



New Faculty Orientation

Division of Research & Innovation



Division of Research & Innovation

The Division of Research and Innovation supports world-class research and discovery by University faculty, staff, and students, who are asking bigger questions and generating better answers every day. As the Mid-South's premier research university, the University of Memphis is a nationally recognized research institution with top ranked programs in over 30 disciplines.

Visit us at: research.memphis.edu



Getting Started

- We believe that **Every Faculty Member** has the potential to be a research powerhouse. Regardless of your research topic, there are resources and funding opportunities available.
- The Division of Research & Innovation includes:
 - Research Development
 - Office of Sponsored Programs
 - Research Compliance
 - FedEx Institute of Technology
 - Integrated Microscopy Center
 - Animal Care Facility
 - Office of Technology Transfer

Research Proposal Lifecycle



Step 1: Identify Interest
with
Research Development



Step 5: Award Process with
OSP awards and Grants Accounting
(Revised budget, org code, index info)



Step 2: Create Cayuse Record.
Need Help?
Contact **Cayuse Support**



**Step 4: Complete Research
Compliance Requirements**
(CITI training, FCOI, IRB)



Step 3: Route and Submit in Cayuse
with OSP Proposal, Contract,
or Subaward Specialist



For New Faculty:

- The First 100 Days!
 - Meet one-on-one with research development (researchdev@memphis.edu)
 - Participate in professional development: [memphis.edu/research/training](https://www.memphis.edu/research/training)
 - Meet your Pre-Award Coordinator and Pre-Award Specialist (osp@memphis.edu)



Steps to Research Success at UofM

- For Faculty new to campus, **Research Development** and the **Office of Sponsored Programs (OSP)** will likely be your first points of contact as you begin your research career at the UofM.
- **Research Development** and the **OSP** are the central research support teams responsible for the review, authorization and submission of proposals (grants, contracts, cooperative agreements, non-monetary agreements- such as NDAs, MTAs, DUAs) to external sponsors; as well as for the review and acceptance of all sponsored project award funds.
- We are located in 315 Administration Bldg. The easiest way to reach us is via e-mail at OSP@memphis.edu or researchdev@memphis.edu. Your message will be *acknowledged* within 24 hours.



Identify Funding Opportunities

- The **Office of Research Development** assists new faculty with their first proposals, organizes large proposals, organizes training, and helps with strategic growth of the UofM capacity.
- Research Development will contact all new faculty for a one-on-one introduction during your first semester. Contact Dr. Cody Behles (cbehles@memphis.edu) for questions about the functions of this office.
- Get Training
 - A calendar of all the training sessions for academic year 2020-2021. One-on-one sessions are also available on any topic as needed. Some recorded training content and slides are available [at this link](#).
 - Compliance is critical, so also be sure to review the slides on **Research Compliance** and make sure you have completed all required trainings for human subject researcher, financial conflict of interest, export controls, and animal care and use.
- Finding Funding
 - You can sign up for a Grant Forward Account at [this link](#) and you can request a curated search for funding opportunities based on your publication history by emailing Cody.
 - Grant forward is a database we subscribe to for finding funding



Write Your Proposal

- You are the experts, and so you must write your proposal. Research Development will provide editing services (in-house or through partnerships), and review of key components including the narrative for NSF, NIH, and NEA grants. If you have questions, email cbehles@memphis.edu.



Submit your proposal

- **The Office of Sponsored Programs (OSP)** is the unit responsible for authorizing and submitting your external proposals to sponsors. Our team includes Pre-Award Services, Contract and Award Services, and Electronic Research Administration. OSP services include assistance with the following:
 - Proposal and Budget Review
 - Non-Financial Post Submissions
 - Contract Development
 - Award Setup
 - Subgrant/Subcontract Administration
 - Post-Award Management and Closeouts (*non-financial*)*

***Note:** All post-award financial activities is handled by the Office of Grants and Contracts Accounting (GCA).



Submit your proposal

- **Cayuse SP**
- Cayuse is the eRA system we use to route and track all externally funded proposals, contracts, and agreements. **All** proposals or research engagement that you submit need a Cayuse record. Steps to obtain Cayuse access are at: memphis.edu/research/researchers/route_submit/era.php
- **All** Cayuse proposals must include an internal budget, budget justification, abstract/scope of work, any subrecipient documents, and FCOI Responsible Personnel Form (*this form is located in the Conflicts of Interest section of the Cayuse proposal*). **Note:** *If your unit has a pre-award coordinator, you should contact her/him first for assistance with proposal and budget preparation.*
- For assistance setting up your Cayuse account contact cayusesupport@memphis.edu

****Avoid Same-Day Submissions and Help Avoid Costly Mistakes by Routing your Final Proposal to OSP Five (5) Business Days before the Sponsor Deadline****



Submit your proposal

Cayuse 424

Most federal proposals are submitted via [Cayuse 424](#). This system-to-system submission portal offers full support for federal grants posted by NIH, AHRQ, CDC, USDA, ONR, DoE with full support for over 99% of Grants.gov and Research.gov opportunities. NSF Proposals are also supported by Cayuse 424. However, OSP currently submits all NSF proposals via FastLane/Research.gov.

For access to sponsor portals or access and questions with Cayuse 424, please contact cayusesupport@memphis.edu.



Award Acceptance and Management

- Only the University Signatory, the President or the Executive Vice President for Research & Innovation is authorized to sign all grant and contract agreements; including non-monetary agreements such as Data Use Agreements, Material Transfer Agreements, and Non-Disclosure Agreements. *Please remember that Faculty do not have the authority to bind the University.*
- Any Notification of Award or Grant/Contract Acceptance should be sent to ospawards@emphis.edu.



Award Acceptance and Management

- **OSP** assists faculty throughout the Project Lifecycle, including:
 - Progress progress report submissions, budget revision requests requiring sponsor approval, request for carryforward, and request for no-cost extensions
 - Issue subawards, and manage grant and contractual changes throughout lifecycle; amendments/modifications, PI-changes, and changes in scope of work
 - Manage final report closeouts and relinquishments/institutional transfers (incoming and outgoing)



Tips For Success

- Involve Research Development and OSP early at osp@memphis.edu
- Route your final proposal to OSP at least five (5) business days before sponsor deadline. Please ensure you have access to Cayuse and other sponsor portals by contacting cayusesupport@memphis.edu
- Send any award notices or contract agreements that you may receive directly from sponsors to ospawards@memphis.edu. *Please remember do not sign and agreements or certifications on behalf of the University*
- Find more Tips for Success at: memphis.edu/research/researchers/route_submit/index.php



Meet our Team

Cody Behles, DLS

Director, Research Development and Innovation

cbehles@memphis.edu

Stephanie Thompson, CRA

Director, Office of Sponsored Programs

sthmps24@Memphis.edu

Laura Wright, MA

Proposal Administrator

llwrigh@memphis.edu

Leslie Ingram, MS

Electronic Research Administrator

cayusesupport@memphis.edu

Margie Robertson, JD

Contract Administrator

mrbrtson@memphis.edu

Lauren Williams, MPS

Award Administrator

ospawards@memphis.edu

Hannah Yawn, MPA

Subaward Coordinator

hyawn@memphis.edu

Please visit [memphis.edu/research](https://www.memphis.edu/research) for full list of our services and key contacts by responsibility.



Research Compliance

Research Compliance (RC) provides independent oversight to research programs, activities and processes. RC is committed to creating and maintaining a culture of ethics, integrity and compliance with applicable laws, regulations and policies. Through targeted training, policies, oversight and monitoring, RC partners with UofM researchers and administrators to ensure research activities meet the highest standards of integrity and quality.



Our Focus: Making Things Go Right

Primarily in:

- Human Subjects Research (IRB)
- Financial Conflict of Interest (FCOI)
- Institutional Animal Care and Use Committee (IACUC)
- Export Controls
- Research Misconduct
- Responsible Conduct of Research
- Data management, acquisition, sharing and ownership, HIPAA



“Driven by Doing”

- Interpretation and Implementation of Standards, Policies, and Procedures
- Program Administration
- Communication, Education, and Training
- Monitoring, Auditing, and Internal Reporting Systems
- Investigations and Remedial Measures
- Discipline for Non-Compliance



Animal Care and Use

- Animal Care and Use Program provides facilities and services on campus to support research involving animals. Program services include
 - Assistance with protocol development
 - Veterinarian, veterinary technician, and husbandry services
 - Training for researchers (students, faculty, staff)
- Institutional Animal Care & Use Committee (IACUC) provides oversight, guidance, and approval for all research involving animals at the University
- Contacts
 - Dr. Karyl Buddington, Director
 - Dr. Amy de Jongh Curry, IACUC Chair



Meet Our Team

Dr. Jasbir Dhaliwal

*Executive VP for Research & Innovation
Research Integrity Officer*

jdhaliwl@memphis.edu

Beverly Jacobik, M.P.A.

*Sr. Associate Director for Research Compliance
Financial Conflict of Interest Officer
Export Controls Officer
Administrative Manager of IRB and IACUC
IRB Member – non scientist*

Bjacobik@memphis.edu

Kellie Watson, M.S.

*Research Compliance Coordinator
IRB Administrator
IACUC Administrator*

kwatson10@memphis.edu

Karyl Buddington, D.V.M.

Director of Animal Care Facilities

kbudding@memphis.edu

Donny Ray, M.S.

Manager of Animal Care Facilities

donnyray@memphis.edu



FedEx Institute of Technology

The FedEx Institute of Technology is an advanced technology and research organization that functions as a catalyst for interdisciplinary research and innovation in emerging technologies by supporting cross-campus research innovation clusters. These clusters focus on areas such as intelligent systems, drones, cyber security testing, biolistics, autonomous vehicles, robotics, smart biomaterials, additive manufacturing, electric vehicles, quantum computing and precision medicine.



Our Mission

The FedEx Institute of Technology is the hub for technology & research innovation for Memphis and the Mid-South. The Institute enjoys a unique innovation partnership with FedEx, sponsoring the Institute for advanced research purposes as it serves as the applied research arm for the University of Memphis. Through cutting edge-interdisciplinary research clusters, workforce development trainings in emerging technologies, and work with leaders & experts in local Memphis tech industry, the Institute showcases the UofM's innovation capabilities. The Institute is also home to the Office of Technology Transfer, which manages the UofM's patent repository & licensing operations.

- Catalyst for interdisciplinary research and innovation in emerging technologies
- Leader in high-tech and emerging technology workforce development in Memphis
- Develop communities for emerging technologies for our region



Creating Innovation: Research Clusters

CLUSTER FOR THE ADVANCEMENT OF CYBER SECURITY & TESTING (CAST)

- Working on the front lines of the cyber war to provide new solutions to software testing expertise

BIOLOGISTICS RESEARCH CLUSTER

- The first research group in the country dedicated to solving the challenges of this emerging and dynamic field

DRONES ROBOTICS & NAVIGATION ENABLED SYSTEMS (DRONES) CLUSTER

- Provides proactive leadership in the emerging field of unmanned systems to bring new technologies to commercial markets

ADDITIVE MANUFACTURING RESEARCH CLUSTER

- Using cutting edge facilities at the UofM, cluster is investigating metallic additive manufacturing and business processes

TECHNOLOGY COMMERCIALIZATION

- Tech development grants and P2P program are building a new generation of innovators in Memphis

DATA SCIENCE RESEARCH CLUSTER

- Projects are dedicated to exploring ways to help industry use big data and analytics to solve problems and create new opportunities

AGRICULTURE & FOOD TECHNOLOGIES RESEARCH

- Brings together a core group of scientists from Biology, Chemistry, Computer Science, Engineering and Health to work on theoretical, experimental and applied approaches to contemporary food and agriculture challenges.

SMART CITIES RESEARCH CLUSTER

- FedEx Institute of Technology and the City of Memphis partnered on challenges facing our city, utilizing cutting-edge emerging technologies



Building A Brighter Future Together

APPLIED RESEARCH

- Learner Data Institute
- mDOT Center of Excellence
- Telehealth Series: COVID-19 Response
- CORNET: COVID-19 Projects
- ATHENA{techne} All Women Hackathon
- Czech Academy Collaboration Grants

CUSTOMIZED TRAINING

- FedEx Academy Partnership
- Emerging Technologies Training
- System Testing Excellence Program (STEP)
- Consultant Partnership & Diversified Growth

GROWING & RETAINING TALENT

- UMRF Research Park
- UMRF Ventures Inc
- Patents2products (P2P) Deep Science Entrepreneur Postdoc Program
- Industry Postdoc Partnerships
- FIT Frontiers Initiative
- Roxo Second-round Testing site



Collaborative Interdisciplinary Research

The Institute continues its strategic approach to building corporate, community and research engagement in each of its Research Innovation Clusters.

- REGIONAL PRESENCE

- **Lightning Talks:** Kick-off event to familiarize researchers and the Memphis community of the research focus
- **Monthly Meetings:** Interdisciplinary cluster fellows discuss their progress and stay abreast of the latest trends in the cluster of research
- **Progress Reports:** Written and verbal evidence of research progress throughout the funding period
- **Research Workshops:** Forum for cluster fellows, the academic community, and corporate partners to discuss the work of the clusters
- **Community Engagement:** Events and workshops to provide the Memphis community with opportunities to interact with world-class researchers in emerging technologies and see that Memphis is on the forefront of innovation

- NATIONAL PRESENCE

- » Research Impact: The University of Memphis was awarded \$29.6+ million in federal research funding in FY20, including the establishment of major national centers and initiatives in emerging technologies aligned with FIT research priorities

- » Collaborations: UofM faculty have established and led research consortia and partnered with major U.S. corporations such as Smith & Nephew, Northrop Gruman, Microsoft and FedEx. These collaborations are enhanced by a dynamic approach that emphasizes not only research but also workforce development and applied solutions utilizing cutting-edge emerging technologies.

- INTERNATIONAL PRESENCE

- » CleverInsight: partnership to bring training to all of Asia

- » Czech Academy: collaborative research grants

- » FedEx Express Europe/TNT: digital transformation training



Partnering For A Smarter Memphis



Imagine a place where the success of a company matters as much as the identity of the community they call home. Two innovations that emerged from the FedEx Institute of Technology were the UMRF Research Park, located in the heart of the University District, and UMRF Ventures, located both inside the Institute as well as a larger operation located on the Park Avenue Campus. These initiatives are changing the conversation about what innovation means in Memphis.

The Research Park has established the University District as a technology innovation hub, enhanced the community we serve, attracts global talent and creates a new avenue for companies to engage with the UofM. Phase 1 is housed at 460 S. Highland.

The UofM leveraged the power of American industry in collaboration with the dynamic innovation of higher education to create a public-private partnership called UMRF Ventures. Ventures is an innovative model that brings together the students who will define the future workforce for our city, impacting the local economy and the companies that call it home. Through this relationship, we are negating the impact of declining public education funding for higher education by bringing back to the region corporate dollars that previously had gone overseas. This is empowering the next generation of professionals by eliminating student loan debt before it ever starts.

Today, UMRF Ventures, as a wholly owned subsidiary of the University of Memphis Research Foundation, is serving several clients. From the start, the UofM recognized the importance of preventing student exploitation and adopted the key principle of paying students above minimum wage. As such, the bulk of its revenues are being used for student wages, from \$15-\$30 an hour, to ensure a sustainable living wage. Its profits are returned to the University of Memphis Research Foundation in the form of dividends, which are then used to fund vital research efforts and professorships.

FRONTIERS PARTNERSHIP PROGRAM



Early stage innovations, pilot projects and ideas that need expert leaders in cutting-edge disciplines to overcome internal challenges to execution are eligible for this program. The FedEx Institute of Technology will use research to solve big challenges facing FedEx and work with leadership to build on a core of innovation and collaboration; creating a large scale, sustainable ecosystem for the development, recruitment and retention of top talent – all at *no cost* to FedEx.



Currently working with FedEx teams to **pilot 4-6 projects** to be executed over the next six months.

FEDEX FRONTIERS DELIVERABLES

- An Agile-ready team of research faculty and world-class students working closely with FedEx leadership on the opportunities for growth identified in the earnings call
- Deliverables scoped to FedEx needs including white papers, alpha prototypes or other outcomes needed to scale innovation within the company
- Ownership of intellectual property generated through this program
- Cultivation of a collaborative community that ensures the topics that FedEx emphasizes are the topics of meet-ups, hackathons and the innovation community in this city.
- International promotion of the concepts and ideas generated by FedEx Frontiers, done in partnership with FedEx marketing and promotion
- Exposure to talent and an opportunity to hire the best students from each FRONTIERS team.



CREATING IMPACT

The FedEx Institute of Technology continues its strategic approach to building corporate, community and research engagement in our region and abroad.

ADVANCED TECHNICAL SKILLS SERIES:

- Blockchain901
- DevMemphis
- Python
- Game Developers/Unity
- Machine Learning/Data Sciences/R
- WordPress
- WebWorkers
- Data Management Association (DAMA)
- MEMPass/Power BI
- Memphis Game Developers
- PHP
- Business Agility Memphis
- MemphisDevOps
- AIGA Memphis
- Code Connectors

FIT ENGAGEMENT & EVENTS:

- ML for Everyone Workshop
- FIT-Blockchain901 Speaker Series
- FIT What's Next Researcher Speaker Series
- FIT-School of Public Health Telehealth Series
- AthenaTechne Hackathon
- Soft Robotics in Additive Manufacturing w/TJ Wallin, Cornell University
- Energy & Grid Talk w/Nathan Johnson, Arizona State University
- Advanced Scientific Computing Research w/Robinson Pino, Dept. of Energy
- Toxic Slugs Chart a Path Back to Integrated Pest Management w/John Tooker, Penn State University
- Economic Town Hall Discussion with Ernest Strickland (Greater Memphis Chamber of Commerce), Kyle Veazey (City of Memphis Gov't) & Ted Townsend (Univ of Memphis)
- Analytics Discussion w/Naveen Kumar, Washington University
- Memphis Game Developers Game Jam/Competition
- Intellectual Property (IP) Workshop
- Unmanned Aerial Systems Drones Racing & Demonstration
- Commercializing University Research w/ Leon Sandler, MIT
- Community of Research Scholars (CoRS) Lightning Talks



Community Engagement

The Institute continues its commitment to creating deep impact in advanced technology research and skills development in Memphis. To bring the city together and enhance workforce development, it is essential we partner with organizations committed to advancing technology in Memphis.

DevMemphis USER GROUP

1st Mon of every month
@ 6:00 PM

PYTHON USER GROUP

3rd Mon of every month
@ 6:00 PM

DATA SCIENCE / MACHINE LEARNING / R

1st Tues of every month
@ 7:00 PM

WEBWORKERS USERS GROUP

2nd Tues of every month
@ 6:00 PM

MEMPASS/BI USER GROUP

2nd Thurs of every month
@ 6:00 PM

WORDPRESS MEMPHIS

1st Thurs of every month
@ 6:00 PM

MEMPHIS GAME DEVELOPERS

2nd Wed of every month
@ 6:00 PM

DEVMEMPHIS GROUP

1st Tues of the month
@ 6:00 PM

PHP USERS GROUP

3rd Thurs of the month
@ 6:00 PM

AIGA MEMPHIS

2nd Mon of every month
@ 6:30 PM

DAMA MIDSOUTH

Meets monthly at FIT
@ 3:45 PM

BUSINESS AGILITY MEMPHIS

4th Thurs of every month
@ 6:00 PM

MEMDEVOPS USER GROUP

Meets monthly at FIT
@ 3:00 PM



Greater Memphis
IT Council



Growing Regional Tech

Workforce Development



TRAINING TARGETS CORPORATE & PUBLIC AUDIENCES

- SAFe Architecture
- Implementing SAFe
- SAFe Lean Portfolio Management
- Agile Release Management
- Agile for Executives
- Agile Project Management
- Agile User eXperience
- Agile for Finance Professionals
- Agile Coaching
- Agile in Software Testing
- Systems Testing Excellence Program
- Cybersecurity (CAST) Foundational Training
- SAS
- Microsoft PowerBI Bootcamp
- Mastering DAX in PowerBI (Advanced PowerBI)
- Blockchain Training Program (Ethereum)
- DevSecOps
- Data Focused
- Organizational Change Management
- Intensive Virtual Reality Workshop
- R in Data Science
- Advanced R (Programming)
- Design Thinking
- Enterprise Business Agility
- Memphis Innovation Bootcamp
- PHP Programming Language
- Python Programming Language
- Ruby Programming Language
- Training From the Back of the Room (Train the Trainer)

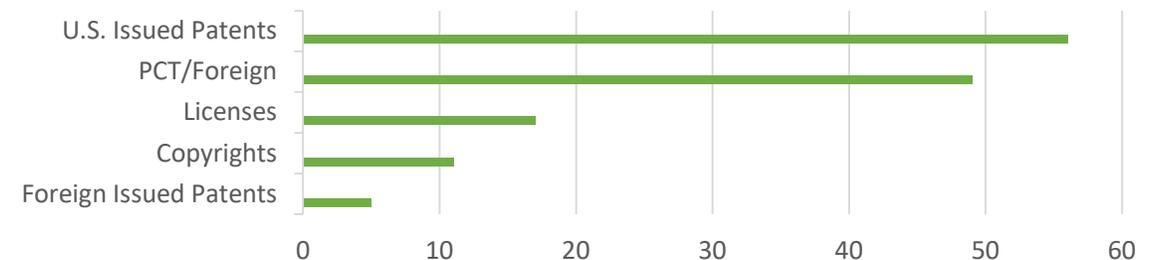


The Office of Technology Transfer (OTT)

Housed in the Institute, OTT works closely with faculty researchers to identify commercially valuable inventions being developed in their labs.

- FOR RESEARCHERS
 - We invest in and protect promising innovations and huge breakthroughs by University researchers.
- FOR INDUSTRY
 - We license valuable intellectual property (patented and copyrighted inventions) to local and national companies.
- 2019-2020 TECH GRANTS
 - The Office of Technology Transfer (OTT) extended a Call for Proposals on October 1, 2019 to fund grants for FY20. 15 grants were selected and funded.

10,405,746	Wireless analog passive sensors	Bashir Morshed; Sergi Consul-Pacareu
10,530,144	Mitigation of Adverse Effects of Geomagnetically Induced Currents on Transformers	Mohn Hasan Ali
10,671,747	Multi-user permission strategy to access sensitive information	Dipankar Dasgupta; Arunava Roy; Debasis Ghosh
10,799,592	Compositions and Methods to delivering an agent to a wound	Warren Haggard; Joel Bumgardner; Scott Noel



Additional Disciplinary Research Centers

- Center for Applied Earth Science and Engineering Research (CAESER) – Transforming and strengthening communities by improving social and environmental conditions through research and collaboration. *(Dr. Brian Waldron)*
- Center for Smart Biomaterials – Developing implantable materials to release drugs with an external signal (e.g., a magnet) allowing clinicians to better time - and target - local drug delivery *(Dr. Joel Bumgardener)*
- Center for Information ASSURANCE – Providing world-class research, training, and career development for Information Assurance professionals and students by organizing community events, special purpose conferences, and vendor-specific training programs *(Dr. Dipankar Dasgupta)*



- Institute for Intelligent Systems (IIS) – Advancing the state of knowledge and capabilities of intelligent systems, including psychological, biological, and artificial systems. Researchers from the cognitive sciences, biology, communication sciences & disorders, computer science, education, engineering, linguistics, philosophy, physics, and psychology are involved. *(Dr. Art Graesser & Dr. Alistair Windsor)*



- Mobile Data to Knowledge (MD2K) – A National Institutes of Health Center of Excellence Developing new strategies to analyze and leverage the increasingly complex biomedical data sets, often referred to as Big Data. One of only 12 Centers of Excellence across the country, each tackling a different, specific data science challenge *(Dr. Santosh Kumar)*
- Systems Testing Excellence Program (STEP) – Advancing the science and industry best practices of software testing through work with FedEx and the Department of Defense *(Dr. Robin Poston)*
- SENSORIUM – Delivering the next generation chemical sensors through multidisciplinary, fundamental discovery combined with early stage development. *(Dr. Erno Lindner)*



Meet Our Team

Dr. Jasbir Dhaliwal

Executive Vice President for Research & Innovation

jdhaliwl@memphis.edu

Mary Ann Dawson, MBA

Associate Director, Operations & Marketing

mdawson@memphis.edu

Rami Lotay, MBA

Manager, Projects and Facilitation

rslotay@memphis.edu

Dr. Hai Trieu

Director, Technology Commercialization

hhtrieu@memphis.edu

Debra Cummings

Administrative Associate

dcummngs@memphis.edu

Chaquieta L Williamson

Business Officer II

C.L.Williamson@memphis.edu

Dianna Dalton

Emerging Technology Research Specialist

drdalton@memphis.edu

Jordin Howell, MA

Graphic Design | Marketing Initiatives

jmhowell3@memphis.edu