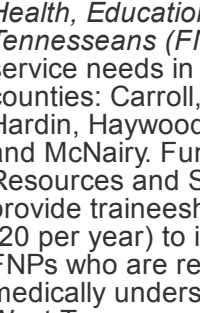
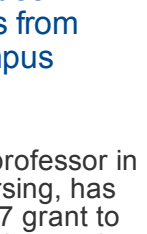




July 2019



## RESEARCH



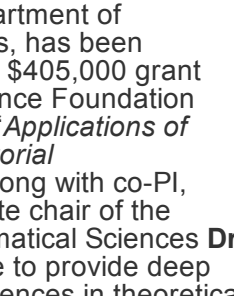
### UofM's Boykins Receives Four-Year, \$2.7 Million Grant

Team includes researchers from across campus

**Dr. Anita Boykins**, associate professor in the Loewenberg College of Nursing, has received a four-year \$2,724,437 grant to establish an innovative academic-practice partnership that will prepare primary care advanced practice nurses to meet the needs of rural and underserved populations. "Family Nurse Practitioner-Health, Education, and Access for Rural Tennesseans (FNP-HEART)" targets service needs in eight West Tennessee counties: Carroll, Gibson, Hardeman, Hardin, Haywood, Henderson, Lauderdale and McNairy. Funds from the U.S. Health Resources and Services Administration will provide traineeship funds for 80 students (20 per year) to increase the distribution of FNP's who are ready to practice in rural, medically underserved communities in West Tennessee. Practice partners include the Hardeman County Community Health Center, Lifespan Health, Primary Care Clinic of Trezevant, Miracle Health Care, and Whiteville Family Medical Clinic. The University of Memphis team also includes **Dr. Susan Neely-Barnes** (Social Work), **Dr. Susan Elswick** (Social Work), and **Amr Campbell** (Cecil C. Humphrey School of Law). For more information, please contact Dr. Boykins at [aboykins@memphis.edu](mailto:aboykins@memphis.edu).

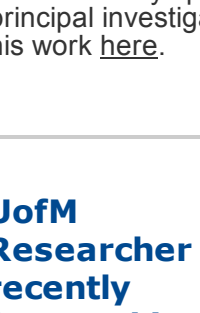
### UofM Professor Bollobás Awarded Multi-Year, \$405,000 Grant

Research focuses on Probabilistic Combinatorics



**Dr. Béla Bollobás**, professor and Chair of Excellence in the Department of Mathematical Sciences, has been awarded a three-year, \$405,000 grant from the National Science Foundation (NSF) for the project, "Applications of Probabilistic Combinatorial Methods." Bollobás, along with co-PI, professor and associate chair of the Department of Mathematical Sciences **Dr. Paul N. Balister**, hope to provide deep and meaningful experiences in theoretical problem-solving and promote visibility of the broader field of probabilistic combinatorics, as the objects have applications outside of mathematics. The factorization of integers is of great practical importance in cryptography, and reconstruction problems are likely to be of use in several fields, including biology (DNA sequencing). Bollobás and Balister seek to impact the direction of the entire field and show that methods of probabilistic combinatorics can be used to attack long-standing problems, such as schizophrenia.

For more information about the UofM Department of Mathematical Sciences, visit the [website](#).

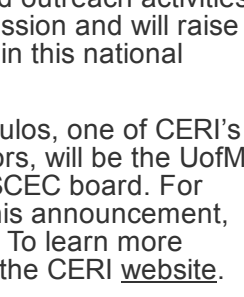


### UofM Researcher Receives \$199,000 NSF Grant

Multi-year study to benefit semiconductor manufacturing industry

Assistant Professor of Mechanical Engineering, **Dr. Range Gopalakrishnan**, has been awarded a three-year, \$199,673 grant from the National Science Foundation. His project, "An Effective Potential Approach to the Modeling of Concentrated Dusty Plasmas," will develop a more complete understanding of the complex multi-body electrostatic interaction between grain populations in dusty plasmas and ions/electrons. This work is significant for contamination control in the semiconductor manufacturing industry and is also expected to unravel basic aspects of electrostatically correlated grain motion of relevance to explosions, flames, and powder handlers. This is Gopalakrishnan's first externally sponsored grant award as a principal investigator. Learn more about his work [here](#).

### UofM Researcher recently featured in Separate Publications



Mandel's image (shown here) appears on the cover of May's issue of *Journal of Heredity*

**Dr. Jennifer Mandel**, assistant professor of Biological Sciences, was published in the May issue of the *Journal of Heredity*. The study, "Genome-Wide Association Mapping of Floral Traits in Cultivated Sunflower (*Helianthus annuus*)," was an agricultural genomics study in sunflowers. Mandel's image was selected for the May cover of the journal. Mandel's full article can be read [here](#).

Continuing in research excellence, Mandel, along with UofM researchers, Carolina M. Siniscalchi and Ramhari Thapa, were also recently published in the latest issue of the prestigious scientific journal, *Proceedings of the National Academy of Sciences of the United States of America (PNAS)*. Their study on the sunflower family phylogeny, "A fully resolved backbone phylogeny reveals numerous dispersals and explosive diversifications throughout the history of Asteraceae," consisted of a full breakdown of the origin and family tree of the sunflower. Read the full article [here](#). Read full press release [here](#).



### CERi Joins the SCEC Board

UofM's Kyriakopoulos will serve as University's Representative

The University of Memphis Center for Earthquake Research and Information (CERi) is now a member of the board of the Southern California Earthquake Center (SCEC). SCEC has been, and continues to be, the premiere University consortium on earthquake physics and the science of seismic hazards. CERi's participation in its research programs and outreach activities is a natural fit for its mission and will raise the University's profile in this national arena.

Dr. Christos Kyriakopoulos, one of CERi's new assistant professors, will be the UofM representative to the SCEC board. For more information on this announcement, contact 901.678.2007. To learn more about this center, visit the CERi [website](#).

### UofM Doctoral Student Receives NIH F31 Award

Furthering Alcohol Abuse Research

**Samuel Acuff**, a PhD student in clinical psychology, has been awarded the NIH F31 Predoctoral Fellowship Award from the National Institute of Alcohol Abuse and Alcoholism. Acuff's grant, "Integration of Electrophysiological and Behavioral Economic Models of Reward Among Heavy Drinking Young Adults," will provide him with \$70,000 for two years to support the project and aid in his advanced training in addition research. This is the fourth NIAAA F31 grant awarded to a UofM NIAAA Psychology student in the past four years. Please join us in celebrating Acuff on this stellar achievement.

## RESEARCH CLUSTERS



ADDITIVE MANUFACTURING

AGRICULTURE & FOOD TECHNOLOGIES

BIOLOGISTICS

CAST

DATA SCIENCE

DRONES

SMART CITIES

### New Research Awards

June 2019

**Dr. Jasbir Dhalwal**, EVP for Research and Innovation, was awarded \$510,000 from Epicenter for his project "Epicenter Cooperative Agreement."

**Dr. Béla Bollobás**, chair and professor of the Department of Mathematical Sciences, was awarded \$405,000 from the National Science Foundation (NSF) for his project "Apps of Probabilistic Combinatorial."

**Dr. Derrick Robinson**, assistant professor in the Department of Leadership, was awarded \$84,000 for his project "Shelby County Schools and the University of Memphis for the Scholars II Program Class of 2019-2020."

**Dr. Katherine Wade-Jaimes**, assistant professor in the Department of Instruction and Curriculum Leadership, was awarded \$35,000 from Shelby County Schools (SCS) for her project "CCTE Curriculum Development and Training Institutes."

**Dr. Richard Bloomer**, dean and professor of the School of Health Studies, was awarded \$31,622 from Shoreditchson Co., Ltd for his project "The immune-modulatory effect of tea in healthy men and women."

**Dr. Latrice Pichon**, associate professor in the Division of Social and Behavioral Sciences was awarded \$18,000 from the Centers for Disease Control and Prevention (CDC) in collaboration with the Shelby County Government, for her project "National HIV Behavioral Survey HET Cycle 2019."

**Dr. Hongmei Zhang**, director and professor of the Division of Epidemiology, Biostatistics, and Environmental Health was awarded \$16,851 from the National Institutes of Health, in collaboration with the La Jolla Institute for Allergy and Immunology, for her project "Epigenome-wide association study of childhood asthma."

**Dr. Hongmei Zhang**, director and professor of the Division of Epidemiology, Biostatistics, and Environmental Health, was awarded \$8,475 from the National Institutes of Health, in collaboration with the La Jolla Institute for Allergy and Immunology, for her project "Epigenetics of Severe Asthma."

**Dr. Elizabeth Meisinger**, associate professor in the Department of Psychology, was awarded \$6,924 from Lexplore, Inc. for her project "Human Versus Automated Oral Reading Fluency Assessment."

\* 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.

## INNOVATION



### NORTHROP GRUMMAN

### Northrop Grumman Collaborates with UofM Faculty

To use shrimp, plankton to detect undersea threats

**Dr. Eddie Jacobs**, professor and DRONES Research Cluster director with the FedEx Institute of Technology, has partnered with Northrop Grumman to prototype sensing capabilities using undersea organisms such as plankton and shrimp to detect threats. This project, funded by the Defense Advanced Research Projects Agency's (DARPA) Persistent Aquatic Living Sensors program, or PALS, will use snapping shrimp and bioluminescent plankton to detect manmade objects underwater.

Jacobs' research interests focus on the creation of novel imaging sensor technologies. Northrop Grumman is a leading global security company providing innovative systems, products and solutions in autonomous systems, cyber, logistics and more to customers worldwide. Learn more about this project [here](#).

### PATENTS 2 PRODUCTS

DEEP SCIENCE ENTREPRENEUR POST-DOC FELLOWSHIPS

### sweetbio

### Honey, Well Done!

SweetBio Receives FDA Clearance

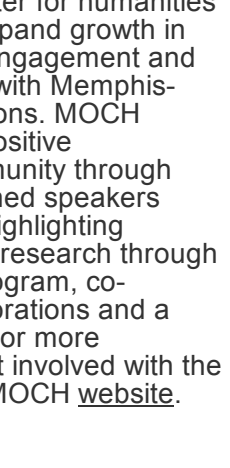
SweetBio Inc, a company founded on UofM-developed technology, has received 510K FDA clearance for their Apis membrane product. This key milestone in their product development sets the stage for the company to achieve revenue and grow their footprint in the University District. Currently, SweetBio is a member of the UMRF Research Park.

Over the next two months, SweetBio will partner with local hospitals to determine wound care needs, types of wounds seen and challenges faced with wound types where the company's Apis membrane can help with healing. For more information on SweetBio, visit the company's [website](#).

### Agile Systems Testing

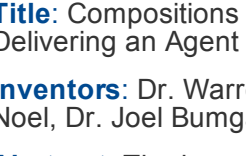
Learn how to use the Agile framework within a systems testing environment. The FedEx Institute of Technology will offer multiple sections of this training to help your company implement the skills needed to make your transformation a success.

July 11-12 | 8 AM - 5 PM  
FedEx Institute of Technology  
Room 223



### UMRF Ventures Levels UP

Expands to Park Avenue Campus



UMRF Ventures, a private corporation wholly-owned by the University of Memphis Research Foundation (UMRF) has a new home. As a result of their rapid growth since the company began two years ago, the Park Avenue Campus facility will be home to an expanded Level 1 and a new Level 2 call center, along with training areas, conference rooms and office space. It also features additional space to support future ventures and employment growth. Currently, 130 students work in the Park Avenue facility and the company expects that figure to grow to 300 student employees over the next year.

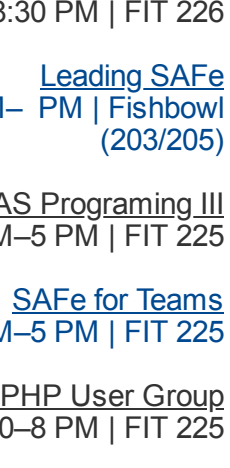
"Our UofM students are performing very well, and FedEx has rewarded us with additional business," stated Mr. Tom Kadlen, CEO UMRF Ventures. "This expansion onto South Campus pushes us up over 200 total employees, and gives us the additional space we need for future growth well beyond that."

The grand opening was held June 27. For more information on UMRF Ventures, visit their [website](#). For more information on this announcement, read the full [press release](#).

### 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).

July 17-18 | 8 AM - 5 PM  
FedEx Institute of Technology  
Fishbowl (203/205)



### UofM Humanities Center Looks to Expand Stability and Growth

Connecting the Community through Partnerships

The Marcus W. Orr Center for Humanities (MOCH), a resource center for humanities research, is looking to expand growth in undergraduate student engagement and partnered programming with Memphis-based cultural organizations. MOCH specializes in fostering positive relationships in the community through public lectures by renowned speakers from other universities, highlighting excellence in humanities research through the Freiburg Fellows Program, co-sponsorships and collaborations and a host of other initiatives. For more information on how to get involved with the MOCH mission visit the MOCH [website](#).

## PATENT SPOTLIGHT



### Tech Transfer:

European Patent No. EP2408435

Issued: April 19, 2019

Title: Compositions and Methods for Delivering an Agent to a Wound

Inventors: Dr. Warren Haggard, Dr. Scott Noel, Dr. Joel Bumgardner

Abstract: The invention provides compositions featuring chitosan and methods for using such compositions for the local delivery of biologically active agents to an open fracture, complex wound or other site of infection. Advantageously, the degradation and drug elution profiles of the chitosan compositions can be tailored to the needs of particular patients at the point of care (e.g., in a surgical suite, clinic, physician's office or other clinical setting).

For more information on UofM technologies available for commercialization, visit the tech transfer website or contact Dr. Hai Trieu [htrieu@memphis.edu](mailto:htrieu@memphis.edu).

## CALENDAR



DevMemphis Meetup  
July 2 | 6 - 7:30 PM | FIT 225

Machine Learning/Data Sciences/R  
July 2 | 6 - 7:30 PM | FIT 226

Memphis Web Workers User Group  
July 9 | 6 - 7:30 PM | FIT 226

Memphis Game Developers  
July 10 | 6 - 8 PM | FIT 225

MemPASS / Power BI Meetup  
July 11 | 5:30 - 8:30 PM | FIT 226

Intensive Virtual Reality Workshop  
July 11-12 | 8 AM - 5 PM | Fishbowl (203/205)

Agile in Software Testing  
July 11-12 | 8 AM - 5 PM | FIT 225

Memphis Python User Group  
July 15 | 6:30 - 8:30 PM | FIT 226

Leading SAFE  
July 17-18 | 8 AM - 5 PM | Fishbowl (203/205)

SAS Programming III  
July 17-19 | 8 AM - 5 PM | FIT 225

SAFE for Teams  
July 22-23 | 8 AM - 5 PM | FIT 225

SAFE for Teams  
July 22-23 | 8 AM - 5 PM | FIT 225

Leading SAFE  
July 31-Aug. 1 | 8 AM - 5 PM | Fishbowl (203/205)

## TRAINING



Intensive Virtual Reality Workshop  
Jul 11-12 | 8 AM - 5 PM | Fishbowl (203/205)

Agile Testing  
Jul 11-12 | 8 AM - 5 PM | FIT 225

Leading SAFE  
Jul 17-18 | 8 AM - 5 PM | Fishbowl (203/205)

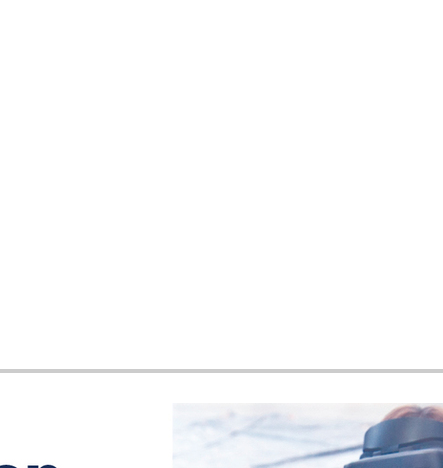
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Leading SAFE  
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### UofM Research + Innovation Magazine

Read full publication below.



### News to feature in the UofM Research + Innovation Newsletter?

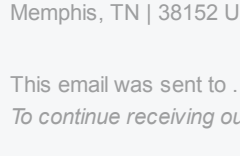
Contact Us Today

We welcome the opportunity to highlight the research infrastructure and innovation capabilities at the University of Memphis. Email major award notifications, conferences to be held at the UofM, honors, publications, research impact stories, initiatives, etc., for inclusion in an upcoming issue of the newsletter. We look forward to sharing the world-class accomplishments taking place at the University of Memphis.

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