Welcome to Mizzou:
An Orientation to Research

August 9, 2013
Reynolds Alumni Center
Hey! Where is my Table of Contents?

You can access the Table of Contents in a variety of ways. The pictures below provide guidelines. Follow the steps, and a Table of Contents will pop open on the left side of PDF document. Click on the page you want to go to, and you will be taken there!

Example 1:
Welcome to Mizzou:
An Orientation to Research
Broader Impacts

For more information about the Broader Impacts Network, contact Dr. Susan Renoe at 2-2270 or at renoes@missouri.edu

- BIN Brown Bag Lunch: K12 Outreach Beyond the Classroom—Informal Science Education. Presenter: Jeff Buehler, Director of Project LIFTOFF. September 20, Noon-1, S204 Memorial Union
- Broader Impacts Intensive Training. October 18, 8-Noon, Room 107, Bond Life Science Center
- Broader Impacts Resource Fair. October 18, 1-4, McQuinn Atrium, Bond Life Science Center
- BIN Brown Bag Lunch: Moving Past the Norm—Mentoring as Broader Impacts. Presenters: Dr. Mark Hannink, Professor of Biochemistry and Associate Director, Fellowships and Education, Life Sciences Center, and Dr. Angela Speck, Professor of Physics and Astronomy and MU-CIRTL Institutional Coordinator. October 21, Noon-1, S206 Memorial Union
- BIN Brown Bag Lunch: Incorporating Technology into Your Broader Impacts Plans. Presenter: Sue Hollingsworth, Manager, Video Production Services, Academic Support Center. November 18, Noon-1, S206 Memorial Union
- BIN Brown Bag Lunch: Legislative Affairs and Public Policy. Presenters: Craig Stevenson, Director, Government Relations, and Marty Gettng, Director, Government Relations. December 2, Noon-1, S206 Memorial Union

Institutional Review Board

For more information about Institutional Review Board training sessions, contact umcresearchcirb@missouri.edu. To reserve your spot in any IRB session, send an email to Communication with Campus IRB at CIRB@PO.MISSOURI.EDU

- IRB Basics: September 12, Noon-1, Student Center Room 2206A and November 5, Noon-1, Student Center Room 2206C

Grantsmanship Training

For more information about Grantsmanship training, contact Dr. Sara Vassmer at 4-6422 or at vassmers@missouri.edu

- Grantsmanship Brown Bag Lunch: What Can a Grant Writer Do for You? September 4, Noon-1, S206 Memorial Union
- Grantsmanship Brown Bag Lunch: Cash and Credit—Budgeting 101 and Negotiating Shared Credit. October 2, Noon-1, S206 Memorial Union
- Grantsmanship Brown Bag Lunch: Talking to Your Program Officer. November 6, Noon-1, S206 Memorial Union

Faculty Grant Writing Institute

The Faculty Grant Writing Institute (FGWI) provides MU faculty with small, interactive group sessions on proposal writing, concurrent with one-on-one grant writer support.

Each Institute offers four two-hour sessions over the course of one month where faculty are given small take-home writing tasks based on the funding opportunity they are pursuing.

These exercises are then discussed during sessions. Session topics may include: (1) Crafting strong aims & objectives, (2) Talking to a program officer, (3) Writing skills, building a better proposal argument, (4) Agency-specific panels (i.e., Broader Impacts, Early Investigator), and (5) Budget overview.

Faculty participants also work with a grant writer for eight weeks to complete a draft proposal. Meeting times are established by the faculty member and grant writer.

To apply for the Faculty Grant Writing Institute, contact Sara Vassmer at 4-6422 or at vassmers@missouri.edu for an application.
Model Systems: Putting the Puzzle Pieces Together
at MU’s Research Core Facilities & Centers

Find out about SERVICES, EXPERTISE and INSTRUMENTATION offered by a wide selection of research core facilities and research centers at MU. Attend GREAT SEMINARS and WORKSHOPS. Visit with representatives from SCIENTIFIC VENDORS. Enjoy REFRESHMENTS, NETWORKING and LEARNING.

This is an event you won’t want to miss!

For more details go to researchcoreday.missouri.edu

PARTICIPATING CORES & CENTERS
- Cell and Immunobiology Core
- DNA Core
- Electron Microscopy Core
- Informatics Research Core
- Molecular Cytology Core
- Proteomics Center
- Structural Biology Core
- Transgenic Animal Core
- Nuclear Magnetic Resonance Core
- Brain Imaging Center
- Clinical and Translational Science Center
- Interdisciplinary Center on Aging
- International Institute of Nano and Molecular Medicine
- Laboratory for Infectious Diseases
- Mutant Mouse Regional Resource Center
- MU Research Reactor
- National Swine Resource and Research Center
- Rat Resource and Research Center
- VA Biomolecular Imaging Center

Participating vendors to be announced at a later date.

*Columbia, MO 65211-7310

Thursday, September 12, 2013
in the Bond Life Sciences Center at Mizzou*
Missouri S&T | Research Technology Day 2013
in Rolla Missouri

September 9-10, 2013

Presentations
Learn as researchers discuss the technologies they used in pursuit of new knowledge

Workshops
Go hands-on with hardware and software used in current scientific research

Challenge Connection
Take the stage to present your technology challenges to peers and industry experts in a live forum

Meet, Greet, & Eat!
Network with fellow experts at the kick-off street party with area restaurants, music, and pyrotechnics

Challenge Connection
Take the stage to present your technology challenges to peers and industry experts in a live forum

Meet, Greet, & Eat!
Network with fellow experts at the kick-off street party with area restaurants, music, and pyrotechnics

Register Today!
learn more online at RTD2013.mst.edu

Register Today!
learn more online at RTD2013.mst.edu
The Big Picture: The Most Important Things You Absolutely Must Know
Compliance & Ethics
A policy is a temporary creed liable to be changed, but while it holds good it has got to be pursued with apostolic zeal.

Mahatma Gandhi, 1922
Letter to General Secretary of India’s Congress Party
If you guard your toothbrushes and diamonds with equal zeal, you’ll probably lose fewer toothbrushes and more diamonds.

McGeorge Bundy
National Security Advisor to Presidents Kennedy & Johnson
First thing, make everything as simple as possible. But no simpler.

Albert Einstein
Character is doing the right thing when nobody’s looking. There are too many people who think that the only thing that’s right is to get by, and the only thing that’s wrong is to get caught.

J.C. Watts
Fmr. U.S. Representative, Oklahoma
Institutional Review Boards
- http://research.missouri.edu/cirb/
- http://research.missouri.edu/hsirb/

Animal Care Quality Assurance
- https://research.missouri.edu/acqa/

Export Compliance Office
- http://research.missouri.edu/compliance/export_controls/

Conflict of Interest Office
- http://research.missouri.edu/compliance/conflict_of_interest/
Sponsored Programs
Administration
Jennifer Duncan, CPA, MPA
Director, Office of Sponsored Programs Administration

310 Jesse Hall
882-7560
duncanjenn@missouri.edu

research.missouri.edu/ospa
We are here to help!

The Office of Sponsored Programs Administration welcomes you to Mizzou. Stop by 310 Jesse Hall, or contact our office any time by way of the Truman Team Support Staff: 882-7560 or trumanteam@missouri.edu.
Get to know your assigned OSPA Pre-award Staff and OSPA Post-award Pod.
Need access?

We do that, including for NSF FastLane, NIH eRA Commons, and the PeopleSoft Grants Module.
Just the facts:

MU Grant Fact Sheet and Sponsored Programs Procedure Guide (SPPG)
Come learn with us at the Certificate Series for Specialized Grants Training. In particular, the Fundamentals of Sponsored Programs session will introduce you to key stakeholders in the award cycle process and discuss roles and responsibilities of various MU Campus and UM System departments.
Grant Writing & Publications
Heather Brown, Ed.D.
Director, Office of Grant Writing and Publications

202 Jesse Hall
882-2505
brownheathe@missouri.edu
@researcherbuzz

research.missouri.edu/ogwp
From assistance in pursuing external funding to facilitating research collaborations, from providing grant-related professional development trainings to celebrating success in research and creative activity ...

We are here to help!
The Grant Writer Network

We wrote the book!

Grant Seeking in Higher Education: Strategies and Tools for College Faculty
We provide a wide variety of research and grantsmanship training opportunities for MU faculty members, staff, postdocs and students.

Check out our fall offerings at: https://research.missouri.edu/ogwp/workshops
So many helpful tools:

Direct links to funding opportunity database: https://research.missouri.edu/ogwp/info

The Model Proposal Database: https://research.missouri.edu/internal/model

Limited Submissions: https://research.missouri.edu/ogwp/lsa/

These are just a few ...
Illumination: A grand gold, nine gold, five silver and six bronze medals — a CASE record unmatched by any other university-based research publication.

Your research could be featured here!
Classified Research
Leon Hoffsette
Facility Security Officer
882-2791
hoffsettel@missouri.edu

research.missouri.edu
Generally begins with a contract security classification specification DD Form 254

• Lists all requirements related to security

• When you see a DD Form 254 ...

   Immediately call the Security Office!
University requirements to accept a DD Form 254

1. **Facility Clearance**
   - Confidential, Secret or Top Secret
   - Department of Defense
2. Personnel Clearances (Confidential, Secret or Top Secret Levels)

- Investigation: e-PSQ
- Adjudication: DoD CAF
- Access: Briefing & NDA
3. Safeguarding Classified Materials

- Storage: Safes & Vaults
- Working Areas: Vaults & Restricted Areas
- Transportation Outside the University
- Computers Have to be Specially Protected & Approved
All of Us ...

... in the Office of Research
Really.

We are not lying.
Compliance and Ethics ...
Rules and Regulations,
Nuts and Bolts ...
Entrepreneurship,
Intellectual Property,
Working with Industry ...
Research Development, External Funding, Communication ...
We are here to help!
We’re Moving!

Late Spring 2014

To Mizzou North, the former Ellis Fischel Cancer Center, at the intersection of Business Loop 70 and Garth
Who Moves Where: A flowchart

- Chancellor
- Deputy Chancellor
- Deputy Provost
- Provost
- University Affairs
- Visitor Relations
  - Accounting (outpost/certain functions)
  - Admissions
  - Cashiers
  - Registrar (certain functions)
  - Student Financial Aid
  - Graduate School
  - International Programs

- Marketing
  - Registrar (certain functions)
  - Student Information Systems
  - Vice Provost for Enrollment Management
  - Vice Provost for Undergraduate Studies

- Constituent Relations
- News Bureau
- University Events

"Behind the scenes" staff of:
  - Cashiers, Office of Admissions & Student Financial Aid
  - Accounting Services
  - Budget
  - Business Services
  - Office of Research
  - Office of Sponsored Programs Administration
  - Vice Chancellor of Administrative Services
  - Concert Series staff
  - Some KBIA staff

- REYNOLDS ALUMNI CENTER
  - Publications
  - Alumni Communication

- ELLIS LIBRARY
  - WEST READING ROOMS

- McREYNOLDS HALL
  - Web Communications

- ROCK QUARRY CENTER

- HEINKEL BUILDING

- HILLEL CENTER
  - (LEASED SPACE)

- MIZZOU NORTH
  - (FORMER ELLIS FISCHL CENTER BUILDING)

- MISSOURI THEATRE

- SWALLOW HALL & PICKARD HALL
  - Entire staff and faculty
    - Including Museum of Art & Archaeology and the Museum of Anthropology
<table>
<thead>
<tr>
<th>RESEARCH CENTER</th>
<th>DIRECTOR</th>
<th>PHONE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Christopher S. Bond Life Sciences Center</td>
<td>Jack Schultz</td>
<td>573 882-7957</td>
</tr>
<tr>
<td>105 Bond Life Sciences Center</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dalton Cardiovascular Research Center</td>
<td>Gerald Meininger</td>
<td>573 882-7588</td>
</tr>
<tr>
<td>134 Research Park Drive</td>
<td></td>
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</tr>
<tr>
<td>Health Activity Center</td>
<td>John Thyfault</td>
<td>573 882-9818</td>
</tr>
<tr>
<td>10A McKee Hall</td>
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<tr>
<td>Interdisciplinary Center on Aging</td>
<td>Steven C. Zweig</td>
<td>573 884-3337</td>
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<td>M245A Medical Sciences Bldg., DC033.00</td>
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<tr>
<td>Interdisciplinary Plant Group</td>
<td>Robert Sharp</td>
<td>573 882-1841</td>
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<tr>
<td>1-31 Agriculture Bldg.</td>
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<tr>
<td>International Institute of Nano and Molecular Medicine</td>
<td>Fred Hawthorne</td>
<td>573 882-7016</td>
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<tr>
<td>1514 Research Park Drive</td>
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<tr>
<td>Laboratory for Infectious Disease Research</td>
<td>Deb Anderson</td>
<td>573 882-7038</td>
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<tr>
<td>302 Connaway Hall</td>
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<tr>
<td>MU Research Reactor</td>
<td>Ralph Butler</td>
<td>573 882-4211</td>
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<tr>
<td>1513 Research Park Drive</td>
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<tr>
<td>National Swine Resource and Research Center</td>
<td>Randy Prather</td>
<td>573 882-6414</td>
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<td>Animal Science Research Center</td>
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<tr>
<td>Research Core Facilities</td>
<td>Mark McIntosh</td>
<td>573 882-8989</td>
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<tr>
<td>M616 Medical Sciences Bldg.</td>
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<tr>
<td>UM Bioinformatics Consortium</td>
<td>Gary K. Allen</td>
<td>573 882-9200</td>
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<tr>
<td>215 University Hall</td>
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# Core Facilities

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<tr>
<th>Research Core</th>
<th>Director</th>
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<tr>
<td><strong>Cell and Immunobiology Core (CIC)</strong></td>
<td>Mark McIntosh</td>
<td>573 884-7315</td>
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<tr>
<td>One Hospital Drive</td>
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<tr>
<td>M324 Medical Sciences Building</td>
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<td>Columbia, MO 65212</td>
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<td><strong>DNA Core</strong></td>
<td>Mark McIntosh</td>
<td>573 882-0428</td>
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<td>216 Bond Life Sciences Center</td>
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<tr>
<td>1201 Rollins Street</td>
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<tr>
<td><strong>Electron Microscopy Core (EMC)</strong></td>
<td>Mark McIntosh</td>
<td>573 882-8304</td>
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<tr>
<td>W125 Veterinary Medicine Bldg.</td>
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<td>East Campus Dr.</td>
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<td>University of Missouri</td>
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<tr>
<td><strong>Informatics Research Core Facility</strong></td>
<td>Chi-Ren Shyu</td>
<td>573 884-8151</td>
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<td><strong>Molecular Cytology Core</strong></td>
<td>Thomas E. Phillips</td>
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<tr>
<td><strong>Nuclear Magnetic Resonance Core</strong></td>
<td>Michael Greenlief</td>
<td>573 884-7807</td>
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<td>125 Chemistry</td>
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<tr>
<td>601 S. College Avenue</td>
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<td>University of Missouri</td>
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<tr>
<td><strong>Charles W. Gehrke Proteomics Center</strong></td>
<td>Michael Greenlief</td>
<td>573 884-7374</td>
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<tr>
<td><strong>Structural Biology Core</strong></td>
<td>Tom Quinn</td>
<td>573 884-1281</td>
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<tr>
<td>125 Chemistry Building</td>
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<tr>
<td>University of Missouri</td>
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<tr>
<td><strong>Transgenic Animal Core</strong></td>
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<td>573 882-6518</td>
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<tr>
<td>E122/120 Veterinary Medicine Bldg.</td>
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<tr>
<td>University of Missouri-Columbia</td>
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<td>Columbia, MO 65211</td>
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Proteomics Center

- Protein MW and purity determination
- Protein identification from SDS-PAGE bands
- Quantitative proteomics of complex samples using 2D gels or HPLC-Mass Spec
- Metabolomics coming soon!

Structural Biology Core

- Protein expression and purification
- Crystallography
- Peptide synthesis and purification
- Combinatorial peptide libraries
- ALS synchrotron beamline shareholder
- Protein expression work for NMR

Transgenic Animal Core Facility

- Generation of transgenic mice
- Screening of ES clones for targeting event
- Molecular cloning service
- Chromosome counting
Cell and Immunobiology Core Facility

- Flow cytometry analysis
- BSL-2 high speed cell sorting
- Tissue culture services
- Monoclonal antibody production
- Supply center with in stock items for tissue culture and protein work

DNA Core

- DNA sequencing
- DNA fragment analysis
- SNP genotyping
- Genomic variation analysis
- Transcriptome profiling
- Reagent stockroom

Electron Microscopy Core

- Scanning and transmission electron microscopy
- Sample preparation
- Specialized data analysis
- Consultation and training available
- High end resolution elemental analysis

Informatics Research Core Facility

- Dedicated to facilitate research and education through computational tools
- Integrate diverse data
- Apply informatics tools
- Faculty expertise available

Molecular Cytology Core

- Confocal and widefield fluorescence microscopes
- Motorized, fluorescence stereo microscopes
- Laser capture microdissection
- Image analysis and processing
- Sample preparation & microtome
- Invitrogen supply center

Nuclear Magnetic Resonance (NMR) Core

- NMR analysis of large molecules, peptides, and proteins
- Small molecule NMR
- Solid state measurements
- Analysis of molecules > 30 kDa
- Protein expression work for NMR
RESEARCH COMPLIANCE PERSONNEL  
2013-2014 
research.missouri.edu/compliance

Robert D. Hall, PhD, JD
Associate Vice Chancellor for Research & Director of Compliance
Office of Research, 205 Jesse Hall  Phone: 882-9500  Fax: 884-8371  hallr@missouri.edu

**Animal Care Quality Assurance**
57 McReynolds Hall  573-882-1746  Fax: 537-884-2457
**Director**
Jeff Henegar, PhD; henegarj@missouri.edu

**ACUC Coordinators**
Jennifer Allen; allenjenn@missouri.edu
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Kristi Nichols; nicholskri@missouri.edu
Elizabeth Wisell; wiselle@missouri.edu
Sara Wolff; wolffsm@missouri.edu

**OHSP Nurse Practitioner**
Sallie Beattie; beattiesa@health.missouri.edu

**Animal Care and Use Committee Chair**
Chada Reddy, PhD

**Office of Animal Resources**
1720 East Campus Loop  573-882-8485  Fax: 573-884-4345
**Director**
Lon Dixon, D.V.M.; dixonl@missouri.edu

**Conflict of Interest**
205 Jesse Hall  573-884-9954  Fax: 573-884-837
**Director, Research Compliance Services**
Jennifer May, JD; mayj@missouri.edu

**Compliance Officer**
Sierra Clark, JD; clarkss@missouri.edu

**Compliance Specialists**
Katie Knight; knightka@missouri.edu
Melissa Pasley; pasleym@missouri.edu

**Conflict of Interest Committee Chair**
Michael Middleton, Deputy Chancellor

**Export Controls**
205 Jesse Hall  573-882-3841  Fax: 573-884-8371
**Director, Research Compliance Services**
Jennifer May, JD; mayj@missouri.edu

**Classified Research**
310 Jesse Hall  573-882-2791  Fax: 573-884-4078
**Facility Security Officer**
Leon Hoffssette, ISP; hoffssettel@missouri.edu

**Institutional Review Boards**
**Director, Human Subjects Protections**
Michele Kennett, JD, MS, LLM, CIM; kenneetmm@missouri.edu

**Campus IRB**
483 McReynolds  573-882-9585  Fax: 573-884-0663

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**Compliance Specialists**
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Christine Hueske, hueskec@missouri.edu

**Health Sciences IRB**
190 Galena Hall, DC074.00  573-882-3181  Fax: 573-884-4401

**Compliance Officer**
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**Compliance Specialists**
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Laura Smith, smithlaural@missouri.edu

**Health Sciences IRB Chair**
Niels Beck, PhD
Robert Bailey, JD, Vice Chair
Dean Hainsworth, MD, Vice Chair
COMPLIANCE & ETHICS
Office of Research
Office of Compliance

http://research.missouri.edu/compliance/

Research Compliance Personnel

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Associate Vice Chancellor for Research
Office of Research
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882-9500 FAX: 884=8371
HallR@missouri.edu

Jennifer P. May, J.D.
Director, Research Compliance Services
Office of Research
203 Jesse Hall
882-3841 FAX: 884=8371
MayJ@missouri.edu
Office of Research Compliance
Committees Contact Information

- **Institutional Review Boards**
  - Michele Kennett, JD, LLM, RN; 882-3182
    Director, Human Subjects Protections

- **Animal Care and Use Committee**
  - Dr. Jeff Henegar; 882-3681
    Director, Animal Care Quality Assurance

- **Conflict of Interest**
  - Sierra Clark, JD; 884-9954
    Compliance Officer

- **Embryonic Stem Cell Research Oversight**
  - Jennifer May, JD; 882-3841
    Director, Research Compliance Services

Environmental Health and Safety
Committees Contact Information

- **Radiation Safety Committee**
  - Jack Crawford; 882-5032
    Radiation Safety Officer

- **Laboratory Safety Committee**
  - Under development by EH&S

- **Institutional Biosafety Committee**
  - Mary Reichel; 882-7923
    Environmental Health Technician
Human Subjects Research
Institutional Review Board Functions

- Protect the rights and welfare of human subjects involved in research projects conducted at or sponsored by MU.
- Review, approve, require modification, or disapprove all research activities involving the use of human subjects.
- Approve changes in previously approved research.
- Provide continuing review for all research activities involving human subjects.
- Oversee HIPAA as it affects research.

Institutional Review Board (IRB)

- All research involving human subjects at MU must be approved by the IRB prior to initiation of the project.
- Any changes in the protocol, consent form, or survey instruments must be approved by the IRB.
- Applies regardless of funding source.
  - CRR 410.010
  - FWA
Definitions

- **Research**
  A systematic investigation, including research development, testing & evaluation, designed to develop or contribute to generalizable knowledge.

- **Human Subject**
  A living individual about whom an investigator (whether professional or student conducting research) obtains
  - Data through intervention or interaction with the individual
  - Identifiable private information

Health Sciences Institutional Review Board (HS IRB)

- **Apply to the HS IRB if the PI is employed at any of the following:**
  - School of Medicine
  - University Hospital and Clinics
  - Ellis Fischel Cancer Center
  - Rusk Rehabilitation Center
  - Truman Memorial Veterans Hospital
  - Charles & Josie Smith Sinclair School of Nursing
  - School of Health Professions
  - College of Veterinary Medicine
  - Missouri Institute of Mental Health
  - Missouri Rehabilitation Center
  - Columbia Regional Hospital
Health Sciences
Institutional Review Board (HS IRB)

☐ Apply to the HS IRB if any of the following apply:

- The subject population includes patients (either in-patients or out-patients) in any of the institutions above.
- The research involves physical stress to the subjects (e.g., exercise physiology projects).
- The research involves any collection of human blood or tissue.
- All other investigators must apply to the Campus IRB.

IRB Processes

☐ All investigators must obtain an Education & Training Certificate prior to IRB approval.

☐ The HS IRB and Campus IRB have somewhat different review processes and forms. General questions can be answered at our web pages:

- Campus: http://research.missouri.edu/cirb/
- Health Sciences: http://research.missouri.edu/hsirb/
- Internal and external funds cannot be released until approval, if required, has been given by the appropriate IRB.
IRB Contact Persons
Michele Kennett @ 882-3182

HS IRB
Betty Jo Wilson @ 882-3182

Campus IRB
Janelle Greening @ 882-9585

Institutional Official
Rob Hall @ 882-9500

Research Animal Care and Use
- General Policy -

- MU policy is to foster the humane care and use of vertebrate animals in research and to adhere to applicable laws, standards, and policies.
- This is a product of AWA and PHS mandates.
- It is applicable to all vertebrate animals used in research or teaching (including rats, mice, birds).
- MU policy applies regardless of the funding source
  - CRR 400.020
Animal Care and Use - Structure

Office of Research
Institutional Official (Dr. Rob Hall)

Animal Care Quality Assurance (ACQA)
Dr. Jeff Henegar (Director)
882-3681
53 McReynolds Hall

Office of Animal Resources (OAR)
Dr. Lon Dixon (Director)
882-8485
East Campus Drive

Animal Care and Use
Getting Started…

- Training
  - On-line basic training is required
- Occupational Health & Safety Program
  - Enrollment and risk assessment is required
- Protocol Application
  - Must be approved by ACUC before ordering or housing animals
Conflict of Interest

- Various UM policies apply
  - 330.015 – General Policy
  - 420.030 – Conflict with Federal Grant Agencies
- Annual disclosure of potential conflicts required
- Review by Conflict-of-Interest Committee
- Annual Report of Consulting Activities via eCompliance
- COI is overseen by Deputy Chancellor

Research Integrity

- UM policy 420.010 applies
- DHHS policy and procedures generally govern
- Definitions of research misconduct
  - Falsification, fabrication, or plagiarism
- Standing Committee on Research Responsibility
- Campus Research Integrity Officer (Rob Hall)
- Assurance with ORI—eligibility for federal funds
- PHS initiative in Responsible Conduct of Research
  - NIH requirements, NSF requirements
  - RCR courses across campus
Export Controls

- Non-U.S. citizens/non-permanent residents affected
- Not new rules, but emphasized post-9/11
- Commerce, State and Treasury oversee.
- "Export Control Reform" underway at USG level
  - "Deemed exports"
  - "Fundamental Research Exclusion"
  - "Use of equipment"
- Other controls apply through contract clauses
  - DFARS 252.204-7000

Issues
- Foreign travel
- Foreign students, faculty, researchers
- Services to foreign nationals
- Export licenses

Director, Research Compliance Services (Jennifer May) oversees Export Compliance program

Biological Safety program
- Select Agent oversight through EHS
Classified Research

- Typically sponsored by federal government or by defense contractors
  - Institutional security clearance
  - Clearances for appropriate researchers
  - Some foreign nationals may be excluded
- Campus Facility Security Officer (Leon Hoffsette) oversees
  - Clearances and physical security
- May implicate overseas programs in embargoed locations
ANIMAL CARE AND USE
UNIVERSITY OF MISSOURI-COLUMBIA

POLICY
The University of Missouri policy on the care and use of animals is a product of the Animal Welfare Act and Public Health Service mandates. MU’s policy is to foster the humane care and use of vertebrate animals in research and teaching, and to adhere to applicable laws, principles, standards, guidelines and policies affecting such care and use. This policy applies in all situations and activities of the University where vertebrate animals are used in research, teaching, training, or other activities regardless of the source(s) of financial support. It applies equally whether the supporting funds are from outside or from within the University, whether separately budgeted or un budgeted.

The complete MU policy on the Care and Use of Vertebrate Animals as Subjects in Research and Teaching may be accessed via the Inside UM System webpage at http://www.umsystem.edu/ums/rules/collected_rules/research.

STRUCTURE
The Office of Research and the Vice Chancellor for Research promote open communication and cooperation among MU units and individuals involved in animal care and use, and they strive to ensure a clear, visible chain of authority for the program. There are two administrative offices that participate in oversight of animal care at MU:

Animal Care Quality Assurance (ACQA) Office
Primary contact: Dr. Jeff Henegar, Director; 882-3681; ermelingb@missouri.edu; 57 McReynolds Hall

Responsibilities of the ACQA office are:
- to assure campus-wide compliance with applicable federal and state regulations and guidelines regarding the use of animals in research and teaching. Including the implementation of a post-approval monitoring program.
- to develop and deliver training programs for the MU campus
- to administer and assist MU’s Animal Care and Use Committee in the performance of their duties
- to develop and administer the Occupational Health and Safety Program for personnel that work or are exposed to research animals, their fluids or tissues; or biological hazards at BSL-2 are higher

Office of Animal Resources (OAR)
Primary contact: Dr. Lon Dixon, Director; 882-8485; dixonl@missouri.edu; 1720 East Campus Loop

Responsibilities of the OAR office are:
- to coordinate maintenance of AAALAC accreditation and provide advice on animal resources and care
- to develop animal care policies, provide veterinary care, and oversee business practices
- provide animal husbandry to most animal care programs on campus
• to coordinate repairs, renovations, and preparation of facility improvement grants for all facilities

A flow-diagram illustrating the overall structure for animal care and use at MU is provided on the following page
University of Missouri-Columbia Animal Resources Organization

Chancellor

Provost

Office of Research
- Vice Chancellor for Research
  Dr. Robert V. Duncan
- Assoc. Vice Chancellor for Research and Director of Compliance
  (Institutional Official)
  Dr. Robert D. Hall (I.O.)

Office of Animal Resources (OAR)
- Director (Attending Veterinarian)
  Dr. Lon W. Dixon
- Clinical Veterinarian(s)
  Drs. Scott Korte, Mike Linville and Erin O’Connor
- Post-Doctoral Veterinarians

Deans and Directors*

*Deans & Directors in advisory role to IO and Attending Veterinarian on animal resource issues, as necessary

Institutional Animal Care and Use Committee (ACUC)
- Chairperson
  Dr. Chada S. Reddy

EAMC
- Director
  Dr. Jeff Henegar
- ACUC Coordinators

Animal Care Quality Assurance Office (ACQA)
- Director
  Dr. Jeff Henegar
- ACUC Coordinators

College of Arts & Science
- Botany Facility
  Lefevre Hall
  Stewart Hall

College of Veterinary Medicine
- Clydesdale Hall
 _connaway Hall
  Middlebush Farm
  NSRRC
  LIDR
  Vet. Med. Building
  Vet. Sci. Building

School of Medicine
- Lab. An. Center
  Med. Sci. Building

Dalton Cardiovascular Research Center

College of Agriculture, Food, and Natural Resources

CAFNR Clinical Veterinarian
  Dr. Mike Linville

Anheuser-Busch
  Animal Sci. Res. Center
  Animal Sci. Unit Farms
  Baskett Wildlife Ctr.

Bond Life Sciences Center
Training
Primary contact: Dr. Jeff Henegar, ACQA Director; 882-3681; 57 McReynolds Hall

The ACQA office provides training for all animal users. All MU employees who work with animals are required to complete the web-based training module entitled Basic Training for Animal Care and Use at MU. Re-training is required every three years and this is accomplished by completing the web module titled Continuing Education Program in Animal Care and Use. Both training modules can be accessed through the ACQA homepage at http://www.research.missouri.edu/acqa/. Also, if survival surgery is performed, it is required that personnel complete the training module titled Survival Surgery Basic Training that is found at the ACQA website. Finally, the ACQA office in conjunction with veterinarians and technical personnel from the Office of Animal Resources offer optional rat and mouse handling and technique workshops on a regular basis. Pre-registration is required and registration forms can be found on the ACQA website.

Occupational Health and Safety
Primary contact: Dr. Jeff Henegar, ACQA Director; 882-3681; 57 McReynolds Hall

The ACUC Coordinator responsible for coordination of the OHSP is: Ms. Anna Hamilton, ACUC Coordinator, 882-0182, 52 McReynolds Hall

An occupational health and safety program for personnel who work with animals promotes a safe workplace and is required by Public Health Service Policy. Every MU employee (faculty, staff, students), volunteers and visitors who work with or are exposed to vertebrate animals, or their unfixed tissues, fluids, secretions, excretions, or who handles contaminated caging and related equipment; or work with biological hazards at BSL-2 or higher must enroll in the program. Note: enrollment is required for personnel working with biohazards even though animals may not be involved. The employee's supervisor initiates program enrollment by submission of a Hazard Evaluation Form that is available at the ACQA website (https://research.missouri.edu/acqa_secure/), or the Office of Environmental Health and Safety website (http://ehs.missouri.edu/bio/ohsp.html). Each employee will then receive a Confidential Health Questionnaire for Animal Workers from the Occupational Health Nurse, Ms. Sally Beattie. The questionnaire must be completed by the employee and returned to the nurse to begin the risk assessment process.

Animal Care and Use Committee (ACUC)
Primary contacts: Ms. Sara M. Wolff, ACUC Coordinator; 884-6758; WolffSM@missouri.edu; 51 McReynolds Hall
Ms. Kristi Nichols, ACUC Coordinator, 882-1746; NicholsKri@missouri.edu; 51 McReynolds Hall
Ms. Jen Allen, ACUC Coordinator, 882-4300; AllenJenn@missouri.edu; 50 McReynolds Hall
Ms. Anna Hamilton, ACUC Coordinator, 882-0182; HamiltonAl@missouri.edu; 54 McReynolds Hall
Ms. Liz Wisell, ACUC Coordinator, 882-0185; Wiselle@missouri.edu; 50 McReynolds Hall

Dr. Jeff Henegar, ACQA Director; 882-3681; ermelingb@missouri.edu; 57 McReynolds Hall

ACUC Chair: Dr. Chada Reddy, 2- 7653; Reddyc@missouri.edu; Department of Biomedical Sciences, College of Veterinary Medicine

The membership of MU’s Animal Care and Use Committee meets the requirements of both the Animal Welfare Act Regulations and Public Health Service Policy. Currently, there are 16 members including 3 non-affiliated members, 2 non-scientist members, and MU’s Attending Veterinarian (Dr. Lon Dixon, OAR Director). Other committee members are veterinarians or faculty scientists who represent the various schools and colleges across the MU campus. Representatives from the ACUC perform semi-annual inspections of all animal housing facilities and use areas (i.e., laboratories) as required by federal law. Reports on the inspections and evaluation of the facilities are filed with the Associate Vice Chancellor for Research who serves as the Institutional Official. The ACUC will make recommendations in their reports concerning deficiencies, with a timetable for corrections, to the Institutional Official. Minority opinions are always encouraged.

ANIMAL PROTOCOL APPLICATION

Primary contacts: Ms. Kristi Nichols, ACUC Coordinator; 882-1746; NicholsKri@missouri.edu; 51 McReynolds Hall

Ms. Sara M. Wolff, ACUC Coordinator; 884-6758; WolffSM@missouri.edu; 51 McReynolds Hall

Application: Animal use protocol applications are submitted and processed electronically using the Topaz system. Contact the ACQA office (882-1746) for help in getting started using Topaz.

Form help: The ACQA office will be happy to provide help in completing the application form.

Turnaround time: Approval of a protocol takes ~3 weeks following submission depending upon the complexity of the application. Please contact Sara Wolff (884-6758), Kristi Nichols (882-1746) or Dr. Jeff Henegar (882-3681) in the ACQA office if you have specific deadlines that must be addressed. You will be required to get specific approval from the ACUC Chair prior to initiating the expedited approval process.
Overview: Protocol Review Process
New Protocols and Triennial Rewrites
For all New and Triennial Rewrite protocols, the Principal Investigator (PI) or their associate completes and submits the online Animal Care and Use Protocol application form in TOPAZ.

The ACQA office will then assign the protocol for veterinary pre-review by an Office of Animal Resources (OAR) Veterinarian.

The Veterinarian is responsible for working with the PI’s to ensure their protocol accurately describes their research. The that the PI has corrected any animal welfare or veterinary concerns.

The veterinary pre-review speeds up the process of protocol review and approval by the Animal Care and Use Committee.
The pre-review OAR Veterinarian will submit any questions, concerns, or comments to the PI by e-mail. The PI will then revise and re-submit the protocol in TOPAZ. Any USDA Pain Category E protocol is flagged for discussion at the next ACUC meeting.

The protocol is then put into 5 Day Review, during which time ACUC members may review the protocol.

Formal review by an OAR Veterinarian is also performed during this time frame.

During 5 Day Review, ACUC members may: 1) recommend to approve the protocol to be sent to Designated Review; 2) require modifications to (or request clarification of); or 3) request Full Committee Review of the protocol.
If modifications are required, the ACUC Coordinator will compile all questions, concerns, and comments generated during 5 Day Review and send them to the PI. The PI makes the necessary changes then resubmits the protocol in TOPAZ.

This continues until all questions and concerns have been satisfactorily addressed. The protocol will then be submitted for Designated Member Review or Full Committee Review based on 5 Day Review recommendations.
The Designated Member Reviewer has the option to: 1) approve; 2) require modifications or more information (in order to secure approval); or 3) call Full Committee Review.

Decisions by Designated Member Review will be communicated by ACQA to the PI along with reasons for those decisions.

If the protocol is approved by the Designated Member Reviewer then animal work may begin.
If Full Committee Review of the protocol is called, the protocol is reviewed at the next ACUC meeting where the PI will be invited for protocol discussion. By the majority vote of a convened quorum the ACUC may: 1) approve, 2) require modifications to (in order to secure approval), or 3) withhold approval.

Reasons for FCR:
Deviations from the Guide including: use of paralytic agents, more than momentary pain or distress, unrelieved pain/distress, more than one major operative procedure, unanswered questions/concerns during 5 Day Review, etc.

Decisions by FCR will be communicated by ACQA to the PI along with reasons for those decisions.

If the protocol is approved by FCR then animal work may begin.
Pre-Submission Veterinary Review
Time length depends on correspondence between veterinarian and PI

ACUC 5-Day Review
*Friday → Friday*

Designated Review (DR)
(Full Committee Review (FCR) if requested)
~3 days for DR
< 1 month for FCR

Protocol Review Process
Annual Renewals
For annual review of approved protocols, the PI is contacted to verify that the protocol is active with no changes, active with changes, or that the protocol is no longer active.

If the protocol is active with changes, the PI must submit an amendment for approval of the changes.

The same outcomes are available for annual renewals as for initial protocol approval.

The PI will be notified of annual renewal approval.
Amendments
Major and Minor amendments are submitted by making changes to the approved protocol within TOPAZ.

Any changes between the original protocol and amended protocol are flagged for reviewers.

For major amendments the approval process is the same as the initial protocol submission process.

Minor amendments may be approved administratively by ACQA without undergoing 5 Day Review.
Examples of major amendments include, but are not limited to, changes:

- from one class of anesthetic to another (for example, changing from a barbiturate (e.g., pentobarbital) to a dissociative (e.g., ketamine);
- to withhold an analgesic drug;
- in the objectives of a study;
- from non survival to survival surgery;
- to modify a currently approved invasive sampling procedure that induces additional risk, pain, or distress to the animal (e.g., changing from venipuncture to intravenous catheterization, or peripheral to central catheterization);
- in the species;
- increases of 10% or more in approximate number of mice of the genus Mus, rats of the genus Rattus, that are bred for use in research; and any other non-mammalian species. Any increases in approximate number of animals used of any other species.
- in Principal Investigator;
- in the method of euthanasia;
- in the duration, frequency, or number of procedures performed on an animal.
Examples of minor amendments include but are not limited to:

- addition of personnel or faculty collaborator;
- increase of less than 10% in the approximate numbers of mice of the genus _Mus_ and rats of the genus _Rattus_, that are bred for use in research; and any other non-mammalian species.
- protocol title/funding changes;
- modification of a currently approved sampling procedure that does not induce additional risk, pain, or distress to the animal (e.g., changing from the external jugular to the lateral caudal vein for blood collection);
- modification of a currently approved surgical procedure that does not induce additional risk, pain, or distress to the animal (e.g., performing ovariectomy using a different incisional approach such as flank vs. midline);
- change of anesthetic or analgesic within the same drug class (e.g., changing from one dissociative drug to another such as xylazine to metatomidine);
- addition of an analgesic drug;
- addition of a genetically engineered strain of the same species to a protocol.
OVERVIEW: PROTOCOL REVIEW PROCESS

All Electronic Protocol Submissions via TOPAZ Software Program

New Protocols and Triennial Rewrites

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- The Veterinarian is responsible for working with the PI’s to ensure their protocol accurately describes their research, and that the PI has corrected any animal welfare or veterinary concerns.
- The veterinary pre-review speeds up the process of protocol review and approval by the Animal Care and Use Committee.
- The pre-review OAR Veterinarian will submit any questions, concerns, or comments to the PI by e-mail. The PI will then revise and re-submit the protocol in TOPAZ. Any USDA Pain Category E protocol is flagged for discussion at the next ACUC meeting.
- The protocol is then put into 5 Day Review, during which time ACUC members may review the protocol.
- Formal review by an OAR Veterinarian is also performed during this time frame.
- During 5 Day Review, ACUC members may: 1) recommend to approve the protocol to be sent to Designated Review; 2) require modifications to (or request clarification of); or 3) request Full Committee Review of the protocol.
- If modifications are required, the ACUC Coordinator will compile all questions, concerns, and comments generated during 5 Day Review and send them to the PI.
- The PI makes the necessary changes then resubmits the protocol in TOPAZ.
- This continues until all questions and concerns have been satisfactorily addressed. The protocol will then be submitted for Designated Member Review or Full Committee Review based on 5 Day Review recommendations.

- **Designated Member Review:**
  - The Designated Member Reviewer has the option to: 1) approve; 2) require modifications or more information (in order to secure approval); or 3) call Full Committee Review.
  - Decisions by Designated Member Review will be communicated by ACQA to the PI along with reasons for those decisions.
  - If the protocol is approved by the Designated Member Reviewer then animal work may begin.

- **Full Committee Review**
  - If Full Committee Review of the protocol is called, the protocol is reviewed at the next ACUC meeting where the PI will be invited for protocol discussion. By the majority vote of a convened quorum the ACUC may: 1) approve, 2) require modifications to (in order to secure approval), or 3) withhold approval.
  - Reasons for FCR:
    - Deviations from the Guide including: use of paralytic agents, more than momentary pain or distress, unrelieved pain/distress, more than one major operative procedure, unanswered questions/concerns during 5 Day Review, etc.
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*Time length depends on correspondence between veterinarian and PI*

**ACUC 5-Day Review**
*Friday → Friday*

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*(Full Committee Review (FCR) if requested)*
*~3 days for DR*
*< 1 month for FCR*
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- The same outcomes are available for annual renewals as for initial protocol approval.
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Amendments:
- Major and Minor amendments are submitted by making changes to the approved protocol within TOPAZ.
- Any changes between the original protocol and amended protocol are flagged for reviewers.
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- from one class of anesthetic to another (for example, changing from a barbiturate (e.g., pentobarbital) to a dissociative (e.g., ketamine);
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- to modify a currently approved invasive sampling procedure that induces additional risk, pain, or distress to the animal (e.g., changing from venipuncture to intravenous catheterization, or peripheral to central catheterization);
- in the species;
- increases of 10% or more in approximate number of mice of the genus Mus, rats of the genus Rattus, that are bred for use in research; and any other non-mammalian species. Any increases in approximate number of animals used of any other species.
- in Principal Investigator;
- in the method of euthanasia;
- in the duration, frequency, or number of procedures performed on an animal.

Examples of minor amendments include but are not limited to:
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- protocol title/funding changes;
- modification of a currently approved sampling procedure that does not induce additional risk, pain, or distress to the animal (e.g., changing from the external jugular to the lateral caudal vein for blood collection);
- modification of a currently approved surgical procedure that does not induce additional risk, pain, or distress to the animal (e.g., performing ovariectomy using a different incisional approach such as flank vs. midline);
- change of anesthetic or analgesic within the same drug class (e.g., changing from one dissociative drug to another such as xylazine to metatomidone);
- addition of an analgesic drug;
- addition of a genetically engineered strain of the same species to a protocol.
EXPORTING MU: More than just the mail!

The U.S. Government regulates the distribution of strategically important products, services and information to foreign nationals and foreign countries for reasons of foreign policy and national security under rules collectively called Export Controls. But what does that mean for you and your work at MU? This information will help you determine what areas may involve the application of Export Control regulations and how to get help in maintaining compliance.

What is an “Export” anyway?

The U.S. Government defines an “export” much more broadly than just a package heading out in the mail. An “export” is “the transfer of controlled technology, information, equipment, software or services to a foreign person in the U.S. or abroad by any means.” For example, an export could include an actual shipment outside the U.S., a visual inspection in or outside the U.S., or a written or oral disclosure of controlled information. The bottom line is:

**Export Control regulations apply to ALL activities, not just sponsored research!**

Thankfully, there is little effect on the majority of university research and activities; however there is a **potential** impact on:

- Foreign national participation in research involving export-controlled technology/items
- Provision of services (including training) to foreign nationals
- Sending export-controlled equipment/items to foreign countries

The Million-Dollar Conversation

In addition to working with and shipping certain pieces of equipment, federal laws also regulate the transfer of controlled technical information by any method to a foreign national in the U.S. Such transfer is “deemed” to be an export to that individual’s country of citizenship and, depending on the technology discussed and the country involved, a license may be required prior to that transfer. This is called the **Deemed Export** rule.

Methods of transfer include, but are not limited to, a fax, telephone discussions, e-mail communications, computer data disclosure, face-to-face discussions, training sessions, or tours which involve visual inspections.

To avoid a major fine (potentially up to $1 million!), an exclusion, exemption or exception to the requirement for a license must be available; otherwise a license must be obtained **prior** to the export.
The exclusion most often employed in the academic setting is the **Fundamental Research Exclusion**, which generally states:

No license is required to disclose to foreign nationals information which is “published and which is generally accessible or available to the public [through, for example] fundamental research in science and engineering at universities where the resulting information is ordinarily published and shared broadly in the scientific community.”

However, it is important to remember that the provision of “things” (e.g. tangible items) and “services” (e.g. training) are not included under this exclusion and may still require a license when controlled items or information is involved. Also, to maintain our ability to employ this exclusion, MU cannot accept any contract clause that forbids the participation of foreign nationals, gives the sponsor a right to approve publications resulting from the research, or otherwise operates to restrict participation in research and/or access to and disclosure of research results. Finally, “side deals” between an investigator and sponsor not only violate University policy but also eliminate our ability to use the Fundamental Research Exclusion.

![flag]

**So, how do I know if I need a license? (a.k.a. Red Flags)**

Ask yourself the following questions:

1) **Does your work involve:**
   a. Shipping materials to a foreign country?
   b. Collaborating with foreign colleagues in foreign countries?
   c. Training foreign nationals in using research equipment?
   d. Working with a country subject to a U.S. boycott?

2) **Does the RFP or contract contemplate the use of export controlled materials?**

3) **Is the sponsor demanding pre-approval rights over publications or the participation of foreign national persons?**

If the answer is yes (or “I’m not sure.”) to any of the above questions, a determination needs to be made as to the application of Export Control regulations to your work.

**Where can I get help?**

The **Office of Research Compliance** is available to assist with any questions regarding the application of Export Control regulations to your work. Additionally, we are happy to provide educational information for you, your staff and faculty. Please contact Jennifer May, Director, Research Compliance Services, for more information.

Phone: 882-3841        Fax: 884-8371        Email: mayj@missouri.edu

Additional MU Export Control information, along with a detailed “Decision Tree,” is available on the web at the following address: [research.missouri.edu/complia/export.htm](http://research.missouri.edu/complia/export.htm)
International Travel Tips

To ensure you do not run the risk of exporting sensitive information or technology when traveling abroad, or dealing with sanctioned countries, entities, or individuals, keep the following guidelines in mind:

Presentations and discussions must be limited to topics that are not related to controlled items or technologies unless that information is already published or otherwise already in the public domain. Verify that your technology or information falls into one or more of the following categories prior to travelling:

✓ Research which qualifies for the fundamental research exclusion
✓ Published information
✓ Publicly available software
✓ Educational information
✓ Patent applications

Prepare your laptop before leaving the U.S.: On April 21, 2008, the Ninth Circuit Court of Appeals ruled that U.S. customs has the right to inspect your laptop as you go through border security, including at U.S. airports. The court dismissed concerns regarding any privacy or First Amendment rights holding that “reasonable suspicion of any crime or wrongdoing is not needed for customs officials to search a laptop or other personal electronic storage devices at the border.”

✓ Remove export-controlled information, technical data, and software from your laptop prior to leaving the United States.
✓ Use a “shredder” program to erase the information you do not want to share so that it cannot be recovered. Please note: Be wary of free shredder programs found online- you get what you pay for.
✓ Encrypt and then e-mail to yourself any information you may need while overseas. Do not retrieve the e-mail until you have reached your destination, and remember you will need to remove it completely prior to returning to the U.S. or prior to crossing any international border.

Plan ahead for security: An improperly secured electronic device can easily be compromised using free tools and directions found on the internet. Meanwhile, an individual can create a copy or "mirror" image of an unsupervised electronic device without the owner’s knowledge in just a few minutes.

It is the researcher’s responsibility to plan ahead to protect any research information they may be obligated or required to protect when traveling in and out of the country. When planning your travel overseas or through any customs inspection or border crossing, it is imperative to consider what has been stored on your machine prior to getting to your destination. At a minimum you should:

✓ Remove from your laptop anything that constitutes a trade secret, proprietary information, or export-controlled technical data or information. Keep in mind that you will need to do more than just delete the files to ensure the files cannot be easily recreated.
✓ Leave at home any information you wish to keep confidential.
✓ Full-disk or file encryption could provide some protection but it is unclear what might happen when an individual declines to provide the password if asked for it by government officials.

Suggested Methods to Secure Data

Disclaimer: The following provides some suggestions on possible methods of protecting one’s research but it does not constitute the final word. In the end it is the researcher’s responsibility.

✓ Always keep your operating system current and up-to-date with all of the latest security patches and updates installed
✓ Always keep your virus protection up-to-date
✓ Always secure your computer.
International Travel Tips

Before you leave the United States:  You should remove anything from any electronic device that constitutes a trade secret, proprietary information, export-controlled technical data/information or anything you wish to keep confidential. Deleting a file is NOT enough! Be sure to use multiple passes with some type of shredder program.

At Your Destination
✓ Utilize and work off a secure network (please see your department's system administrator) or through a secure connection
✓ Keep your work on an encrypted flash drive or an external hard drive and mail it to and from your destination
✓ E-mail the necessary documents or information to yourself and download them to your computer once you reach your destination. Be sure to completely remove (use a shredder program) the documents or information prior to crossing another border or returning to the U.S.
✓ Never let an electronic device out of your care and control
✓ Be aware of your surroundings.

Laptop computer, PDA, cell phone, and data storage devices
When you travel outside of the United States (except Canada), your university provided laptop computer, PDA, cell phone, data storage devices and encrypted software may require an export license or other government approval to be taken to many countries outside of the United States. The personal computer you take abroad may contain strong encrypted software that requires a government license or other government approval for export to many countries. If you plan to take strong encrypted software abroad, please contact the Office of Research for assistance.

Tools of Trade License Exception for Temporary Exports
Generally, so long as you (1) retain your laptop computer, PDA, cell phone, data storage devices and encrypted software under your personal custody and control for the duration of your travel; (2) do not intend to keep these items in these countries for longer than 1 year; and (3) you are not traveling to Cuba, Iran, North Korea, Sudan or Syria, no government export license is required.

Temporary exports under the "Tools of Trade" license exception can be:
✓ Hand carried with you while you travel
✓ Carried in your luggage or baggage that travels with you
✓ Shipped no more than thirty days prior to your departure
✓ May be shipped to you at any time while you are outside the country

Other Equipment
Researchers frequently need to take other university equipment temporarily outside of the United States for use in university research. Often, but not always, the tools of trade license exception applies. Some equipment (e.g., global positioning systems (GPS), thermal imaging cameras, inertial measurement units, and specialty software), are highly restricted and may require an export license to take with you, even if you hand carry it. If you are taking university equipment other than your laptop computer, PDA, cell phone, data storage devices contact the Office of Research to determine if an export license or other approval is required.

For Assistance with Export Control Questions
The MU Office of Research - Compliance is available to assist with any questions. Please contact Jennifer May, Director, Research Compliance Services, for more information.

Phone: 882-3841  Fax: 884-8371  Email: mayj@missouri.edu
Examples of Broader Impacts Activities

K12 Teacher/Student Outreach
- Physics First
- Robotics Design Challenge
- Show Me Nature GK12
- Informal Science/Afterschool Programs—Project LiftOff

Graduate Student Recruitment and Training:
- Preparing Future Faculty Program
- CIRTL
- College Teaching Minor
- Entering Mentoring

Professional Development:
- Abell Conversations in Science Teaching
- Missouri Course Redesign Initiative

Public/Education Outreach:
- Saturday Morning Science
- Infographics (ASC)
- Radio Programs
- News Bureau Expert

Undergraduate Research:
- A&S URMP
- LS UROP

What counts as broader impacts?
- Full participation of women, persons with disabilities, and underrepresented minorities in STEM
- Improved STEM education and educator development
- Increased public scientific literacy and public engagement with science and technology; improved well-being of individuals in society
- Development of a diverse, globally competitive STEM workforce
- Increased partnerships between academia, industry, and others
- Improved national security
- Increased U.S. economic competitiveness
- Enhanced research and education infrastructure

To schedule your one-on-one consultation or to learn more about the Broader Impacts Network at Mizzou, contact Dr. Susan Renoe, Director, at 882-2270 or broaderimpacts@missouri.edu.
**BE Thematic!**

Talk about how your BIAs will lay the foundation for the rest of your CAREER!!!

**Begin with the end in mind!!!**

**BE Holistic!**

Don’t wait until the last minute!!!!

**Weave evaluation throughout your entire project!!! Let it inform your BIAs.**

**BE Programmatic!**

**Broader Impacts Resources**

**COSEE NOW Broader Impacts Wizard**

http://coseenow.net/wizard/

**Center for Interdisciplinarity, University of North Texas Broader Impacts Criterion Resources**

http://www.csid.unt.edu/topics/NSF-broader-impacts-criterion.html

**MU Assessment Resource Center**

http://arc.missouri.edu/Content/FacServices/CourseEvaluation.aspx

**MU Center for the Collaboration and Development of Educational Innovations**

http://ccdei.missouri.edu/CCDEI/Home.html

**MU College of Education List of On-Campus Evaluators**

http://education.missouri.edu/files/research_files/EvaluatorsList.pdf

---

**How can the BIN help you?**

- Consult with you on the design, implementation, and evaluation of your broader impacts activities for your NSF proposals.
- Connect you with campus broader impacts resources.
- Document your broader impacts activities to make it easier to report to NSF.
- Publicize your broader impacts activities at the local, university, state, national, and international levels.
- Provide letters of support for your proposals.
- Provide training on different types of broader impacts activities.
## Programs

<table>
<thead>
<tr>
<th>Program</th>
<th>Deadlines</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Faculty International Travel</strong></td>
<td>August 20, 2013 &amp; March 17, 2014.</td>
</tr>
<tr>
<td><strong>PRIME Fund</strong></td>
<td>Three weeks before the external grant deadline for projects that go to OSPA; two weeks for non-OSPA.</td>
</tr>
<tr>
<td><strong>Research Board</strong></td>
<td>October 8, 2013 at 5 pm and February 11, 2014 at 5 pm. This year the Campus and System deadlines are the same dates.</td>
</tr>
<tr>
<td><strong>Research Leave</strong></td>
<td>October 7, 2013</td>
</tr>
<tr>
<td><strong>Spinal Cord Injuries Research Program</strong></td>
<td>Applications will be accepted at any time.</td>
</tr>
<tr>
<td><strong>Summer Research Fellowship</strong></td>
<td>January 13, 2014</td>
</tr>
</tbody>
</table>

**Purpose:** To provide partial support for travel to destinations outside the United States to participate in professional meeting, give performances, or hold exhibitions.

**Eligibility:** Tenured and tenure-track faculty

**Purpose:** To provide cost-match monies to promote external research proposals for any expenses associated with research including instructional research.

**Eligibility:** All faculty (regular and non-regular)

**Purpose:** To enhance the long-term quality and quantity of scholarship throughout all of the University of Missouri campuses by supporting research and creative activity of regular faculty.

**Eligibility:** Primary applicant must be regular (tenured or tenure-track) faculty. See the guidelines for application information about non-regular faculty.

**Submit:** The only item that needs to be sent to the Office of Research is the Data Submission Form. This can be scanned and sent by email with all the appropriate signatures to MUResearchRB@missouri.edu, or can be hand carried to 205 Jesse Hall. We do not require a hard copy of your proposal to be delivered anymore.

**Purpose:** To support research, scholarship, and creative achievement. Support categories include, but are not limited to: personnel costs, equipment, travel, supplies and computing.

**Eligibility:** Regular and non-regular faculty

**Purpose:** To allow faculty to devote a specific period of time (no more than 12 months) to intensive research, free of their academic and/or administrative responsibilities. Leave recommendations are only to provide teaching replacement costs.

**Eligibility:** Tenured and tenure-track faculty

**Purpose:** To provide seed grants for research projects in Missouri that deal with spinal cord injuries

**Eligibility:** Faculty, Post Docs, and Graduate Students

**Purpose:** To provide summer salary for original, scholarly research, and creative activities that will result in publications, exhibitions, and other scholarly and creative accomplishments.

**Eligibility:** Tenured and tenure-track faculty, at the rank of Assistant Professor or above

**The website for the above programs is at**
[http://research.missouri.edu/internal/](http://research.missouri.edu/internal/)
The Business of Science

MU’s Office of Technology Management and Industry Relations (OTMIR) works to identify, assess, protect and market commercially viable intellectual property developed at the University of Missouri, including these specific functions:

- Filing for intellectual property protection with US and foreign patent and trademark offices;
- Negotiating all intellectual property agreements;
- Facilitating industry relations by negotiation and execution of material transfer and non-disclosure agreements;
- Assisting with negotiation of intellectual property provisions in industry-sponsored research contracts.

We strive to facilitate pathways for MU technology to create impact in our society, build and enhance relationships with industry, and stimulate regional economic development. In FY2013, 82 disclosures were received, 28 licenses and options were executed, and more than $7.3M in licensing revenue was received. OTMIR filed 96 US Patent applications, and had 22 US-issued patents in FY2013. In addition, 211 NDAs and 258 MTAs were executed.

The OTMIR team provides analysis of the patentability and market potential of the cutting edge innovations developed at MU. Bringing that expertise together with real-world business acumen, OTMIR is effective in structuring deals providing the optimal vehicle for successful commercialization of technology.

Our experienced central administrative staff receives invention disclosures, works with inventors to collect documentation, manages financial records and provides general support to the OTMIR team.

Intellectual Property Licensing Units (IPLUs) are strategically embedded within the colleges and research centers that generate the majority of invention disclosures at the University of Missouri. IPLUs are staffed by professionals with high levels of scientific, business and legal expertise, and work with inventors to analyze inventions for novelty, intellectual property protection, market potential, and to identify commercialization strategies.

With both industrial and academic expertise in agronomy, biological and chemical engineering, reproductive physiology, cell and molecular biology, as well as many aspects of pharmaceutical research, our IPLUs are well-prepared to serve Mizzou’s diverse and productive research programs.

The OTMIR Team

**Chris Fender, MS**
Director, OTMIR
124 MU Life Sciences Business Incubator at Monsanto Place
573.884.8286 • FenderC@missouri.edu

**John Rinck**
Office Support Associate, OTMIR
1240 MU Life Sciences Business Incubator at Monsanto Place
573.882.0213 • RinckJL@missouri.edu

**Paul Hippenmeyer, MBA, PhD**
Sr. Licensing Associate
Health Sciences IPLU
NW1030 Health Sciences Center
573.882.0079 • HippenmeyerP@missouri.edu

**Rhonda James**
Executive Staff Assistant, OTMIR
124 MU Life Sciences Business Incubator at Monsanto Place
573.884.2802 • JamesR@missouri.edu

**John Rinck**
Office Support Associate, OTMIR
1240 MU Life Sciences Business Incubator at Monsanto Place
573.882.0213 • RinckJL@missouri.edu

**Charlie Hanford, JD**
Licensing Assistant
Health Sciences IPLU
NW1030 Health Sciences Center
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**Sam Bish, PhD**
Sr. Licensing Associate
Agriculture/Life Sciences IPLU
440a Bond Life Sciences Center
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Sr. Contracting Officer, Industry Relations
124 MU Life Sciences Business Incubator at Monsanto Place
573.884.0374 • FrancisH@missouri.edu

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Intellectual Property Asst., OTMIR
124 MU Life Sciences Business Incubator at Monsanto Place
573.882.4288 • EricksonJP@missouri.edu

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Licensing Associate
Agriculture/Life Sciences IPLU
440h Bond Life Sciences Center
573.884.3553 • ParkerNP@missouri.edu

**Denise Fields, MBA, .5 FTE**
Sr. Industry Relations Officer, UMKC/MU
124 MU Life Sciences Business Incubator at Monsanto Place
573.882.6013 • FieldsDM@umkc.edu

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124 MU Life Sciences Business Incubator at Monsanto Place
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**Wayne McDaniel, PhD**
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Engineering/Physical Sciences IPLU
WV1038 Lafferre Hall
573.884.3302 • McDanielWC@missouri.edu

**Brett Maland, MBA, JD**
Sr. Licensing Associate
Software/Copyright IPLU
NW1038 Lafferre Hall
573.882.1046 • MalandBD@missouri.edu

**COLOR KEY**
- OTMIR Central Office
- Software/Copyright IPLU
- Agriculture/Life Sciences IPLU
- Engineering/Physical Sciences IPLU
- Health Sciences IPLU
- Industry Relations
OSPA Certificate Series

presentation adapted for

New Faculty/Staff Orientation to Research
August 9, 2013

Fundamentals of Sponsored Activity
Session Objectives

- Identify the key players in sponsored program activities.
  - Roles and responsibilities
  - Contact information
- Describe the sponsored programs award cycle.
Award Cycle

- Proposal development
- Proposal submission
- Award acceptance and setup
- Award management
- Closeout
Campus Community

Key Players
Office of Sponsored Programs Administration (OSPA)

Facilitates and enhances University research and external funding by providing services to all persons involved with sponsored program activities

Jennifer E. Duncan, CPA, MPA
Director
310 Jesse Hall
Phone: (573) 882-7560
Fax: (573) 884-4078
E-mail: grantsdc@missouri.edu
http://research.missouri.edu/ospa/

Jesse Hall

Engineering (Lafferre Hall)

Agriculture

Health Sciences (Medical Sciences Building)

Hill Hall

Veterinary Medicine
OSPA Leadership Team

Jennifer Duncan*
Director

Craig David*
Associate Director

Kate Wilson
Truman Team Lead

Gold Team
- Rachel Smith, CPA
  - Senior Fiscal Analyst
    - Pod 4 Team Lead

Melissa Old, CRA
- Senior Fiscal Analyst
  - Pod 3 Team Lead

Marvin Williams
- Senior Fiscal Analyst
  - Pod 2 Team Lead

Chase Bunger, J.D.
- Senior Fiscal Analyst
  - Pod 1 Team Lead

Black Team

Administrative Support Truman
- Carli Moser
  - Administrative Assistant

Jeremy Cox, CPA (Inactive), MBA
- Lead Accountant

Jamie Szabo,*
- MPA
- Senior Fiscal Analyst
  - Post-Award Liaison

Jill Ferguson*
- Senior Fiscal Analyst
  - Pre-Award Liaison

Karen Garen*
- Submissions Specialist

*Tee Authorized Official, Grants and Contracts

Office of Sponsored Programs Administration
University of Missouri
Office of Grant Writing and Publications

Supports MU faculty by helping obtain external funding, building capacity and awareness about grant funding, and encouraging research and scholarly endeavors

Heather Brown, Ed.D.
Director
202 Jesse Hall
Phone: (573) 884-4390
Fax: (573) 884-8371
http://research.missouri.edu/ogwp/

Grant Writer Network
Compliance Office

Fosters adherence to all applicable federal, state, and University research-related rules and regulations

Robert D. Hall, PhD, JD
Associate Vice Chancellor for Research and Director of Compliance
Research Integrity Officer
205 Jesse Hall

Jennifer P. May, JD
Associate Director of Compliance
205 Jesse Hall

Michele R. Kennett, JD, MSN, LLM
Director, Human Research Protections
190 Galena Hall

Leon Hoffsette
Facility Security Officer
310 Jesse Hall

Lon Dixon, DVM, MS, ACLAM
Attending Veterinarian
Director, Office of Animal Resources

Lon Dixon, DVM, MS, ACLAM
Interim Director, Animal Care and Quality Assurance
55 McReynolds Hall
Reviews, approves, and oversees all human subject research to assure the safety and welfare of participants and that conduct complies with federal regulations and guidance.

Michele R. Kennett, JD, MSN, LLM
Director, Human Research Protections

Campus IRB
483 McReynolds Hall
Phone: (573) 882-9585
Email: umcresearchcirb@missouri.edu
http://research.missouri.edu/cirb/

Health Sciences IRB
190 Galena Hall
Phone: (573) 882-3181
Email: irb@missouri.edu
http://research.missouri.edu/hsirb/
With the MU Animal Care and Use Committee (ACUC), advises on compliance with federal animal care and use policies and regulations; works closely with the Office of Animal Resources (OAR) to help maximize the quality of animal research at MU

Lon Dixon, DVM, MS, ACLAM
Interim Director, Animal Care and Quality Assurance
55 McReynolds Hall
Phone: (573) 882-3681
Email: acuc@missouri.edu
http://research.missouri.edu/acqa/

Lon Dixon, DVM, MS, ACLAM
Attending Veterinarian
Director, Office of Animal Resources
Office of Technology Management and Industry Relations (OTMIR)

Identifies commercializable technology resulting from research performed at MU; evaluates new technologies, obtains patent protection where needed, identifies licensees, and reviews all intellectual property agreements.

Chris Fender
Director, OTMIR
124D Life Science Business Incubator at Monsanto Place

Harriet F. (Hattie) Francis
Sr. Licensing Associate
440A Bond Life Sciences Center

http://research.missouri.edu/otmir/
Fosters a research-centered academic environment to facilitate the ability of MU’s faculty, students, and staff to engage in discovery, creation, scholarship, and innovation

Robert Duncan, PhD
Vice Chancellor for Research
205 Jesse Hall
Encompasses the areas of Accounting, Financial Information Systems, and Central Payroll for the University of Missouri System; responsible for directing and controlling the financial integrity of the University of Missouri System through oversight of the four campuses, development and implementation of University policies and procedures, transactional analysis and review, internal and external reporting and by maintaining compliance with applicable laws, rules, and regulations.

Jane Closterman
Controller
1000 W. Nifong, Building 7

Ryan Rapp
Associate Controller

Debbie Caselman
Financial Systems Principal

Susan Cessac
Manager, System Sponsored Programs Administration

Ericka Kranitz
Director, Financial Compliance Training
Office of the General Counsel

Provides all legal representation for the board of curators, the public corporation known as The Curators of the University of Missouri, all administrators of the UM System and each of its campuses, UM Extension, and UM Health System; reviews all sponsored project agreements and contracts

Stephen J. Owens
General Counsel
227 University Hall

Kelly Mescher
Counsel
227 University Hall
Environmental Health and Safety

Works with the campus community to ensure biological safety, hazardous materials and environmental compliance, industrial hygiene and occupational safety, and radiation safety

Maureen Kotlas
Director
8 Research Park Development
Phone: (573) 882-7018
Email: ehs@missouri.edu
http://ehs.missouri.edu
Division of Information Technology: IT Security and Procurement

Delivers information technology products and services to support administrative processes, teaching and learning, research, service, and economic development; provides security expertise and resources necessary to protect the University’s technology resources

Beth Chancellor  
MU Associate Chief Information Officer  
UM Chief Information Security Officer

Michelle Wisdom  
Business Technology Analyst,  
Program Development and Compliance

Information Security & Access Management (ISAM)  
615 Locust Street  
Phone:  (573) 882-5000  
Email:  isam@missouri.edu  
http://doit.missouri.edu/security/isam/
Establishes introductions, facilitates proposals, and manages relationships with national, regional, and local foundations and associations to support campus-wide programs and interdisciplinary and individual faculty research.

Elizabeth Cogswell
Director of Development
306 Reynolds Alumni Center
Phone: (573) 884-3578
Email: cogswelle@missouri.edu
Internal Grants and Programs

Eight internal funding options offered by the Office of Research

- **PRIME**: MU’s matching fund program
  Programs reviewed by the Research Council Committee:
  - Faculty International Travel
  - Research Council Grants
  - Provost’s Research Leave
  - Summer Research Fellowship
- Research Board
- Center for Arts and Humanities
- Faculty Grant Writing Institute

**Internal Funding**
205 Jesse Hall
Phone: (573) 882-9500
Refer to Office of Research website for contacts by program:
[http://research.missouri.edu/internal](http://research.missouri.edu/internal)
Manages the purchasing operations for all campuses within the University of Missouri System; strives to provide quality products and services at low cost while encouraging diverse Missouri suppliers to develop business relationships with the University of Missouri

**Stephen Mack**  
**Director**  
113 Heinkel

**Procurement Hotline**  
Phone:  
UMSYS, UOEXT, MU: (573) 882-3201  
Hospital and Clinics: (573) 884-1234  
Toll Free All Campuses: (877) 752-3334  
Email: [procurementhotline@umsystem.edu](mailto:procurementhotline@umsystem.edu)
Award Cycle
Roles and Responsibilities
Award Cycle

- Proposal development
- Proposal submission
- Award acceptance and setup
- Award management
- Closeout
Proposal development

Division/Department
- PI, co-PIs, collaborators
- Administrator
- Chair
- Dean

OSPA
- Senior Grants and Contracts Administrator (SGCA)

Office of Research
- Office of Grant Writing and Publications
- Compliance Office
- OTMIR
- Foundation Relations
- Internal Grants and Programs
- IRB
- ACUC

UM System
- Division of Information Technology
- Environmental Health and Safety

Office of Sponsored Programs Administration
University of Missouri
Proposal submission

Division/Department
- PI
- Administrator

OSPAS
- SGCA
- Submissions Specialist
Award acceptance and setup

Division/Department
- PI
- Administrator
- Chair
- Dean

OSPA
- SGCA
- Tiger Team

Office of Research
- Compliance Office
- OTMIR
- IRB
- ACUC

UM System
- Office of the General Counsel
- Division of Information Technology
- Environmental Health and Safety
Award management

- Division/Department
  - PI
  - Administrator
- OSPA
  - Senior Accountant
  - Tiger Team
- UM System
  - Procurement Services
Closeout

Division/Department
- PI
- Administrator

OSPA
- Senior Accountant
- Tiger Team
OSPA Certificate Series
Course Preview
Certificate Series Sessions

- Proposal development
- Proposal submission
- Award acceptance and setup
- Award management
- Closeout

- PeopleSoft Grants Module
- Proposal Development and Submission
- Notice of Grant Award, Acceptance, & Establishment of an Award
  - Contracts
- Allowability (A-21)
- Management of Award
- EVRs, Cost Transfers & PCEs
- Cost Sharing
- Subawards
- PS Financial Reports
- A-133 Audit

- Pre-Award Track
- Post-Award Track

Office of Sponsored Programs Administration
University of Missouri
Contact Information

Truman Team, Office Support Staff
Office of Sponsored Programs Administration
310 Jesse Hall
Phone: 882-7560
trumanteam@missouri.edu
<table>
<thead>
<tr>
<th>Agreement Type</th>
<th>Grant</th>
<th>Contract</th>
<th>Cooperative Agreement</th>
<th>Memorandum of Understanding/ Master Agreement</th>
<th>Clinical Trial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other Party</td>
<td>Sponsor</td>
<td>Buyer</td>
<td>Sponsor</td>
<td>Sponsor/Buyer</td>
<td>Sponsor</td>
</tr>
<tr>
<td>Basic Purpose</td>
<td>Transfer of anything of value from the sponsor to the institution to assist the institution in reaching a particular institutional goal or public purpose (with few restrictions)</td>
<td>Procure tangible goods and services with specific obligations for both the buyer and seller</td>
<td>Provide assistance with substantial involvement between parties</td>
<td>To define relationship between parties under which task orders could be issued</td>
<td>To create a relationship for the purpose of testing drugs</td>
</tr>
<tr>
<td>Solicitation Type</td>
<td>Request for Proposal (RFP), or other Funding Opportunity Announcements (NIH solicitation)</td>
<td>Request for Proposal (RFP) or Request for Quote (RFP)</td>
<td>Request for Applications (RFA)</td>
<td>n/a</td>
<td>Varies</td>
</tr>
<tr>
<td>Award Instrument</td>
<td>Short; may refer to general conditions</td>
<td>Long; detailed specs, clauses, regulations, and expected result</td>
<td>Describes involvement, party relationships</td>
<td>Describes relationships and terms for future events/will be awarded task orders for work to be done</td>
<td>Contract, detailed and provides specifics about each party’s responsibilities</td>
</tr>
<tr>
<td>Involvement by Sponsor/MU</td>
<td>Reporting oversight</td>
<td>May be extensive</td>
<td>Substantial involvement</td>
<td>Varies</td>
<td>Substantial involvement</td>
</tr>
<tr>
<td>Rebudgeting</td>
<td>A-21 and sponsor guidelines, generally more flexible than in a contract</td>
<td>A-21 and the details specified in the contract, generally less flexible than in a grant</td>
<td>Usually flexible</td>
<td>Specified in agreement</td>
<td>Usually fixed per unit price so rebudgeting would not be necessary, can request funds for unexpected items</td>
</tr>
<tr>
<td>Equipment Title</td>
<td>Grantee</td>
<td>Stay with sponsor unless otherwise specified</td>
<td>Varies</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Performance Period</td>
<td>Specified in grant</td>
<td>Specified in contract</td>
<td>Specified in cooperative agreement</td>
<td>Specified in agreement</td>
<td>Specified in contract or agreement, generally open ended until trial completes or is terminated by either party</td>
</tr>
<tr>
<td>Patent Rights</td>
<td>Specified in grant</td>
<td>Specified in contract</td>
<td>Specified in agreement</td>
<td>Specified in agreement</td>
<td>To sponsor, otherwise specified</td>
</tr>
<tr>
<td>Publications</td>
<td>May ask to be informed</td>
<td>May require prior review/approval</td>
<td>May ask to be informed</td>
<td>Specified in agreement</td>
<td>May require prior review/approval</td>
</tr>
<tr>
<td>Reporting</td>
<td>Financial reports range from quarterly to annually; Technical reports may be lengthy to explain what the research accomplished</td>
<td>Financial reports range from quarterly to annually; If the deliverable is the final report the technical report may be very detailed, otherwise there may not be a required technical report</td>
<td>No more than quarterly</td>
<td>Specified in agreement</td>
<td>Detailed information on trial outcomes</td>
</tr>
<tr>
<td>Mu Processing Office</td>
<td>OSPA</td>
<td>OSPA</td>
<td>OSPA</td>
<td>OSPA</td>
<td>OSPA</td>
</tr>
</tbody>
</table>

* These are the general rules, terms and conditions could always dictate something different.
### Other Related Agreement Types

<table>
<thead>
<tr>
<th>Agreement Type</th>
<th>Issued by others to MU</th>
<th>Issued from MU</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Party</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basic Purpose</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solicitation Type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Award Instrument</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Involvement by Sponsor/MU</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rebudgeting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equipment Title</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performance Period</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patent Rights</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Publications</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reporting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mu Processing Office</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Agreement Type</th>
<th>Gift</th>
<th>Material Transfer Agreement (MTA)</th>
<th>Non-Disclosure Agreement (NDA) aka Confidentiality Agreement</th>
<th>Subaward</th>
<th>Consulting Agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other Party</td>
<td>Donor sponsor/buyer</td>
<td>sponsor/buyer</td>
<td></td>
<td>Subawardee Consultant</td>
<td></td>
</tr>
<tr>
<td>Basic Purpose</td>
<td>Transfer of funds or goods from a donor to the institution with no reciprocal obligations (other than recognition)</td>
<td>To define the terms and conditions for the transfer of materials. (e.g., biological materials, software)</td>
<td>Allow parties to share certain information, knowledge or materials while restricting access to third parties</td>
<td>To delegate a portion of the scope of work of a sponsored project</td>
<td>To solicit expertise from outside the institution with less involvement than a subaward</td>
</tr>
<tr>
<td>Solicitation Type</td>
<td>Process is generally initiated by donors, advancement staff or university employees</td>
<td>n/a - Not a stand alone agreement; will be part of another agreement</td>
<td>Generally part of another agreement, but could be necessary at proposal stage</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Award Instrument</td>
<td>Generally a Letter of Donation or Gift Agreement</td>
<td>Specified in agreement</td>
<td>Specified in agreement</td>
<td>Varies; FDP website has a template which is used by FDP institutions</td>
<td>Detailed; provides specifics on services to be rendered/deliverables required</td>
</tr>
<tr>
<td>Involvement by Sponsor/MU</td>
<td>None</td>
<td>Substantial</td>
<td>Substantial</td>
<td>Varies; responsible for a portion of the scope of work</td>
<td>Minimal; provides expertise without being responsible for a portion of the scope of work</td>
</tr>
<tr>
<td>Rebudgeting</td>
<td>Must be in accordance with donor's restrictions</td>
<td>No budget involved</td>
<td>No budget involved</td>
<td>Subject to same requirements as the university</td>
<td>n/a</td>
</tr>
<tr>
<td>Equipment Title</td>
<td>Recipient</td>
<td>Specified in agreement</td>
<td>n/a</td>
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<td>Subject to university requirements</td>
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<tr>
<td>Performance Period</td>
<td>Could be restricted by time and/or purpose</td>
<td>Specified in agreement</td>
<td>Specified in agreement</td>
<td>Specified in agreement but must fall within period of performance for prime agreement</td>
<td>Specified in agreement</td>
</tr>
<tr>
<td>Patent Rights</td>
<td>To recipient</td>
<td>Specified in agreement</td>
<td>Specified in agreement</td>
<td>Subject to same requirements as the university</td>
<td>Subject to same requirements as the university</td>
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<tr>
<td>Publications</td>
<td>No restrictions</td>
<td>May restrict publication</td>
<td>Will limit publication of certain information</td>
<td>Subject to same requirements as the university</td>
<td>Subject to same requirements as the university</td>
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<tr>
<td>Reporting</td>
<td>No formal requirement</td>
<td>n/a</td>
<td>n/a</td>
<td>Subject to same requirements as the university</td>
<td>Specified in agreement</td>
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<tr>
<td>Mu Processing Office</td>
<td>Development</td>
<td>OTMIR</td>
<td>OTMIR</td>
<td>OSPA</td>
<td>OSPA</td>
</tr>
</tbody>
</table>

* These are the general rules, terms and conditions could always dictate something different.
OSPA Quick Links

OSPA website: http://research.missouri.edu/ospa/

OSPA SPPG: http://research.missouri.edu/ospa/SPPG

Grant Fact Sheet: http://research.missouri.edu/ogwp/files/grantfactsheet.pdf

MU Business Information Center (MU Campus Policies): http://mubic.missouri.edu/


MIS Web Applications: https://webappsn.umsystem.edu/

F&A Rate Agreement: http://www.umsystem.edu/ums/fa/controller/sponsoredprograms-farate

OMB Circular Index: http://www.whitehouse.gov/omb/circulars_index-education


ePSRS Approver Tutorial: http://screencast.com/t/d9P4iMpn3wD
Certificate Series

Welcome to our Certificate Series for Specialized Grants Training! Each session is designed to enhance your overall technical expertise in sponsored projects. Courses will cover key areas of sponsored projects and will be presented in various formats of lectures and case studies as well as hands-on computer training. The certificate series is in four tracks: Introductory Overview, Regulatory, Pre-Award, and Post-Award. Registration is required for each course.

Introductory Overview

The Introductory course provides a broad overview of managing sponsored activity and identify key steps in the award cycle. Registration is required and this session is offered with no fee.

Fundamentals of Sponsored Programs

Understand the Award Cycle; identify key stakeholders in the process; discuss roles and responsibilities of various Campus and System Departments.

Regulatory Track

The Regulatory track will cover key compliance issues related to research; this session will be held once a year, with the target month of August.

Various compliance officers/directors will present information on research compliance, ACUC, IRB, export controls, audits, etc.

Registration is required and a small fee will be assessed to help recover the cost/material preparation.

Given the large content of regulatory items, this session will occur over two consecutive days. A certificate of completion will be awarded for successful completion of the two day course.

Research Compliance, Ethical Responsibility

Understand key points of compliance and responsibilities; discuss the Patriot Act; understand the requirements for ethics training required by National Science Foundation and National Institutes of Health.

Conflict of Interest

Define Conflict of Interest (COI); discuss University Policy and the Collected Rules; list the required disclosures, forms, and available online training; understand the role of the COI committee; understand how management plans impact sponsored research.

Export Control

Define Export Control; know when, why, and to whom it applies; understand the relationship between publication restrictions & export controls.

Health/Campus – IRB

Define the role of IRB; understand when it is applicable; discuss compliance requirements, disclosures and other information; learn when to start the approval process.

IACUC and Animal Care

Define the role of IACUC; understand when it is applicable; discuss the federal regulations, requirements and disclosures related to animal care.

Intellectual Property

Define Intellectual Property (IP); understand the importance of IP in sponsored agreements; learn how it can lead to inventions down the road; understand when to contact the IP unit; gain general understanding of the required disclosures.

Registration required for each course

310 Jesse Hall
Columbia, MO 65211
Phone: 573.882.7560

Register online at http://research.missouri.edu/ospa/
**Pre-Award Track**

Case Studies will be used to demonstrate concepts in many sessions. Roles & responsibilities of the key stakeholders involved in the process (PI, Department, OSPA, others) will be discussed throughout each course. The PeopleSoft Grants Module is held in a computer lab for hands-on training. Pre-Award courses will be ongoing throughout the year, with a variety of courses held every couple of months. Courses will be offered on a recurring schedule, based on demand of registrants. Registration is required and a small fee will be assessed for each course to help recover the cost/material preparation. A certificate of completion will be awarded for successful completion of the course.

**PeopleSoft Grants Module**

Explain the purpose of the Proposal Signature Routing Sheet (PSRS); identify the information to obtain from the PI before beginning a proposal; experience hands-on training as you walk through the mechanics of completing the PSRS.

**Proposal Development and Submission**

Discuss the compliance requirements to be aware of while developing a proposal; analyze guidelines of different sponsors in order to understand the various requirements; list common items overlooked or misstated in a proposal; review examples of sponsor guidelines, RFP (etc.).

**Budget Development**

Discuss the compliance requirements for developing the budget; identify any additional justifications needed; apply the requirements of allowable costs per A-21 and/or sponsor guidelines in creating a budget; provide examples of unlike circumstances, questions to ask and common items incorrectly included in a budget; understand and utilize budget templates.

**Facilities & Administrative (F&A) Rate**

Define F&A; identifying the “F” & “A” individual components; understand the difference between total direct costs (TDC) vs. modified total direct costs (MTDC); apply/compute the F&A rate for a proposal; review examples of unique issues related to F&A such as reductions in the F&A rate; review sponsor guidelines and proposals to understand F&A rates for the case studies.

**Post-Award Track**

Case Studies will be used to demonstrate concepts in many sessions. Roles & responsibilities of the key stakeholders involved in the process (PI, Department, OSPA, others) will be discussed throughout each course. The PeopleSoft Financial Reports is held in a computer lab for hands-on training. Post-Award courses will be ongoing throughout the year, with a variety of courses held every couple of months. Courses will be offered on a recurring schedule, based on demand of registrants. Registration is required and a small fee will be assessed for each course to help recover the cost/material preparation. A certificate of completion will be awarded for successful completion of the course.

**PeopleSoft Financial Reports**

Explain the purpose of the different financial reports for managing sponsored activities; discuss what to look for when reviewing these reports & what to bring to the attention of the PI; differentiate between various reports & options for levels of review such as award vs. project; computer lab training – hands on walk through of the mechanics of generating these reports in PeopleSoft.

**Allowability (A-21)**

Review the general compliance requirements per A-21; differentiate between allowable & unallowable costs using examples; discuss when sponsor guidelines may be more/less restrictive and when an unlike circumstance may be justified; review examples of noncompliance; utilize the Allowability Grid with examples.

**Contracts**

Differentiate between a grant & a contract; associate varying compliance requirements for pre & post award processes; define and examine the Federal Acquisition Regulation (FAR) clauses & other unique requirements for contracts.

**Management of Award**

Review the Budget Variance #8 & Income Statement #9 reports and how to use them to review sponsored activities; understand the difference between cost reimbursable & fixed price agreements; provide examples of what information to look for and the questions a PI should ask as part of the expenditure review process; analyze award requirements (terms & conditions); understand the process for budget changes, interim reporting, invoicing, no cost time extensions, & sponsor notifications.

**Effort Verification Reporting (EVR), Cost Transfers & Payroll Correcting Entries (PCE)**

Understand the compliance requirements for each of these activities; provide examples of EVRs, PCEs, & cost transfers to demonstrate application of these requirements; discuss common issues & areas of noncompliance.

**Cost Sharing**

Define cost sharing & identify the different types; understand compliance requirements related to cost sharing; discuss the challenges related to cost sharing, such as third party cost share, unallowable cost share, & the related F&A impacts; examine issues of noncompliance.

**Subawards**

Analyze the difference between a subrecipient & a vendor; understand the information needed before a subrecipient will be named in a proposal; review subaward agreement issues; analyze the subaward process as it relates to key areas in the award cycle – from issuing the agreement to closing out the subaward.

**Closeout of Award**

Identify the processes & compliance requirements for closing an award; review examples of items to consider during closeout; discuss other challenges with closing an award, such as record retention, fixed price contracts, & intellectual property; provide examples of issues & discuss the impact of noncompliance.

**A-133 Audit**

Discuss the requirements & purpose of an A-133 audit including an overview of the compliance supplement; explain the Schedule of Expenditures of Federal Awards (SEFA) & its importance in the A-133 audit; understand the department’s role in audits; review examples of external, internal or agency; provide examples of the University’s A-133 audit issues as well as other Office of Inspector General findings; discuss the role of internal audit vs. external audit; review the University’s SEFA, the A-133 Compliance Supplement, and OMB Circulars.
June 20, 2013

To Whom It May Concern,

Attached hereto is a copy of the January 30, 1980 Internal Revenue Service ("IRS") advisory letter which confirms that the Curators of the University of Missouri ("University of Missouri" or "University") is a tax-exempt organization, and that contributions to it are tax-deductible by the donor.

As you will note from the IRS advisory letter, the University of Missouri is an instrumentality of the State of Missouri and derives its tax-exempt status from Section 115 of the Internal Revenue Code ("IRC"). The IRS advisory letter states that contributions made to the University for exclusively public purposes are deductible by the donors for Federal income tax purposes in the manner and to the extent provided in IRC Section 170.

The tax-exempt status of the University of Missouri, a university established by the Missouri Constitution in 1875, has not changed since the issuance of this IRS advisory letter in January 1980. The University of Missouri is governed by the Board of Curators, appointed by the governor of the State of Missouri, and the organizational structure encompasses its four campuses, teaching hospitals and clinics, and system administration. Therefore, contributions to its four campuses, hospitals and clinics, and system administration are tax deductible.

As an instrumentality of the State of Missouri, the University is not required to file an application for a determination letter as formal recognition by the IRS of its tax-exempt status. As mentioned above, gifts to the University are deductible under IRC Section 170.

Please let me know if additional information is needed to assure you that contributions to the Curators of the University of Missouri are tax deductible contributions.

Sincerely,

Jane E. Closterman
Controller
University of Missouri System

Enclosures
Gentlemen:

This is in response to your letter of recent date regarding your status as an organization exempt from Federal income tax under Section 501(c)(3) of the Internal Revenue Code.

Since your organization is an instrumentality of the State of Missouri, it is an organization as described in Section 115 of the Internal Revenue Code of 1954 which provides, in part, as follows:

"Gross income does not include—

(1) income derived from any public utility or the exercise of any essential governmental function and accruing to a State or any political subdivision thereof, or the District of Columbia; or

(2) income accruing to the government of any possession of the United States or any political subdivision thereof.

Contributions made to you for exclusively public purposes are deductible by the donors for Federal income tax purposes in the manner and to the extent provided in Section 170 of the Internal Revenue Code.

This is an advisory letter.

Sincerely yours

[Signature]
District Director
Employer Identification Number: 43-6003859
IRS Control Number: 2916829524

Dear Taxpayer:

Thank you for the inquiry dated Jan. 08, 1999.

This letter confirms that your employer identification number (EIN) as shown on our records is 43-6003859 and your name as shown on our records is CURATORS OF THE UNIVERSITY OF MISSOURI.

Please attach a copy of this letter to a copy of the "B" Notice you received and return both items to the payer(s) who requested verification of your EIN.

If you have any questions, please call us. You may call
S Green between the hours of 7:00 and
14:30 at 801-620-7559 for assistance. If the number is
outside your local calling area, there will be a long-distance
charge to you. If you prefer, you may call the IRS telephone
number listed in your local directory or (1-800-829-1040). An
employee there may be able to help you, but the office at the
address shown on this letter is most familiar with your case.

If you prefer, you may write to us at the address shown at the top
of the first page of this letter.

Whenever you write, please include this letter and, in the spaces
below, give us your telephone number with the hours we can reach you.
Also, you may want to keep a copy of this letter for your records.

Telephone Number ( )  Hours  


CURATORS OF THE UNIVERSITY OF MISSOURI
121 UNIVERSITY HALL
COLUMBIA MO 65211-0001

We apologize for any inconvenience we may have caused you, and thank you for your cooperation.

Sincerely yours,

Sherrie Liggett
Chief, Account Services Sect.

Enclosure(s):
Copy of this letter
State of Missouri
EXEMPTION FROM MISSOURI SALES AND USE TAX ON PURCHASES

Issued to: UNIVERSITY OF MISSOURI
118 UNIVERSITY HALL
COLUMBIA MO  65211

Missouri Tax I.D.  Number: 12615587

Effective Date: 07/11/2002

Your application for sales/use tax exempt status has been approved pursuant to Section 144.030.2(20), RSMo. This letter is issued as documentation of your exempt status.

Purchases by your Organization are not subject to sales or use tax if within the conduct of your Organization's exempt functions and activities. When purchasing with this exemption, furnish all sellers or vendors a copy of this letter. This exemption may not be used by individuals making personal purchases.

A contractor may purchase and pay for construction materials exempt from sales tax when fulfilling a contract with your Organization only if your Organization issues a project exemption certificate and the contractor makes purchases in compliance with the provisions of Section 144.062, RSMo.

Sales by your Organization are subject to all applicable state and local sales taxes. If you engage in the business of selling tangible personal property or taxable services at retail, you must obtain a Missouri Retail Sales Tax License and collect and remit sales tax.

This is a continuing exemption subject to legislative changes and review by the Director of Revenue. If your Organization ceases to qualify as an exempt organization, this exemption will cease to be valid. This exemption is not assignable or transferable. It is an exemption from sales and use taxes only and is not an exemption from real or personal property tax.

Any alteration to this exemption letter renders it invalid.

If you have any questions regarding the use of this letter, please contact the Division of Taxation and Collection, P.O. Box 3300, Jefferson City, MO  65105-3300, phone 573-751-2836.
CERTIFICATE OF NO TAX DUE

To Whom it may concern: The Department of Revenue, State of Missouri, certifies that the above listed taxpayer/account has filed all required returns and paid all sales or withholding tax due, including penalties and interest, or does not owe any sales and withholding tax, according to the records of the Missouri Department of Revenue as of February 18, 2011. These records do not include returns that are not required to be filed as of this date for taxes previously collected or that have been filed but not yet processed by the Department.

This statement only applies to sales and withholding tax due and does not limit the authority of the Director of Revenue to assess, and/or collect liabilities under appeal, in default of an installment agreement entered into with the Director of Revenue or that become known to the Missouri Department of Revenue as a result of audit, review of the taxpayer's records, or determination of successor liability.

THIS CERTIFICATE REMAINS VALID FOR 90 DAYS FROM THE ISSUANCE DATE.

DIRECTOR OF REVENUE OR DELEGATE
STATE OF MISSOURI

BY:

Dwayne Maples
Administrator, Business Tax

https://dors.mo.gov/tax/notaxdue/ConfirmationLetter.jsp
University of Missouri

Office of

Foundation Relations

The University of Missouri-Columbia's Foundation Relations staff advances and manages the University's relationships with key private foundations. Private foundations and associations support some of the MU’s most innovative programs in teaching, research and service. During fiscal year 2012-2013, the University received almost $20 million in external support from private foundations and associations

- $3 M in Foundation “Grants”
- $8.5 M in Association “Grants”
- $6.7 M in Foundation “Gifts”

Our job: Managing Relations with Foundations

✓ Assessment - intelligence, research, phone calls
✓ Cultivation – invitations, letters, foundation visits, site visits
✓ Solicitation – proposal submission
✓ Clearance – approve faculty applications to ensure coordination of solicitations
✓ Stewardship – thank you’s, project reports review, visits to foundation and coordinate site visits

Our job: Securing Foundation Sponsorship for Interdisciplinary Projects

✓ Orchestrate calls/discussions with Program Officers
✓ Interpret guidelines and sponsor priorities
✓ Connect faculty with campus resources
✓ Facilitate collaboration
✓ Coordinate proposal development
✓ Organize tasks and timelines
✓ Arrange meetings
✓ Edit/review narrative – putting the “foundation” spin on a proposal

Elizabeth Cogswell, Senior Director: cogswelle@missouri.edu – (573) 884-3578
Lisa Schwartz, Director: schwartzl@missouri.edu – (573) 882-5394
## The Grant Landscape

### Types and characteristics of grant giving agencies

<table>
<thead>
<tr>
<th>Federal agencies</th>
<th>Foundations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Success rates at federal agencies are between 4% and 20%, average &lt;10%</td>
<td>Success rates at foundations are as low as 2%, average 10%</td>
</tr>
<tr>
<td>Publish specific guidelines that describe individual grant programs and how to apply, which are sometimes lengthy (~ 100 pages)</td>
<td>Provide less guidance; published guidelines if they exist may be 1-2 pages.</td>
</tr>
</tbody>
</table>
| Competitive review with open eligibility on who can apply. Reviewers are often “outside” and relationship with agency personnel does not directly impact review and scoring. | Three types:  
• “Foundation-defined project” calls—Published deadline and guidelines.  
• Applicant defined projects – Sometimes published deadlines. Lower success rate, limited funds. Relationship w/ foundation can be important.  
• “Closed/by invitation only” calls—Relationship with the foundation is critical—proposal is often the last step in the relationship building process. |
| Proposals are lengthy (~ 90+ pages) 20 pages of written text with lots of supplementary documents (resumes, lists of other funded projects, certification and assurance forms, budget forms and budget explanation) | Proposals often short, often fewer than 10 pages of written text with fewer supplementary documents. |
| You can find out about grant programs at no cost through [www.grants.gov](http://www.grants.gov), as well as through individual agencies’ websites. | Often a brief two page “letter of intent” is the first step. |
| Individual federal agencies (Administration for Children and Families, Department of Justice, etc.) have different priorities and specific requirements, but the way to approach them is basically standard. | Professional networks are an important source. Commercial search engines are available free or at a cost ([www.cos.com](http://www.cos.com); [www.foundationsearch.com](http://www.foundationsearch.com); [www.fdncenter.org](http://www.fdncenter.org)). |
| Grant programs usually have contact person (“program officer”) you should contact to discuss your proposal before applying and you typically get review comments back after applying. | Contact with foundation part of strategy, discuss with Foundation Relations for contact clearance. It should be undertaken carefully. Typically do not get review comments back. |
| | |
Our office handles gift and grant-seeking from private, independent and community foundations

For assistance with direct corporate giving, contact Chris Kelly, Senior Director of Corporate Relations at kellycs@missouri.edu (884-7853)

MU’s Office of Foundation Relations can:

- Help you vet foundation “suspects” to help you determine which are truly “prospects”
- Research the University’s current and past relationships with the foundation, and when appropriate, research foundation trustees and staff
- Help you strategize the most appropriate/successful means for approaching a prospect foundation
- Help ensure that your project and approach to the foundation fit the guidelines and also are consistent with the University’s total relationship with that foundation
- Ensure that your proposal/approach are not in violation of foundation policies on limited submissions
- Arrange meetings and/or conference calls with appropriate foundation representatives, as appropriate
- Review drafts of your proposals for clarity, impact on lay readers, persuasiveness, appropriateness, strength of strategy, and adherence to guidelines.
- We cannot write proposals for individual faculty research proposals

Office of Foundation Relations Responsibilities:

- Maximizing foundation dollars to MU, especially toward institutional priorities
- Developing relationships with and “cultivating” local, regional, and national foundations that fund institutions like MU or projects like those in which our faculty are active
- Organizing campus site visits by foundation representatives
- Providing “clearance” for individual faculty or teams of faculty to approach a foundation for support

- Collaborating with the Office of Research in initiating internal competitions when foundations limit the number of applications and in reviewing faculty submissions to the internal competition

- Finding and encouraging interdisciplinary efforts among MU faculty or outreach opportunities for the University in order to fulfill the requirements of many foundations that funded projects be multi-disciplinary or of direct benefit to the community

- Developing projects that both support MU efforts/interests and match the funding priorities of private foundations

- Writing proposals for foundation support of institutional projects

- Focusing primarily on foundation proposals in amounts of $100,000 or above.

**How you can help us help you:**

- Be in touch with us early in your process of thinking about foundation support (try to allow 18 months before funding is required, unless responding to a Request for Proposals).

- Prepare a rough one-page background document including the problem(to be addressed and why and to whom the problem is important, what you plan to do to address the problem, what is particularly unique, timely, or effective about your approach, any information that demonstrates your competitiveness or visibility in the field, any collaborators inside or outside of MU, a rough estimate of the total cost of the project and whether you have other resources for the project that can leverage a foundation grant, the rough timeline for the project, including the time by which you would need foundation funding.
Foundation Research and Information Sources

► **Foundation Directory Online** [www.foundationcenter.org](http://www.foundationcenter.org) Foundation Center
Foundation Finder (free—minimal information, access to 990 forms), Philanthropy News Digest (free news alerts each day/week about foundations), and RFP Bulletin (free weekly online newsletter of new RFP’s).

► **Grant Forward Database** [www.grantforward.com](http://www.grantforward.com) Especially suited for academic funding needs. Includes government agency grant opportunities. Good source for international funder information. Faculty can set up tailored “alerts” in their fields.

**GuideStar Database** [www.guidestar.org](http://www.guidestar.org) Information and tax forms for not only foundations, but for non-profit entities, including clubs, associations, and charities as well. Information on over 1,000 organizations in Columbia, MO alone, with summary of purpose and history, contact information and links to tax forms provided free.

**IRS Tax Form 990** (view multiple years for better understanding) Market value of assets, total contributions paid, Board members/officers/highest paid employees and compensation amounts, highest paid contractors (can include individuals or organizations contracted to conduct research), persons who have become substantial contributors during past year (Part VII-A), information on gift/grant programs (restrictions, procedures, Part XV), grants & contributions paid & those approved for future payment.

**European Foundation Centre** [http://www.efc.be](http://www.efc.be).

**Fundsnets Services** [http://www.fundsnetservices.com/](http://www.fundsnetservices.com/) Free site allows you to search grant opportunities by categories (e.g. animals and wildlife; children, youth, and families; health services and research). Only a limited list of foundations included, and those without websites are excluded.

**Council on Foundations Website** [www.cof.org](http://www.cof.org) Council on Foundation is a membership organization of more than 2,000 top funders worldwide. The website is primarily intended for foundation professionals (and grantees should not try to use the Council as an intermediary for contacting foundations). Particularly useful at this site is the list of affinity groups and their websites. Affinity groups are informal networks of foundations interested in particular issues, target populations, or foundation management functions. Affinity group websites are valuable sources of information on particular issues or target populations, the latest ideas and challenges of philanthropy in the given area, outcomes of various funders’ grants in this area, etc. The Council’s website also has a calendar of events and conferences for foundations with similar interests.
Foundation Research and Information Sources
Affinity Group Websites

Disability Funders network  www.disabilityfundners.org
Environmental Grantmakers Association  www.ega.org
Funders Concerned About AIDS  www.fcaaids.org
Grantmakers for Children, Youth and Families  www.gcyf.org
Grantmakers in Aging  www.giaging.org
Grantmakers in the Arts  www.diarts.org
Grantmakers for Education  www.edfunders.com
Grantmakers in Health  www.gih.org
Africa Grantmakers Affinity Group  http://www.africagrantmakers.org/
International Funders for Human Rights  http://www.hrfunders.org/
<table>
<thead>
<tr>
<th>Priority Foundations (please consult w/ Office of Foundation Relations)**</th>
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<tbody>
<tr>
<td>Albert, J.R. Foundation</td>
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<tr>
<td>Allen, Rita Foundation</td>
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<td>Annenberg Foundation</td>
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<td>Atkins, Dr. Robert C. Foundation</td>
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<tr>
<td>Atlantic Philanthropies (Atlantic Foundation)</td>
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<tr>
<td>Beckman, Arnold and Mabel Foundation</td>
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<td>Bloch, H &amp; R Foundation</td>
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<td>Bloch Family Foundation</td>
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<td>Blue Moon Fund (Formerly Alton Jones Fdn)</td>
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<td>Bradley, Lynde and Harry</td>
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<tr>
<td>Buffett, Howard G. Foundation</td>
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<td>Buffett, Susan Thompson Foundation</td>
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<tr>
<td>Cargill, Margaret A.</td>
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<td>Carnegie Corporation</td>
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<td>Casey, Annie E. Foundation</td>
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<td>Casey Youth Opportunities, Jim</td>
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<td>Coleman Foundation</td>
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<td>Commonwealth Fund</td>
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<td>Compton Foundation</td>
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<td>Cooke, Jack Kent Foundation</td>
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<td>Coultier, Wallace H. Foundation</td>
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<td>Cummings, Nathan Foundation</td>
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<td>Davis, Arthur Vining Foundations</td>
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<tr>
<td>Daymon Runyan Cancer Research Foundation</td>
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<td>Deer Creek Foundation</td>
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<td>Dell, Michael and Susan Foundation</td>
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<td>Ellison Medical Foundation</td>
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<td>Energy Foundation</td>
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<td>Ethics and Excellence in Journalism Foundation</td>
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<td>Ford Foundation</td>
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<td>Foundation for Child Development</td>
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<td>Francis Family Foundation</td>
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<td>Fuld, Helene Trust</td>
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<td>Gates, Bill and Melinda Foundation</td>
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<td>Goldman Philanthropic Partnerships</td>
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<td>Goppert Foundation</td>
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<td>Geffen Foundation, The David</td>
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<td>Grant, William T. Foundation</td>
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<td>Greater Kansas City Community Foundation</td>
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<td>Green, Allen P. &amp; Josephine B. Foundation</td>
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<tr>
<td>Haas Fund, Walter and Elise</td>
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<td>Hall Family Foundation</td>
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<tr>
<td>Hartford, John A. Foundation</td>
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<td>Healthcare Foundation of Greater Kansas City</td>
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<td>Hearst Foundations</td>
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<td>Helmsley, Leona Foundation</td>
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<td>Hewlett, William &amp; Flora Foundation</td>
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<td>Hughes, Howard Medical Institute</td>
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<td>HKH Foundation</td>
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<td>JEHT Foundation</td>
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<td>Johnson, Robert Wood Foundation</td>
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<tr>
<td>Joyce Foundation</td>
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<tr>
<td>JSM Charitable Trust</td>
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<td>Kalliopeia Foundation</td>
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</table>
**Priority Foundations  (please consult w/ Office of Foundation Relations)**

<table>
<thead>
<tr>
<th>Shaw, Arch W. Foundation</th>
<th>Templeton Foundation</th>
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<tbody>
<tr>
<td>Simons Foundation</td>
<td>Thrasher Foundation</td>
</tr>
<tr>
<td>Skirball Foundation</td>
<td>Tinker Foundation</td>
</tr>
<tr>
<td>Sloan, Alfred P. Foundation</td>
<td>Wallace Foundation</td>
</tr>
<tr>
<td>Sosland Foundation</td>
<td>Wallace Genetic Foundation</td>
</tr>
<tr>
<td>Spencer Foundation</td>
<td>Wallace Global Fund</td>
</tr>
<tr>
<td>Starr Foundation</td>
<td>Walmart Foundation</td>
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<tr>
<td>Starr International Foundation</td>
<td>Walton Family Foundation</td>
</tr>
<tr>
<td>Sunderland Foundation</td>
<td>Whitaker Foundation (St. Louis)</td>
</tr>
<tr>
<td>Surdna Foundation</td>
<td></td>
</tr>
</tbody>
</table>

** Please contact the Office of Foundation Relations (OFR) before approaching these foundations, as there may already be proposals pending with them from the university, they may be in the process of cultivation/solicitation for MU’s capital campaign, or there may be proposals in development. OFR will make every effort to coordinate your interest in/solicitation of these foundations with ongoing activity. OSPA may not sign off on your proposal to these foundations without prior notification of OFR.

Thanks for your cooperation.

Office of Foundation Relations:

Elizabeth Cogswell, Senior Director
cogswelle@missouri.edu
884-3578

Lisa Schwartz, Director
schwartzl@missouri.edu
882-5394
MU ARTS & HUMANITIES GRANT RESOURCES

MU OFFICE OF RESEARCH

MU Arts & Humanities Funding Resources

Christine Montgomery
Arts & Humanities Grant Writing Consultant
Office of Grant Writing & Publications
304 Tate Hall
Email: montgomeryc@missouri.edu
Phone: 573-884-4592; cell: 573-814-9134

What a grant writing consultant does:

- Assist with finding funding opportunities for research
- Research answers to grant-related questions
- Respond to questions regarding compliance with MU and departmental grant policies and regulations
- Assist with Current and Pending research data for investigators
- Assist with grant application forms
- Design graphics, figures and tables for grant applications
- Develop proposal writing timelines
- Edit copy for consistency, correctness, voice, and/or compliance with agency guidelines
- Rewrite portions of applications as needed
- Interpret agency guidelines and proposal specifications
- Draft and solicit letters of support/commitment
- Assist with submission processes

MU ARTS & SCIENCE

Tyeece Little
A & S Grants & Contracts Manager
107 Tucker Hall
Email: littlet@missouri.edu
Phone: (573) 882-1846

All Arts & Science external grant budgets must go through Tyeece Little. She is available to help faculty developed their budgets both the pre-award and post-award.
The Faculty Grant Writing Institute

The Faculty Grant Writing Institute (FGWI) provides MU faculty small group sessions on proposal writing along with self-directed time with grant writer support. The institute is divided into three parts:

- **Phase 1:** Four **two-hour** sessions over the course of one month where faculty are given small take-home writing tasks that are then discussed during sessions. Session topics may include:
  - Crafting strong aims & objectives
  - Talking to a program officer
  - Writing skills, building a better proposal argument
  - Agency-specific panels (i.e., Broader Impacts, Early Investigator)
  - Budget overview
- **Phase 2:** Eight weeks of work time with a grant writer to complete a draft proposal. Meeting times are established by the faculty member and grant writer.
- **Phase 3:** Follow-up group session(s) to review and polish the finished product for submission.

**Who Should Attend?**

All faculty members with grant proposal submission dates within 6 months to 1 year of a desired institute session are encouraged to apply.

**When Can I Attend?**

The Faculty Grant Writing Institute is offered three times a year during the Fall, Spring, and Summer semesters.

**Where Do I Sign Up?**

Contact Sara Vassmer (vassmers@missouri.edu) or visit http://research.missouri.edu/internal/institute.php
For Both Manuscripts and Grant Applications

- Perform a thorough literature search before writing.
- Acknowledge the existing work and place your work into that big picture.
- Write Abstracts/Executive Summaries to convey "in miniature" the entire text.
- Use short sentences with a simple structure (subject - verb - object). The rule of thumb is that if a sentence is longer than two lines, it is too long.
- Use active verbs.

Heather Brown, Ed.D., Director
Mary Barile, Ph.D., Associate Director
202 Jesse Hall
University of Missouri
Columbia, MO 65211

Phone: 573-884-4390
Fax: 573-884-8371
http://research.missouri.edu/ogwp/

The information contained in this brochure was compiled by Susan Hazelwood, Retired Associate Director of the Office of Grant Writing and Publications
# Grant Applications are Not Like Manuscripts

<table>
<thead>
<tr>
<th>Area of Difference</th>
<th>Manuscript</th>
<th>Grant Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose</td>
<td>A tool to communicate scholarship</td>
<td>A tool to facilitate the distribution of funds</td>
</tr>
<tr>
<td>Starting Point for Writing: The Cornerstone of Your Ideas</td>
<td>Data/results/events to be shared with readers</td>
<td>Conceptualization of a void in scholarship or services and how your proposed work will effectively fill that void</td>
</tr>
<tr>
<td>Different Levels of Persuasive Writing</td>
<td>Only one level of persuasion. You want readers to value your manuscript and the information it conveys.</td>
<td>Two levels of persuasion. First, that there is a void in existing knowledge, research, services, etc. and second that your proposal should be funded in order to best fill that void</td>
</tr>
<tr>
<td>Attitude Elicited from Writing</td>
<td>Generating excitement for the reader is NOT necessary. Reporting events, stories, findings, results, data, etc. Should be objective, reliable, authentic, and valid.</td>
<td>Generating excitement for the reader is crucial. A grant is a marketing tool. You must get grant evaluators excited about your proposal’s potential for filling an identified void in the field. Writing should be compelling and send the message: “Here’s what I can do for you!” Tugging at heartstrings may be helpful, depending on subject matter and sponsor/funder.</td>
</tr>
</tbody>
</table>

## Area of Difference

<table>
<thead>
<tr>
<th>Manuscript</th>
<th>Grant Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peer Review Expertise/ Knowing Your Audience</td>
<td>Anticipate that your work will be reviewed by experts in your content area as journal editors draw upon a large pool of qualified scholars.</td>
</tr>
<tr>
<td>Future Directions</td>
<td>Conclusions are based on your main findings, including policy implications, potential changes in clinical practice, future research opportunities, improved services, interventions, etc.</td>
</tr>
<tr>
<td>Paradigm Shift: Benefits/ Burdens</td>
<td>The burden of the manuscript writer is to convey existing circumstances and information. A person who reads manuscripts does so voluntarily and for his/her own benefit.</td>
</tr>
<tr>
<td>Differences in Content</td>
<td>Contains: Results, Discussion, and Conclusions</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Area of Difference</th>
<th>Manuscript</th>
<th>Grant Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citations</td>
<td>No plagiarism. Three identical words without proper citation - you’re out.</td>
<td>Rephrasing and paraphrasing are more accepted.</td>
</tr>
<tr>
<td>Use of Jargon</td>
<td>Many disciplines have parochial traditions of writing in jargon.</td>
<td>You should avoid jargon. But, when technical language is really needed, restrict yourself to those new words and technical terms that truly lack equivalents in common language.</td>
</tr>
<tr>
<td>Timing</td>
<td>Written after work/project is completed</td>
<td>Written prior to work/project being conducted.</td>
</tr>
<tr>
<td>Use of Data</td>
<td>~Well polished ~Sufficient sample size ~Statistics included (power, confidence) ~Repeatable and reproducible ~A permanent record (you want to avoid having to publish an erratum)</td>
<td>Can be preliminary. Can talk about the potential for what the data means rather than what has actually been proven. Applicant can sometimes submit supplemental data between proposal submission and proposal review. It presents an idea rather than a fact (final data may turn out differently). Can be used to demonstrate that your group is able to perform a particular technique rather than the actual results.</td>
</tr>
</tbody>
</table>
Every proposal is different. Not all of these tips will work or be allowable based on the funder’s current guidelines.

Format Tips for Winning Grant Proposals

White space – use it!
- Put extra space between paragraphs
- Space after headings
- Space around graphics and/or tables
- Be succinct

Avoid big blocks of text
- Limit sentences to 15 words
- Limit paragraphs to 8 lines
- Limit lists to 4-7 items
- Use subheadings
- Add figures and tables

Headings
- Make headings descriptive and specific to the proposal
- Make major section headings very easy to find with blocking or centering

Bulleted/Numbered Lists
- Shoot for lists of 4-7 items
- Focus on key phrases
- Use numbered lists for items that should be understood in sequence
- Use bulleted lists for items of equal importance

Tables
- Don’t use more than about four columns
- Don’t use more than about six rows
- Use short phrases

Graphics
- Use color sparingly – it doesn’t copy well
- 10-15% of proposal space
- Include time lines, descriptive data, organizational charts

Note: Read the guidelines for formatting requirements

The information contained in this brochure was compiled by Shelley Hilton and Suzanne Hansford-Bowles

http://research.missouri.edu/ogwp/
Consider the Reviewer

There are basically three different types of readers
- Critical readers
- Search readers
- Skimmers

Ways to help the **Critical Reader**
- Use an organizing scheme to tie major sections together (e.g., by objective/aim or by experiment)
- Use topic sentences
- Keep paragraphs short

Ways to help the **Search Reader**
- Use headings & subheading that match the review criteria
- Include keywords from the funding opportunity

Ways to help the **Skimmer**
- Make subheadings descriptive
- Don’t put headers in the lower third of the page
- Put objectives and impact on the first page

All Reviewers:
- Are in a hurry
- Are usually not being paid
- Have day jobs
- Do a LOT of reading

---

**The Parts of Your Proposal**

**Abstract/Project Summary**
- This creates your first, and maybe only, impression
- Summarize all of the key aspects of the proposal
- Check your sponsor’s guidelines
- Revise, revise, revise!

**Project Description/Narrative**
- Follow the order in the guidelines
- Use required sections as headers

**Statement of Need**
- Be concise
- Be quantitative, if possible
- Focus on the need of the sponsor

**Goals and Objectives**
- Make these stand out (e.g., bulleted list)
- Be concise
- Should be measurable and evaluable
- Be realistic
- Be focused

**Background/Preliminary Results**
- Include only material directly relevant to the proposal
- Include what YOU have done related to this proposal. What work have you done related to this project to date?

**Project Design/Methodology**
- Organize around objectives/aims (subheadings)
- Save space by citing published methods or providing brief summary (1 - 2 sentences)
- Use graphics, figures, and tables

**Evaluation**
- Describe how you will determine if the objectives are met
- The type of evaluation used should be based on the type of project you’ll perform

**Project Timeline**
- Easy reference for reviewers, it shows the project at a glance
- Illustrates to reviewers that you have planned well
- Graphic form (e.g. Gantt chart)
- Include objectives, tasks

**Biographical Sketches**
- Update each time and tailor for the type of proposal

**Budget**
- Be realistic and provide details (for example—break out travel costs and supplies)

**Budget Justification**
- Use it to help sell your proposal
- Budget categories should match the budget form
- Be specific in your descriptions

**Letters of Support/Commitment**
- Draft your own letters
- Provide bullet points
- Should mention what the signer is contributing for the project
- Allow sufficient time for the signer to read, edit, sign, and return the letter
Now More Than Ever, University Scientists and Scholars Deserve Our Support

BY ROBERT V. DUNCAN Vice Chancellor for Research

During the previous fiscal year, agencies of the United States government awarded MU faculty scientists and scholars close to $170 million for sponsored research and instruction and public service projects. These dollars, the life’s blood of MU’s research enterprise, were generated mostly through competitive submission processes involving researchers from many of the nation’s top institutions. Only the most important projects from the best investigators eventually gain support.

That MU has been so consistently well represented among projects selected for sponsorship is a testament to the energy, ambition and excellence of our faculty. Thanks in large part to their efforts, the University has not just enhanced its position as one of the nation’s premier centers of research and higher learning, but has also emerged as a major force in Missouri’s economic development.

In recent years, for example, companies licensing MU-generated intellectual property have tallied over $1 billion in sales.

The still precarious state of our nation’s economic recovery — as well as intensifying competitive pressures from across the globe — make it imperative that we continue to support the economy-enhancing work of our scientists and scholars.

Instead, just the opposite is happening. Drastic cuts in federal discretionary spending, the result of the so-called sequester, threaten to severely weaken the ability of universities like MU to continue the scientific research and development activity that our nation so desperately needs. This is a profound threat to both the nation’s long-term growth prospects and to the financial well-being of thousands of Missourians.

According to data compiled by Science Works For U.S., a project of the Association of American Universities, the Association of Public and Land-grant Universities, and The Science Coalition, sequestration will reduce federal funding for scientific research by nearly $95 billion over the next nine years, which will result in a reduction of U.S. GDP by at least $201 billion.

The net impact could be 200,000 fewer jobs — many of them in important, well-paying high-tech fields — for each year between 2013 and 2016.

Here at MU, in the current year alone close to $17 million in previously awarded federal funds are in peril, about 10 percent of the university’s federal funding for research. Such cuts are of particular concern given the importance of several of MU’s newly funded investigations, many of which, ironically, have the potential to save the federal treasury millions. Among the most noteworthy:

• A four-year, $14.8 million grant from the U.S. Department of Health and Human Services’ Centers for Medicare and Medicaid Services to the Sinclair School of Nursing and Curators’ Professor of Nursing Marilyn Rantz. Rantz and her team of MU researchers will use the funds to discover ways of reducing avoidable “re-hospitalizations” among nursing home residents. Unnecessary hospital admissions not only imperil the well-being of patients, but are a significant driver in pushing up national health care costs.

• A $1 million grant from the USDA to Jerry Taylor, the Wadeuck Chair in Animal Genomics at MU, to determine what specific genes play a role in breeding problems and other issues in the cattle industry — a project that could significantly increase the efficiency of cattle reproduction.

• A $2.4 million grant from the Substance Abuse and Mental Health Services Administration to establish a Terrorism and Disaster Center that will train mental health providers to aid communities before and after natural and man-made disasters.

Last summer, MU Chancellor Brady Deaton was signatory, along with the leaders of every major research university in the nation, to a letter to Congress that neatly summed up the reasons why the sequestration cuts should be reversed.

“Americans know that investments in education and scientific research pay long-term dividends,” the letter read.

“Federal support for scientific research and student financial aid laid the foundation for the dramatic expansion of the 20th century U.S. economy and can do the same in the 21st. These investments produce the growth prospects and to the financial well-being of thousands of Missourians.”

As national leaders in higher education, we urge you to show America and the world that our country’s political system is capable of solving serious problems. The choices will not be easy, but throughout our nation’s history, American leaders have overcome great challenges with difficult decisions and sensible compromises. Please do so again and do so now.”

I am confident all of our faculty scientists and scholars would endorse this view, as would, I hope, every Missourian who cares about the continued vitality of research and scholarship. Let’s make sure our federal representatives hear it from all of us: Now more than ever, MU scientists and scholars deserve our support.

Expenditures and Awards

In this report you will encounter charts and graphs that reflect the extent of funders’ involvement in MU research. Some are expressed in terms of “expenditures,” which represent resources spent by a researcher during a given fiscal year. Others are expressed as “awards,” which show the total amount of funds available for use, money often expended over a period of years.

External Expenditures and Awards

External spending and awards have increased steadily over the years. During the past decade, researchers at MU have been consistently ranked among the nation’s leaders in growth rates for externally supported projects.

Total Expenditures, Five-year Trend

Total Awards, Five-year Trend

Expenditures Up as Federal, State Funding Increases

Increased levels of funding from federal, state and for-profit agencies helped boost MU expenditures in FY 12. Over the past decade, investigators at MU have been consistently ranked among the nation’s leaders in growth rates for externally supported projects.
Time for Tea: Residents of Tiger Place, a senior-care facility in Columbia. The U.S. Department of Health and Human Services last year awarded $14.8 million to MU for research aimed at reducing hospitalization rates among nursing home residents.

Nursing Grant Aims to Reduce Unnecessary ‘Re-Hospitalizations’

The Sinclair School of Nursing in November announced a nearly $15 million grant from the U.S. Department of Health and Human Services’ Centers for Medicare and Medicaid Services (CMS). Led by Curators’ Professor of Nursing Marilyn Rantz, MU researchers will use the funds, distributed over four years, to implement a project aimed at reducing avoidable re-hospitalizations among nursing home residents. Insights gained from this project could provide a nationwide model for senior care and significantly reduce national health care spending.

“The term, ‘ecstatic,’ does not capture my current sentiment,” said Judith Fitzgerald Miller, dean of the Sinclair School of Nursing. “This is a transformational grant for the university and is congruent with our passion for excellence in health care. The care of older adults will be improved as a result of this work.”

The majority of nursing home residents are enrolled in Medicaid and most also participate in Medicare, CMS reports. Previous research suggests that nearly half of hospitalizations among nursing home residents enrolled in Medicare or Medicaid could have been avoided. These potentially avoidable hospitalizations amounted to more than $7 billion in 2011.

MU will partner with CMS and state Medicaid programs to improve care for residents at 16 nursing facilities in St. Louis. The MU researchers will oversee the project and, using grant funds, the team will recruit and place one advanced practice registered nurse (APRN) at each of the nursing homes. APRNs receive specialized post-graduate educations in nursing. The APRNs will work with nursing facility staff and residents’ health providers to coordinate patient care and improve the recognition, assessment and management of conditions that are common causes of hospitalizations for aging adults.

“Previous research has shown that every time patients move from nursing homes to hospitals and back to nursing facilities, their conditions deteriorate,” said Rantz, who has spent more than three decades conducting research to improve seniors’ quality of life. “Older adults have subtle changes in their behaviors and in their health statuses. In nursing homes, improving the observation and assessment processes by advanced practice nurses can help residents receive treatment earlier and avoid unnecessarily going back to hospitals.”

The APRNs at each facility will work with a traveling interdisciplinary team consisting of a master’s-trained social worker, an information technology specialist, a medical director and an APRN with specialized knowledge of INTERACT II, a quality improvement program designed to monitor and improve aging adults’ health.

Center to Support Mental-Health Needs of Disaster, Terror Victims

The emotional fallout from traumatic events such as the Boston Marathon bombings and Hurricane Sandy are long term and difficult to treat. But with the help of a $2.4 million federal grant from the Substance Abuse and Mental Health Services Administration experts at MU’s new Terrorism and Disaster Center will help mental health care workers provide better care before and after natural and man-made disasters.

Assistant Communication Professor J. Brian Houston, co-director of the center, says staff will focus on mental and behavioral health preparedness along with recovery and resilience work with children, families and communities affected by disasters. They will pay particular attention to the long-term difficulties of victims who are left to cope after national media, politicians and disaster relief workers leave. “In the immediate aftermath we see a honeymoon phase in which other communiti- ties and national media rally around disaster victims.” Houston says. “After that phase, survivors may experience disilusionment as they try to cope with a new, altered reality without their loved ones or homes and no longer receive widespread attention and expressions of sympathy.”

Research and Instruction & Public Service Grants and Contracts

<table>
<thead>
<tr>
<th>FY 2012</th>
<th>Research</th>
<th>Instruction and Public Service</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposals Submitted</td>
<td>1,474</td>
<td>718</td>
<td>2,192</td>
</tr>
<tr>
<td>Active Funded Projects</td>
<td>1,952</td>
<td>1,719</td>
<td>3,671</td>
</tr>
<tr>
<td>Newly Awarded Projects</td>
<td>$141,481,340</td>
<td>$92,700,325</td>
<td>$234,181,665</td>
</tr>
</tbody>
</table>

Research and Development Expenditures, comparison including data reported to the National Science Foundation

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</tr>
</thead>
<tbody>
<tr>
<td>NSF Report 1</td>
<td>$24,686,918</td>
<td>$24,058,000</td>
<td>$28,499,839</td>
<td>$30,657,153</td>
</tr>
<tr>
<td>Report on Research and Public Service 2</td>
<td>$127,396,019</td>
<td>$133,532,253</td>
<td>$136,937,177</td>
<td>$133,873,878</td>
</tr>
</tbody>
</table>

* National Science Foundation data are calculated to include both internal and external funding for research. They exclude certain activities, such as clinical trials, in which an external entity specifies an experimental protocol. For more information, visit nsf.gov.

Academic Enterprise, by Division

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</tr>
</thead>
<tbody>
<tr>
<td>Extension</td>
<td>$45,642,808</td>
<td>$47,311,911</td>
<td>$29,429,712</td>
<td>$27,822,772</td>
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<tr>
<td>Agriculture, Food &amp; Natural Resources</td>
<td>$23,158,063</td>
<td>$25,068,706</td>
<td>$39,902,285</td>
<td>$44,144,795</td>
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<tr>
<td>Veterinary Medicine</td>
<td>$5,326,849</td>
<td>$16,804,159</td>
<td>$21,713,726</td>
<td>$20,389,295</td>
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<tr>
<td>UM System</td>
<td>$24,022,228</td>
<td>$25,442,031</td>
<td>$29,033,020</td>
<td>$20,046,578</td>
</tr>
<tr>
<td>University Hospital</td>
<td>$0</td>
<td>$0</td>
<td>$4,076,165</td>
<td>$4,076,165</td>
</tr>
<tr>
<td>Office of Research</td>
<td>$9,604,043</td>
<td>$10,577,700</td>
<td>$10,853,601</td>
<td>$11,806,774</td>
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<tr>
<td>Medicine</td>
<td>$4,537,312</td>
<td>$5,580,477</td>
<td>$11,943,755</td>
<td>$11,259,859</td>
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<tr>
<td>Provost</td>
<td>$0</td>
<td>$0</td>
<td>$1,233,442</td>
<td>$839,156</td>
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<tr>
<td>Education</td>
<td>$4,910,764</td>
<td>$8,177,267</td>
<td>$5,697,337</td>
<td>$5,676,437</td>
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<tr>
<td>Engineering</td>
<td>$11,560</td>
<td>$27,960</td>
<td>$1,331,336</td>
<td>$1,152,099</td>
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<tr>
<td>Journalism</td>
<td>$204,660</td>
<td>$266,870</td>
<td>$1,168,389</td>
<td>$982,064</td>
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<tr>
<td>Human Environmental Sciences</td>
<td>$652,192</td>
<td>$720,473</td>
<td>$759,947</td>
<td>$831,664</td>
</tr>
<tr>
<td>Arts &amp; Science</td>
<td>$223,200</td>
<td>$241,8094</td>
<td>$691,352</td>
<td>$532,439</td>
</tr>
<tr>
<td>Health Professions</td>
<td>$20</td>
<td>$2,612</td>
<td>$1,567,614</td>
<td>$459,318</td>
</tr>
<tr>
<td>Other</td>
<td>$86,606</td>
<td>$54,886</td>
<td>$158,325</td>
<td>$0</td>
</tr>
<tr>
<td>TOTAL</td>
<td>$118,382,205</td>
<td>$138,103,763</td>
<td>$222,012,693</td>
<td>$212,492,878</td>
</tr>
</tbody>
</table>
Stalled federal funding keeps external sponsor-ship flat in FY2012

Total sponsored research expenditures at the University of Missouri remained flat in FY 2012 at just under $134 million, a statistically insignificant decline compared to the previous fiscal year total.

As in previous years, expenditures generated from federal sources, most of which are awarded through the competitive grants process, accounted for the bulk of sponsored research funding. In FY 2012, both federal research expenditures and awards showed modest declines.

Faculty scientists and scholars working in medicine, arts and science, agriculture, and engineering accounted for well over half of all sponsored-research expenditures. Of particular note was the School of Medicine, which, by tallying just over $31.4 million, surpassed the College of Agriculture, Food and Natural Resources as MU’s expenditure leader. The College of Engineering and the College of Arts & Science each showed expenditure gains in FY 2012, with both setting all time highs for their respective colleges.

Nonprofit expenditures were $7,796,164, while state and local government projects were $2,987,242. Federal research expenditures were $114,357,577.

In addition to providing dollars directly to investigators, agencies also provide a percentage of grants for “Facilities and administration” costs. The rate at which these costs are recovered is a reimbursement based on the cost of building and maintaining MU’s research infrastructure. Higher rates of F&A recovery allow the University to better support the work of its faculty investigators.

MU facilities and administration cost recoveries again top the $37 million mark

Shared credit represents each academic unit’s portion of the total amount expended on research activities. Full credit (not shown) assigns the entire expenditure to each division in the collaboration, regardless of its specific portion. Dividing “full” by “shared” credit yields a measure new to this report — the collaborative index — a ratio reflecting the scope of interdisciplinary research at MU. A higher collaborative index figure means a greater percentage of funds were expended on interdisciplinary projects.

Research Awards by Funding Agency and Amount

Ongoing support from federal agencies, among them the Department of Health and Human Services/NH, USDA and the National Science Foundation, was reduced in advance of “sequester” cuts mandated by Congress.

Federal awards fall to five-year low as agencies brace for sequester cuts

In FY 2012, federal research expenditures at the University of Missouri were $114,357,577, a $345,000, or 0.3%, decline from the previous year. Federal research awards fell to $34.3 billion, a $2.2 billion, or 6.2%, drop compared to FY 2011. Nonprofit cooperative agreements, grants, contracts and subcontracts fell by $1.6 billion, or 13.9%, to $9.7 billion. Science, engineering and health declined $1.1 billion, or 10.5%, while agriculture and human and social sciences retreated $2.5 billion, or 22.1%. Other — primarily state and local government projects — lost $1.7 billion, or 20.8%. The total dollar decline for FY 2012 was $2.8 billion, or 16.1%.
Grasses to Make Biofuel Food-Friendly

Last fall, MU scientists began a study to determine how non-food biofuel crops, such as switchgrass, can best be cultivated in marginal land along the floodplains where most food crops cannot thrive. The goal? To increase biofuel production without impacting food production.

The team in the MU College of Agriculture, Food and Natural Resources has received a $5.4 million grant from the U.S. Department of Energy to further its research. The project is part of a $125 million international project to further research that will study how to use marginal floodplain land with crops designated for use in biofuels, and convert them to advanced biofuels.

“In the 10 states along the Missouri and Mississippi Rivers, 100 million acres of marginalized agricultural land is unused or underutilized often due to frequent flooding,” said Shibu Jose, H.E. Garrett Endowed Professor in the School of Natural Resources and director of the MU Center for Agroforestry.

“If farmers can plant just 10 percent of marginal floodplain land with crops designed for use in biofuels, we can produce 6 to 8 billion gallons of liquid fuel annually. Planting this land with crops designated for biofuels would have little to no effect on the food supply.”

OTMIR Works to Foster Creativity, Discovery

A new part of MU’s Office of Technology Management and Industry Relations (OTMIR), staff members work to create value for tomorrow by helping faculty to identify, assess, protect and market commercially viable intellectual property developed at the University. OTMIR evaluates new technologies, obtains patent protection where needed, identifies licensees and negotiates all intellectual property agreements.

The goal is to identify “commercializable” technology resulting from research at MU. Faculty and staff inventors make significant contributions to the University’s core missions. OTMIR is dedicated to protecting intellectual property rights and transforming research related to these contributions into successful products and processes.

To reach these ends, the office encourages close communication between OTMIR staff and inventors. These relationships result in more effective and efficient patenting, marketing and licensing of technologies. Faculty start-up companies, for example, can license University-owned technologies.

Technology management and industry relations also involve legally protecting intellectual property while seeking income for both the University and inventor. In addition, OTMIR works to enhance industrial relations and support regional economic development — both activities which provide very real benefits to the public.

The University of Missouri will achieve national prominence in technology management and industry relations by providing an environment that fosters intellectual discovery, creative problem solving and the dissemination and application of knowledge. MU must also work to conduct programs that contribute significantly to the economic development of Missouri and the nation. At OTMIR, this means offering support services to research clientele and industry partners and actively seeking to establish national and international partnerships in research and commercialization.

How can OTMIR help? The office receives invention disclosure forms and evaluates discoveries and inventions for their novelty, utility and commercial relevance. The office manages the intellectual property and works to satisfy the reporting and compliance obligations of federal, state and industry sponsored research contracts. OTMIR staff also assist faculty members who are seeking intellectual property protection and can identify potential licensees and negotiate a variety of intellectual property-related agreements for commercially viable technologies.

To learn more, please visit OTMIR on the web at http://tmir.missouri.edu.

MU, Columbia pursue next-generation internet project

The University and the city of Columbia last year entered a new partnership that will utilize national resources to build an ultra-high-speed internet network available to homes and businesses throughout the city. The partnership, known as “Gig U: The University Community Next Generation Innovation Project,” pairs research institutions with city leaders with the goal of building a successful network that will support ingenuity, ideas and economic growth.

“We are excited about this opportunity to build the future capacity and infrastructure for a knowledge-based economy in Missouri,” said Chancellor Brady Deaton. “While we are only in the initial phases of this partnership, this new agreement could result in research grants and more companies wishing to relocate to our region, stimulating our local and state economies.”

MU and Columbia are among 30 research institutions and local communities that are participating in the project.
IPS Expenditures Up in FY 2012

Instruction and public service (IPS) activities, conducted in concert with scholarly and scientific research, comprise an integral part of the MU mission. Externally funded IPS expenditures (as distinguished from those funded internally by University sources) topped $82 million in FY 2012, an increase of more than $2 million over last year’s total. Newly awarded IPS funds, meanwhile, declined sharply. The total of $71.7 million represents a 25 percent decline from FY 2011.

As in previous years, MU Extension accounted for the largest share of externally funded IPS expenditures. Extension’s total of more than $23.9 million was its highest ever, up significantly over the previous record high set just last year. The College of Education, the School of Medicine, the College of Arts and Science and the College of Human Environmental Sciences together generated $16.9 million, or about 16 percent, of the fiscal year’s IPS funds, meanwhile, declined sharply. The total of $71.7 million represents a 25 percent decline from FY 2011.

Federal instruction and public service awards declined sharply in FY 2012. Expenditures from state sources dropped 18 percent, while nonprofit dollars gained almost 8 percent. New awards from federal agencies topped $71.7 million, or about 43 percent, of the fiscal year’s IPS funds, meanwhile, declined sharply. The total of $71.7 million represents a 25 percent decline from FY 2011.

The federal government was again the largest single sponsor of University IPS activity in FY 2012, providing some 76 percent of total expenditures and 80 percent of newly awarded funds. Expenditures from state sources dropped 18 percent, while nonprofit dollars gained almost 8 percent.

For more detailed information, including data recorded by departments within MU’s schools and colleges, please visit our Annual Report Web Query Tool. Find it online at research.missouri.edu/.

Federal IPS Award Totals Show Decline

Federal instruction and public service awards declined sharply in 2012. Expenditures from the federal government, on the other hand, showed significant gains over FY 2011 with totals exceeding last year’s record high.

IPS Expenditures By Division, Shared Credit and Collaborative Index*
The University of Missouri, established in 1839, is the oldest public research institution west of the Mississippi River. MU’s mission in research and student education is to provide enhanced opportunities and challenges in the humanities, arts, sciences and selected professional fields. MU also aspires to achieve national and international prominence for its research and educational contributions. As such, we are committed to building on our research strengths in basic and applied biological and biomedical sciences, nuclear and related physical and engineering sciences, and selected social and behavioral sciences. We will continue to strengthen our leadership role in agriculture and journalism. And because of our large enrollment of undergraduates, MU will enhance the core disciplines required for all those seeking baccalaureate degrees, giving special attention to areas such as languages and mathematical sciences that provide the necessary foundation for a truly educated citizenry.
Healthy for Life is the University of Missouri’s faculty and staff wellness program. It offers programming in physical activity, stress reduction, tobacco cessation and weight management, as part of the faculty and staff’s Total Rewards package.

**General Health**

**Faculty, Staff and Dependents Flu Clinics**

*Healthy for Life* offers flu clinics each fall, where faculty, staff and their family members (age restrictions apply), can get annual flu shots. See [www.wellness.umsystem.edu](http://www.wellness.umsystem.edu) for your area clinic dates.

**Faculty and Staff Health Screenings**

Health screenings are held each spring, where faculty and staff can get free cholesterol and blood sugar tests, blood pressure, and other assessments. Faculty and staff who are the primary subscribers to a UM Health Plan can earn a $100 incentive for participation.

**Become a Wellness Ambassador**

No experience is necessary; all that is required is enthusiasm for a healthy lifestyle and workplace. Ambassadors share information with their department and are a catalyst for a culture of health. New ambassadors are welcome to join the Million Steps pedometer program at no charge, and will receive a T-shirt as a thank you.

**Healthy for Life Presentations/Workshops**

If you have as little as 10 minutes on your staff meeting agenda, a wellness representative will speak to your department about campus wellness programs. Longer wellness workshops are also available.

**Social Media Health Messages**

*Healthy for Life* invites you to follow wellness on Twitter and Facebook.

**Twitter:**

MU: [http://twitter.com/healthy4lifemu](http://twitter.com/healthy4lifemu)  
UMKC: [http://twitter.com/healthy4lifekc](http://twitter.com/healthy4lifekc)  
Missouri S&T: [http://twitter.com/healthy4lifemst](http://twitter.com/healthy4lifemst)  
UMSL: [http://twitter.com/healthy4lifestl](http://twitter.com/healthy4lifestl)

You will need an account to get started. Once you log in to Twitter, you can go to our page and click on the “Follow” button. That’s it, easy enough!

**Facebook:**

All campuses: Healthy for Life: TE Atkins UM Wellness  
To “Like” us, you’ll need a Facebook account. You can then click on our page and choose the “Like” button and you’re done.

**Physical Activity**

**Fitness Classes/Events**

*Healthy for Life* often sponsors inexpensive, and sometimes free, fitness classes and events. Visit [www.wellness.umsystem.edu](http://www.wellness.umsystem.edu) for details.
Million Steps Pedometer Program
Challenge yourself to increase the activity in your day by purchasing a pedometer for $15 or a Fitbit Zip for $39.50. Upon completion of one million steps, get your money back, a T-shirt, and certificate. Go at your own pace – no time limit applies. Keep going to earn additional prizes for every millionth step. Family members are also welcome to enroll.

Ride to Wellness Odometer Program
Purchase an odometer for $20 (our cost) to enroll. Ride 500 miles on a bicycle or wheelchair and receive a full refund. Keep pedaling and receive prizes for every 500 miles you ride. If you have your own odometer, join for free. Open to faculty, staff and their families. Mileage from indoor cycling also counts.

Walking Groups & Trails
Walking Toolkits can help you start a walking challenge in your department. Motivate yourself and others to get moving and build camaraderie. Walking maps are available for most campuses. Volunteers are invited to lead informal weekly walking groups at the time & duration of your choice.

Stress Reduction
Meditation, Relaxation Practices and Yoga (Audio/Video)
From the Healthy for Life website, listen or download meditations, relaxation practices, and yoga (2 to 52 minutes in length). Free meditation sessions are offered on each campus; no experience necessary to attend. Interested in facilitating a meditation? Contact Dr. Lynn Rossy.

Mindfulness-Based Stress Reduction
Dr. Lynn Rossy, Healthy for Life's health psychologist, offers workshops and an 8-week program teaching tools for responding to the stresses of life with skill and creativity. Classes include instruction in formal mindfulness practices (sitting meditation, body scan, yoga) and education about stress, communication, and workplace wellness. Adult family members are invited to attend.

Tobacco Cessation
The FREE Trestle Tree® Smoking Cessation Program is offered by the University health plan to UM Choice Health Care Program members, and selected medications are available through the UM prescription drug Program. The Healthy for Life website (www.wellness.umsystem.edu) has resources for all employees, regardless of coverage. Follow the Tobacco Cessation link on the homepage.

Weight Management
Eat for Life – In Person and Online 10 week Programs and shorter workshops
Discover the benefits of this innovative approach to weight management. The 10 week class uses mind-body practices (meditation and yoga), the principles of intuitive eating, skills training and group support to guide you in making lifestyle changes that create a healthier relationship with your food, body, and mind. If you have a history of chronic dieting, have rigid rules about eating, or find yourself eating you’re stressed, bored, or unhappy, this may be the program for you. Shorter workshops are available upon request.

Tasting Mindfulness – Social Media Health Messages
Take advantage of three ways of receiving mindful eating and living tips, articles and reminders to keep you healthy throughout the week. Subscribe to a weekly blog at www.TastingMindfulness.com, “like” us on Facebook at Tasting Mindfulness, and follow us on Twitter @DrLynnRossy.
A vibrant organization dedicated to empower the Latino communities of the University of Missouri and Columbia to lead and to achieve academic, professional, and personal success.
**OUR CORE VALUES**
Commitment to serve MU Latino faculty, staff, and students and Latinos in the Columbia community.
Commitment to Latino/Hispanic heritage and culture.
Commitment to the promotion and development of Latinos’ academic, professional, and personal goals in MU and the Columbia community.
Commitment to promote Latin American and all the countries represented in this region.
Commitment to support a high level of diversity, social justice, and cultural proficiency in our campus and community.
Commitment to the internationalization of our organization and the MU campus.
Commitment to train Latinos as global citizens to lead and serve.

**MEMBERSHIP**
Membership is free and open to MU faculty, staff, students and members of the Columbia community. Become a member today! Email us at muvozlatina@missouri.edu

**MEMBERSHIP BENEFITS**
1. Stay connected with Latino academic, professional, and cultural events
2. Learn about opportunities for academic and professional development including research projects, conferences, job postings, professional workshops, etc
3. Belong to a support system of outstanding Latino scholars, professionals, and community members and receive personal mentorship

**FOLLOW US:**
MU Voz Latina
MU Voz Latina

**SHARE YOUR STORIES:**
Send them to muvozlatina@missouri.edu

**vozlatina.missouri.edu**
**Fall Fest**

Fall Fest is an annual event introducing incoming students of color to student organizations, faculty/staff, University departments, and Columbia businesses. The event features performances by the National Pan Hellenic Council (NPHC) Greek Organizations, tables about various organizations and departments, and local Columbia businesses such as barbershops, hair salons, and churches.

**Black Culture Awareness Week (BCAW)**

BCAW originated in 1992, when Columbia’s Mayor issued a proclamation designating the third week in November as Black Culture Awareness Week. The week’s events provide Mizzou students and the Columbia community insight on Black culture and history through a variety of programmatic efforts.

**Play the Part**

Play the Part, one of the staple events held during Black Culture Awareness Week, integrates music history into Black culture. Originating in 2009, Play the Part gives students a chance to perform as great entertainers of the past and present.

**Pre-Kwanzaa Celebration**

Kwanzaa, an African American holiday based on the first fruit celebrations of Africa, was created by Dr. Maulana Karenga to introduce and reinforce seven basic values of African culture: Unity, Self-determination, Collective Work and Responsibility, Cooperative Economics, Purpose, Creativity, and Faith. The holiday is officially celebrated December 26 to January 1. GOBCC staff participates in a candle-lighting ceremony while discussing the history and 7 basic values of Kwanzaa.

**Gaines/Oldham Day**

Gaines/Oldham Day honors Lloyd L. Gaines and Marion O’Fallon Oldham, two civil rights pioneers in the history of the University of Missouri. The purpose of the event is to educate students, faculty, and staff on these prominent figures, as well as, highlight notable firsts at Mizzou within the Black community.

**Black Women Rock**

Black Women Rock! models after “Black Girls Rock!” which originally aired on BET. The goal of this event is to recognize the outstanding efforts and accomplishments of Black women at the University of Missouri and the Columbia area.

**Black Arts Festival Week**

The Black Arts Festival is a week that will focus on various forms of art (music, dance, poetry/literature, theater and visual art) and the impact African Americans have had on each. Every day of the week we will focus on a specific art form. We will feature the work of performers and artists from all over the nation.

**Our Services**

- Our programs, activities and events educate, entertain and highlight the contributions of the African Diaspora.
- State of the art computer lab featuring the latest software, 24 computers, a scanner, and a laser jet printer. Our computer lab has an IT desk assistant and two study rooms.
- Three Meeting Rooms: Main Multipurpose Room, Small Multipurpose Room, Black Alumni Room.
- The GOBCC has wireless network connection to the MU server to support laptops.
- Full Kitchen complete with refrigerator, stove, and microwave.
- Our facility is available to be reserved by the public for a nominal fee. Please visit GOBCC.MISSOURI.EDU.
The Gaines/Oldham Black Culture Center (GOBCC) is dedicated to providing social and educational programs that reflect the history, heritage and culture of the African Diaspora to all students, faculty, staff and the Mid-Missouri community. Additionally, the Gaines/Oldham Black Culture Center is a willing partner with entities endeavoring to make the University of Missouri a more inclusive and welcoming environment for diverse populations through education, outreach, and collaboration. Lastly, the Gaines/Oldham Black Culture Center envisions itself as an instrument of orientation and instruction on the issues of race, politics, economics, community, art and culture of the African Diaspora.

HISTORY
In 1972 the Black Culture House was established as a haven for Black students at the University. Located on Turner Avenue, the House provided students with a setting in which they could discuss current issues, socialize, and enhance the understanding of Black culture and history. Six years later the Black Culture House relocated to 823 Virginia Ave. As the location changed so did the name. After some debate, students came to a consensus that the “Black Culture Center” was a much more dignified and formal name. Eventually the BCC was demolished as campus expanded. In 1998 a new 12,000 square foot facility opened its doors at 813 Virginia Ave. to students, faculty, staff and community members. In 2000 the building was renamed the “Gaines/Oldham Black Culture Center” after Lloyd Lionel Gaines and Marian O’Fallon Oldham. Gaines and Oldham were two prominent civil rights pioneers whose efforts led to integration in higher education.

MISSION STATEMENT
The Gaines/Oldham Black Culture Center (GOBCC) is dedicated to providing social and educational programs that reflect the history, heritage and culture of the African Diaspora to all students, faculty, staff and the Mid-Missouri community. Additionally, the Gaines/Oldham Black Culture Center is a willing partner with entities endeavoring to make the University of Missouri a more inclusive and welcoming environment for diverse populations through education, outreach, and collaboration. Lastly, the Gaines/Oldham Black Culture Center envisions itself as an instrument of orientation and instruction on the issues of race, politics, economics, community, art and culture of the African Diaspora.