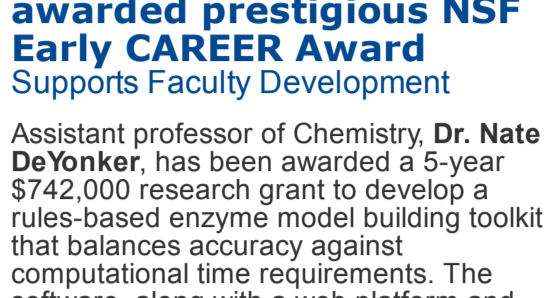




May 2019

University of Memphis Research + Innovation Magazine

Leading Through Innovation



Dr. Nate DeYonker awarded prestigious NSF Early CAREER Award Supports Faculty Development

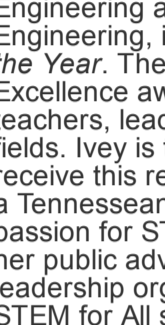
Assistant professor of Chemistry, Dr. Nate DeYonker, has been awarded a 5-year \$742,000 research grant to develop a rules-based enzyme model building toolkit that balances accuracy against computational time requirements.

Please join us in congratulating DeYonker! For more information about DeYonker and his research, please visit his website.

University of Memphis Mathematician named SIAM Fellow Third Tennessee to be honored

Dr. Irena Lasiecka, chair of the Department of Mathematical Sciences, has been named a 2019 SIAM Fellow. The Society for Industrial and Applied Mathematics (SIAM) is an international community of academic, manufacturing, research and development, service and consulting organizations, government, and military organizations.

For more information on this award and the Class of 2019 Fellows, view the announcement here.



Dr. Stephanie Ivey to receive 2019 Tennessee STEM Advocate Award First UofM Recipient

At its May 14-15th Summit, the Tennessee STEM Innovation Network will name Dr. Stephanie Ivey, associate dean for Research, Herff College of Engineering and professor in Civil Engineering, its 2019 STEM Advocate of the Year.

For more information visit their website.

Women's Foundation for a Greater Memphis Awards "Girls Experiencing Engineering" with Grant Supports Summer Program

Girls Experiencing Engineering (GEE) is a fast-paced, interactive summer program (structured in a series of one week, 20-hour intensive sessions) that seeks to instill young women with confidence, interest and awareness of the wide array of career opportunities within science, technology and engineering fields.

Recognized by INSIGHT Into Diversity magazine as one of 2018's Inspiring Programs in STEM, GEE has introduced more than 1,700 girls to STEM and Engineering careers during its 16 year history.

For more information, or to register to attend, visit: memphis.edu/gee.

CoRS Researchers and Cluster Leaders Present Research Updates 'Lightning Talks' Showcase Work

On Thursday, April 25, eleven Chemurds of Research Scholars (CoRS) and five Research Cluster leaders gave three minute 'lightning' talks about the work of their research groups. These presentations allowed researchers to share progress-to-date, challenges encountered and proposed solutions.

For more information on resources available for researchers, visit our research collaborations webpage.

UofM Researcher funded by Templeton Religion Trust Will Study Local Impact on Chilean Community

Dr. Michael Perez, assistant professor in the Department of Anthropology, will serve as principal investigator on a newly funded project. He will be joined by collaborators from the Universidad de Chile and American University of Dubai.

Through a qualitative study of the Simeto River Agreement in Sicily, Toldi plans to build a best-practice framework for what a successful, community-led coalition could look like in Memphis, implementing proactive measures that address water management and cultivate both ecological and social benefits.

For more, read the full release here.

Research+Innovation Promotions

The Division of Research & Innovation is pleased to announce two promotions as it gears up for the University's strategic push for Carnegie R1 research status within the next five years.

"These changes will allow us to better serve faculty in a more effective way as we scale up to provide value-added services that will increase external research funding for projects across campus," noted Dr. Jasbir Dhaliwal, EVP Division of Research and Innovation.

New Research Awards April 2019

Dr. Firouzeh Sabri, associate professor in the Department of Physics and Materials Science, was awarded \$252,934 from the National Science Foundation (NSF) for her project "REU Site: Multidisciplinary Physics Research at the University of Memphis."

Dr. James Murphy, professor in the Department of Technology, was awarded \$291,439 from the National Science Foundation (NSF) for his project "Applying Behavioral Economics to Predict Alcohol Trajectories during the Transition to Adulthood."

Dr. Stephanie Ivey, associate dean for Research in the Herff College of Engineering and professor of Civil Engineering, was awarded \$74,689 from Shelby County Schools (SCS) for her project "Shelby County Schools STEM Ambassadors."

Dr. Richard Sweigard, dean of the Herff College of Engineering, was awarded \$20,000 from Tennessee State University for his project "Tennessee Louis Stokes Alliance for Minority Participation Undergraduate Research Conference."

Dr. Radesh Palakurthi, IHG Endowed Chair of Excellence/Professor and Dean of the Kemmons Wilson School of Hospitality & Resort Management, was awarded \$9,012 from Florence University of the Arts (FUA) for his project "Outbound Health and Wellness Tourism Destination Choice by U.S. Consumers: A Trade-Off Analysis of the Significant Decision Factors."

Dr. Barbara Bekis, coordinator for Educational Support Programs (ESP), was awarded \$933,182 from Peer Power Foundation Inc. for her project "Peer Power Institute."

\* Data is reported on the 18th of each month. Any awards finalized after the 18th of each month will be reported in the following month's report.

UofM held Inaugural "Partner ForUM" Highlighted Collaboration Opportunities

On April 18, the University of Memphis outlined its vision for partnering with the private sector to advance shared goals by working together. Over 150 executives and leaders from the Memphis business community came together at the UofM FedEx Institute of Technology to hear University leadership share its strategic direction and major initiatives; recent partner successes that are creating unique opportunities for students, the city and the region; and, new opportunities for mutually beneficial public-private partnerships.

UofM Technology Spinoff Partners with AMS To Commercialize Water Safety and Monitoring Innovation

Foundation Instruments, a high-tech start-up company spun from the University of Memphis, has partnered with Aqua Metrology Systems (AMS) to expand its offerings of online and real-time monitoring of trihalomethanes (THMs) with the addition of Foundation Instruments' THM-Rapid Response (THM-RR) online benchtop analyzer.

The THM-RR analyzer is the company's flagship product. The benchtop analyzer reports individual and total THM concentrations in real time so that utilities can be more proactive in responding to water quality changes and managing carcinogenic disinfection by-products (DBP).

Foundation Instruments chose to partner with AMS because of its capability to develop advanced instrumentation, its commitment to innovation and market leadership position in online THM analysis that extends to Europe, where AMS THM analyzers are also used for regulatory analysis.

To learn more, read the full release here.

UofM FedEx Institute of Technology Pilots Two New Training Programs with FedEx Prepares Employees for Transformation

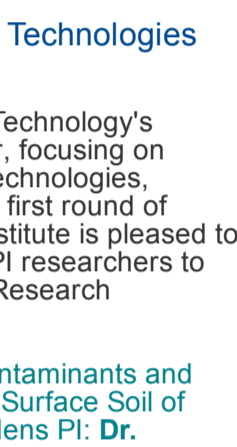
As the FedEx Corporation continues the renewal transformation process, the UofM FedEx Institute of Technology is helping to meet the training needs by piloting courses that provide comprehensive resources for all nine of their technical tenets. As part of the FedEx Academy, the Institute has developed a pilot course for the Data Focused tenet, as well as design thinking intended to scale in assisting FedEx team members as they prepare for the digital transformation process.

For more information on these courses or to register, contact Rami Lotay at rslotay@memphis.edu.

Leading Safe®

During this two-day course, attendees will gain the knowledge necessary to lead a Lean-Agile enterprise by leveraging the Scaled Agile Framework® (SAFe®).

May 16-17 | 8 AM - 5 PM FedEx Institute of Technology Room 227 Pricing All Attendees: \$1295



Research Awards Announced Agriculture and Food Technologies Research Cluster

The FedEx Institute of Technology's newest research cluster, focusing on Agriculture and Food Technologies, recently announced the first round of funded projects. The Institute is pleased to welcome the following PI researchers to the Ag and Food Tech Research Community:

Profiles of Chemical Contaminants and Antibiotic Resistance in Surface Soil of Urban Community Gardens PI: Dr. Chunrong Jia

Phylogenetics and population genetic structure in the African oilseed crop, Centrapalus pauciflorus and related taxa, Dr. Jennifer Mandel

Harvesting fungal endophytes for integrative bioherbicide management of an invasive plant to reduce legume pathogen spillover events, Dr. Shawn Brown

Increasing Crop Production in Rural Haiti, Dr. Debra Bartell

A Plant-Derived Polyphenol Modulates Immunity Through Metabolic Reprogramming of Innate Immune Cells, Dr. Brandt Pence

Investigate Heavy Metals Uptake by Microplastics Present in Agricultural Fields, Dr. Maryam Salehi Esfandarani

GIS Mapping and Multispectral Imaging Camera Drones in Urban Farming, Dr. Esra Ozdenerol

Deep Learning based Autonomous Detection, Classification and Localization of Weed using Unmanned Aerial Vehicles (UAVs), Dr. Eddie Jacobs

Harnessing Data to Predict Tree Species Diversity - Application of Deep Learning Techniques, Dr. Youngsang Kwon

Wastewater treatment via Ag-C composite nanostructure derived using "green" technique, Dr. Sanjay Mishra

Look for a lightning talk from this group in the fall 2019 semester. For further information on the research cluster, contact co-leaders Dr. Duane McKenna at dmckenna@memphis.edu and Dr. Pratik Banerjee at pbnerjee@memphis.edu.

Agile Systems Testing

May 23-24 | 8 AM - 5 PM FedEx Institute of Technology Room 227



Learn how to use the Agile framework within a systems testing environment. The FedEx Institute of Technology will offer multiple sections of this training to help your company implement the skills needed to make up for this or any of the SAFe/Agile Training sessions, register here.

SAFe® for Teams

Build the skills needed to become a high-performing team member of an Agile Release Train (ART) - and learn how to collaborate effectively with teammates - by becoming a SAFe® 4 Practitioner (SP).

June 6-7 | 8 AM - 5 PM FedEx Institute of Technology Room 225 Pricing All Attendees: \$1295



PATENT SPOTLIGHT

Tech Transfer: Patent No. 10,258,717 Issued: April 16 Title: Compositions and methods for enhancing healing and regeneration of bone and soft tissue

Inventors: Dr. Gary Bowlin, Isaac Anthony Rodriguez, Brenton Walter Burger Abstract: The invention features biodegradable materials, and in vitro and in vivo methods of using such compositions to promote bone and soft tissue growth and healing.

For more information on UofM technologies available for commercialization, visit the tech transfer website or contact Dr. Hai Trieu httrieu@memphis.edu.

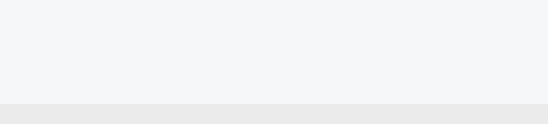
CALENDAR

CAST Cyber Security Training with Discover May 2-3 | 8 AM-5 PM | FIT 313 & 315 DevMemphis Meetup May 7 | 6-7:30 PM | FIT 227 Machine Learning/Data Science/R Meetup May 7 | 7-8 PM | FIT 225 MemDevOps Meetup May 8 | 1:30-4:30 PM | FIT 225 Memphis Game Developers Meetup May 8 | 7-8 PM | FIT 225 MemPASS/Power BI Meetup May 9 | 5:30-8:30 PM | FIT 225 Memphis Web Workers User Group Meetup May 14 | 6-8 PM | FIT 225 Leading SAFe May 16-17 | 8 AM-5 PM | FIT 227 Memphis Python User Group Meetup May 20 | 6:30-8:30 PM | FIT 225 SAS SQL 1 May 20-21 | 8 AM-5 PM | FIT 225 Agile in Software Testing May 23-24 | 8 AM-5 PM | FIT 227 Memphis PHP User Group Meetup May 28 | 6:30-8 PM | FIT 225

TRAININGS

CAST Cyber Security Training with Discover May 2-3 | 8 AM - 5 PM | FIT 315 Leading SAFe May 16-17 | 8 AM - 5 PM | FIT 227 SAS SQL 1 May 20-21 | 8 AM - 5 PM | FIT 225 Agile in Software Testing May 23-24 | 8 AM - 5 PM | FIT 227

UofM Research + Innovation Magazine



ADDITIVE MANUFACTURING

AGRICULTURE & FOOD TECHNOLOGIES

BIOLOGISTICS

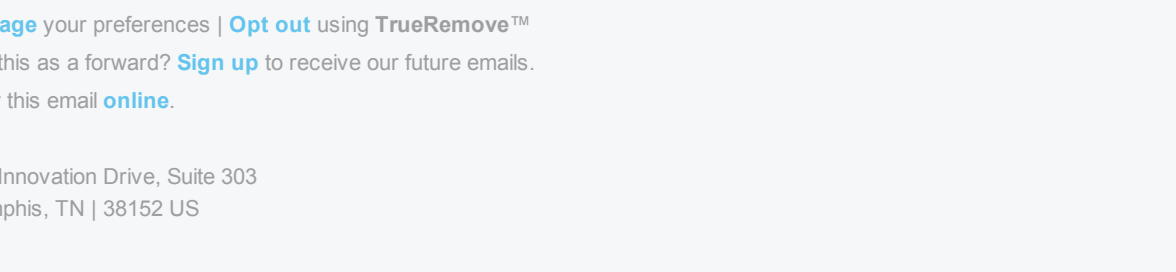
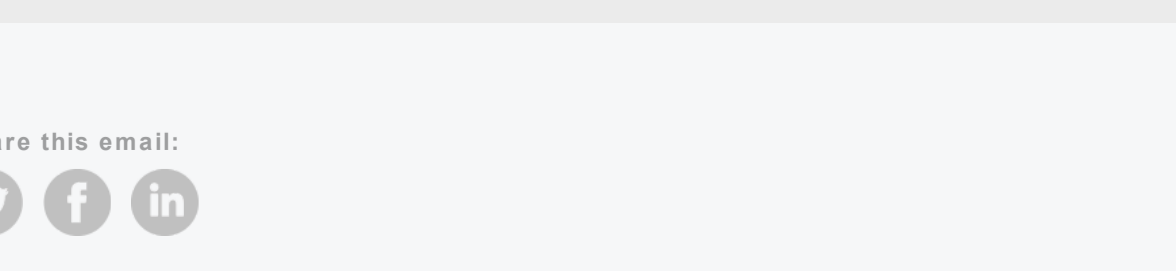
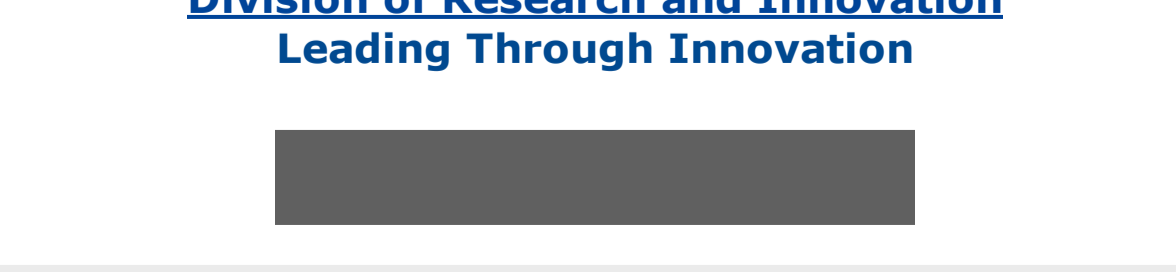
CAST

DATA SCIENCE

DRONES

SMART CITIES

Division of Research and Innovation Leading Through Innovation



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