### **University of Memphis Research + Innovation Magazine**

May 2019

Leading Through Innovation

## **Dr. Nate DeYonker**

**RESEARCH** 



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. The

software, along with a web platform and

**Early CAREER Award** 

interface, will automate the preparation of enzyme models and, for the first time, allow for cost-effective, rigorous testing and comparison of simulated findings to experimental observation. According to its website, the NSF Faculty Early Career Development (CAREER) Program "offers the National Science Foundation's most prestigious awards in support of earlycareer faculty who have the potential to serve as academic role models in research and education and to lead advances in the mission of their department or organization.' Please join us in congratulating DeYonker! For more information about DeYonker and his research, please visit his website.

**Mathematician named** SIAM Fellow Third Tennessean to be honored Dr. Irena Lasiecka, chair of the

Department of Mathematical Sciences,

Mathematics (SIAM) is an international

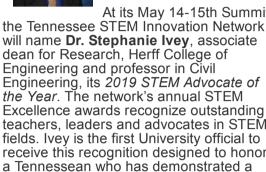
has been named a 2019 SIAM Fellow. The Society for Industrial and Applied

**University of Memphis** 

#### community of academic, manufacturing, research and development, service and consulting organizations, government, and military organizations. Each year, a select group of individuals are nominated, vetted

and selected to receive this career honor for research and development accomplishments significant to the field. Lasiecka was named a fellow for fundamental contributions to control theory of partial differential equations and their dissemination through numerous invited talks, administration positions in professional societies, and the mentoring of many PhD students and postdoctoral associates." She is the first from the University of Memphis to receive this honor and only the third in the State of Tennessee. For more information on this award and the Class of 2019 Fellows, view the announcement here. Dr. Stephanie Ivey to receive

Award First UofM Recipient At its May 14-15th Summit,



the Year. The network's annual STEM Excellence awards recognize outstanding teachers, leaders and advocates in STEM fields. Ivey is the first University official to receive this recognition designed to honor a Tennessean who has demonstrated a passion for STEM education through his or her public advocacy and participation in leadership organizations that advance STEM for All students.

2019 Tennessee

**STEM Advocate** 

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, 20hour intensive sessions) that seeks to instill young women with confidence, interest and awareness of the wide array of career opportunities within scien

technology and engineering fields. This is achieved through hands-on, 'real world'

project based curriculum and dynamic

professional engineers serving as guest speakers in the program. Students have

the opportunity to participate in general

sessions (discipline specific), with program

engineering sessions as well as focus

material rotating each summer to accommodate repeat participants. The

\$44,500 grant from the Women's Foundation for a Greater Memphis will

Diversity magazine as one of 2018's

Recognized by INSIGHT Into

support these efforts.

For more information visit their website.

Inspiring Programs in STEM, GEE has introduced more than 1,700 girls to STEM and Engineering careers during its 16 year 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 Communities of Research Scholars (CoRS) and five Research Cluster leaders

gave three minute 'lightning' talks about the work of their research groups. These

encountered and proposed solutions. The

session also provided the opportunity to

network with potential new collaborators. Click here to access/view slides from their

presentations allowed researchers to share progress-to-date, challenges

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

presentations.

#### **UofM Researcher funded** by Templeton Religion 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. Their research project will examine the local meaning and practice of Islam among the Chilean Muslim community of Santiago, Chile, and its relationship to Argentine Muslim institutions. The Center for the Study of Religion and Society at the University of Notre Dame is funding the project via their Global Religion Research Initiative, supported by the Templeton Religion Trust.

#### The nine-month award provides Toldi the opportunity and funding to conduct research in the Simeto River Valley of Sicily, working with partners from the City and Regional Planning department's summer study abroad exchange program.

She will be learning about community-led

approaches to and mobilization around

water management that could be beneficial to Memphis. Her project is

**UofM Student Receives** 

To Study Water Management in Italy

Aubrey Toldi, a graduate assistant in the

University of Memphis Department of City and Regional Planning, has received a Fulbright award to Italy for research in water management that could benefit the

**Fulbright Award** 

Memphis community.

"(New) Memphis Blues: A Holistic, Community-Led Reconnection to Our River and Blue Spaces." 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

For more, read the full release here.

and social benefits.

for Carnegie R1 research status within the next five years. Effective May 1, Deborah Hernandez will serve as associate vice president of the division and Stephanie Thompson will become manager for the Office of Sponsored Programs (OSP). "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. "These changes are part of a larger effort to shift costs to front-line customer service positions to ensure responsiveness in research support. The

division is also working with diverse

AGRICULTURE & FOOD TECHNOLOGIES BIOLOGISTICS CAST

DATA SCIENCE

DRONES

SMART CITIES

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 Psychology, was awarded

\$291,439 from the National Science Foundation (NSF) for his project "Applying Behavioral Economics to Predict Alcohol

Trajectories during the Transition to

**New Research Awards** 

**April 2019** 

Adulthood."

(TIPS)."

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

Dr. **Stephanie Ivey**, associate dean for Research in the Herff College of Engineering and professor of Civil

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. James McCutcheon, assistant professor in the Department of Criminology and Criminal Justice, was awarded \$115,724 from the US Department of Justice (US DoJ) in coordination with the City of Memphis

Police Department (CMPD) for his project "Technology Innovation for Public Safety

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.

Dr. Barbara Bekis, coordinator for

Issued: April 16 Research+Innovation Title: Compositions and methods for **Promotions** enhancing healing and regeneration of bone and soft tissue The Division of Research & Innovation is pleased to announce two promotions as it gears up for the University's strategic push Abstract:

colleges and schools to strengthen localized and customized research infrastructure and services given the strategic push." RESEARCH

#### **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

**UofM held Inaugural** 

"Partner ForUM"

#### FedEx Institute of Technology to hear University leadership share its strategic direction and major initiatives; recent

INNOVATION

opportunities for students, the city and the region; and, new opportunities for mutually beneficial public-private partnerships. Three partner companies - Green Mountain Technology, JCPenney and CN Railway - were recognized for their involvement in initiatives that are creating impact at the UofM. Tom Kadien, CEO of UMRF Ventures, was also on hand to share the success of the University of Memphis Research Foundation's first wholly-owned subsidiary that has, to-date, provided high paying jobs to approximately 200 UofM students. Learn more about Partner ForUM here. **UofM Technology Spinoff** Partners with AMS To Commercialize Water Safety and Monitoring Innovation

partner successes that are creating unique

Foundation Instruments, a high-tech startup company spun from the University of Memphis, has partnered with Aqua

Metrology Systems (AMS) to expand its

#### 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

**UofM FedEx Institute of Technology Pilots Two New Training Programs** with FedEx Prepares Employees for Transformation As the FedEx Corporation continues the

FedEx Institute of Technology is helping to meet the training needs by piloting courses that provide comprehensive

renewal transformation process, the UofM

#### 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.

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

Agriculture and Food Technologies

The FedEx Institute of Technology's

Profiles of Chemical Contaminants and

Antibiotic Resistance in Surface Soil of

Phylogenetics and population genetic

structure in the African oilseed crop, Centrapalus pauciflorus and related taxa,

Harvesting fungal endophytes for

Urban Community Gardens PI: Dr.

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:

**Chunrong Jia** 

**Dr. Jennifer Mandel** 

Announced

Research Cluster

**Dr. Brandt Pence** 

GIS Mapping and Multispectral Imaging Camera Drones in Urban Farming, Dr. Esra Ozdenerol Deep Learning based Autonomous

Microplastics Present in Agricultural Fields, **Dr. Maryam Salehi Esfandarani** 

Investigate Heavy Metals Uptake by

Diversity - Application of Deep Learning Techniques, Dr. Youngsang Kwon Wastewater treatment via Ag-C composite nanostructure derived using "green" technique, Dr. Sanjay Mishra

Harnessing Data to Predict Tree Species

Pratik Banerjee at <u>pbnerjee@memphis.edu</u>.

contact co-leaders Dr. Duane McKenna at dmckenna@memphis.edu and Dr.

Learn how to use the Agile framework within a systems testing environment. The FedEx Institute of Technology will offer mutiple sections of this training to help your company implement the skills needed to make transformation a success

To sign up for this or any of the SAFe/Agile

Training sessions, register <u>here</u>.

**SAFe® for Teams** June 6-7 | 8 AM - 5 PM FedEx Institute of Technology

**PATENT** 

Room 225

**Pricing**All Attendees: \$1295

Inventors: Dr. Gary Bowlin, Isaac Anthony Rodriquez, Brenton Walter Burger 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 commericalization, visit the tech transfer website or contact Dr. Hai Trieu

CALENDAR CAST Cyber Security Training with May 2-3 | 8 AM-5 PM | FIT 313 & 315

<u>DevMemphis Meetup</u> May 7 | 6–7:30 PM | FIT 227

May 7 | 7-8 PM | FIT 225

May 14 | 6-8 PM | FIT 225

<u>Leading SAFe</u> May 16-17 | 8 AM-5 PM | FIT 227

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

Memphis Python User Group Meetup May 20 | 6:30-8:30 PM | FIT 225

Machine Learning/Data Science/R

#### MemDevOps Meetup May 8 | 1:30-4:30 PM | FIT 225 Memphis Game Developers Meetup May 8 | 7-8 PM | FIT 225



CAST Cyber Security Training with Discover May 2-3 | 8 AM – 5 PM | FIT 315 <u>Leading SAFe</u> 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

NNOVATION



#### offerings of online and real-time monitoring of trihalomethanes (THMs) with the addition of Foundation Instruments'

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 <u>here</u>.

resources for all nine of their technical tenets. As part of the FedEx Academy, the

# **Leading SAFe®**

**Research Awards** 

an invasive plant to reduce legume pathogen spillover events, Dr. Shawn Increasing Crop Production in Rural Haiti, Dr. Debra Bartelli A Plant-Derived Polyphenol Modulates Immunity Through Metabolic Reprogramming of Innate Immune Cells,

integrative bioherbicidal management of

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

Look for a lightning talk from this group in the fall 2019 semester. For further

information on the research cluster,

Agile Systems **Testing** 

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

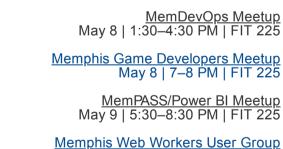
Build the skills needed to become a high-performing team member of an Agile Release Train (ART)—and learn how to collaborate effectively with other teams—by becoming a SAFe® 4 Practitioner (SP).

SPOTLIGHT **Tech Transfer:** Patent No. 10,258,717

hhtrieu@memphis.edu.



<u>Meetup</u>



TRAINING



MEMPHIS.



**FedE**x

**Leading Through Innovation** 

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emma