculty presenting datasets

If you have an idea for a future topic, or would like more information on the series,

Collaboration is essential in today's research environment. To facilitate

over breakfast. The March session

with 28 participants across campus.

contact Francoise Mireles at

fmreles1@memphis.edu.

(313)



Community of



Efficient Forwarding Information Base

Tech Transfer:

Patent No. 10.091.105

Caching System and Method

Dr. Lan Wang, Dr. Yaoging Liu

The Internet is growing at a rapid rate, leading to super linear growth in Internet routers' memory requirements. Drs. Wang and Liu's FIB caching technology aims to

reduce the size of Internet routing tables.



<u>Tech901 Information Session</u> April 4 | 6 -7 PM | FIT 225

April 8 | 3 - 5PM | FIT 225

April 10 | 6 – 8 PM | FIT 225

Joint DRONES/Biologistics Cluster Talk

Memphis Game Developers: Computer





FedEx NSTITUTE OF ECHNOLOGY





Park



Division of Research and Innovation Leading Through Innovation

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