Mizzou Advantage
University of Missouri

Mizzou Advantage Interdisciplinary Research Grants Up to $50,000

OPPORTUNITY: Fall and Spring (2017–2018)

The Mizzou Advantage and the Office of Research are pleased to announce a call for research proposals to support innovative, interdisciplinary, seed research funding within one or more Mizzou Advantage areas including Food for the Future, One Health/One Medicine, Sustainable Energy, and Media of the Future. We follow the NSF's definition of interdisciplinary research to be:

> "a mode of research by teams…that integrates information, data, techniques, tools, perspectives, concepts, and/or theories from two or more disciplines or bodies of specialized knowledge to advance fundamental understanding or to solve problems whose solutions are beyond the scope of a single discipline or area of research practice."

To see an overview of the outcomes of MU's investments in interdisciplinary collaboration as reported by grant recipients please visit: https://mizzouadvantage.missouri.edu/impact/

To enhance MU's ability to achieve its strategic priorities we are integrating portions of the Office of Research grant proposal/review process with Mizzou Advantage Interdisciplinary Research Grants. Specifically, the process will include voluntary networking sessions on March 6 and 7, 2017; mandatory Letters of Intent (LOI) due to the Mizzou Advantage on or

before April 7, 2017 with final determination of successful LOI's announced May 1, 2017. At that time, Mizzou Advantage will communicate final application instructions/deadlines for full proposals to successful applicants. The Research Council Committee has been charged with providing peer-reviewed evaluations of the full Mizzou Advantage Interdisciplinary Research Grant proposals. This alignment will make the entire process more predictable, transparent, efficient, and impactful for all involved. Details of this process follow below.

AWARDS

Mizzou Advantage Interdisciplinary Research Grants are awarded to support research, scholarship, and creative achievement conducted by *tenured, tenure-track and ranked non-tenure track faculty members at the level of Assistant Professor and above.* Awards are intended to support interdisciplinary efforts that have a high likelihood of securing competitive extramural funding and generating high quality peer-reviewed publications and that have identified external partners whom successful projects/teams can engage upon completion to further enhance research outcomes.

Basic Eligibility and Responsibilities

- Tenured, tenure-track and ranked non-tenure track faculty at the level of Assistant Professor and above are eligible.

- All proposals must come from teams comprised of at least one eligible Principle Investigator (PI) and one or more Co-Investigator (Co-I) who meet the above definition of interdisciplinary.

- Each PI may hold only one active Mizzou Advantage Interdisciplinary Research Grant at a time.

- The University expects the PI to remain a university employee for a minimum of one year following completion of a funded project.

- Awards are not transferable.

- Every Mizzou Advantage Interdisciplinary Research Grant comes with reporting requirements stipulated prior to the transfer of funds. Failure of the PI to maintain reporting compliance regarding outcomes of both the PI and Co-I(s) will disqualify all members of the research team from future awards until reporting compliance is restored.

APPLICATION PROCESS

Phase I: Networking

One of the challenges in building robust interdisciplinary research is growing our networks beyond those in our chosen fields. On March 6 and 7, 2017, the Mizzou Advantage will host networking sessions during which individual researchers and pre-existing/emerging research teams can present their area(s) of interest and/or research needs to campus. **The sessions are not mandatory and are not included as selection/evaluation criteria at either the LOI or full proposal level.** Details about the sessions, including the registration process, can be found at https://mizzouadvantage.missouri.edu/opportunities/irg/networking/.

We encourage research teams/individual researchers to visit with the relevant Mizzou Advantage facilitator(s) should any questions arise regarding the criteria/documents/processes listed below. The primary role of the facilitator is to assist individual faculty or teams with identifying possible new team members who may enhance the impact/interdisciplinarity of the proposed project and/or to address specific questions regarding the criteria outlined below. Facilitators also work with our partners in Advancement and others across campus in making and sustaining relationships with external collaborators/partners.

- **Carolyn Henry**, Facilitator for One Health/One Medicine: henryc@missouri.edu
- **Cerry Klein**, Facilitator for Sustainable Energy: kleinc@missouri.edu
- **Mike McKean**, Facilitator for Media of the Future: mckeanml@rjionline.org
- **Mike Gold**, Education Facilitator: goldm@missouri.edu
- **Chris Fulcher**, Facilitator for Food for the Future: fulcherc@missouri.edu

Phase II: Letters of Intent

This phase of the process is designed to identify and advance the most meritorious projects that fit within the core of The Mizzou Advantage and/campus strategic priorities for full proposal consideration. To learn more about MU's strategic plan, visit http://strategicplan.missouri.edu/.

In preparing the LOIs we encourage research teams/individual researchers to visit with the relevant Mizzou Advantage facilitator(s) should any questions arise regarding the criteria/documents listed below.

LOIs Must Include:

A. **Completed cover sheet**
   https://mizzouadvantage.missouri.edu/opportunities/irg/cover-sheets/

B. **Project summary** (not to exceed 3 single-spaced pages with standard 12-point font and 1" margins) describing the intellectual merit and broader impacts of the proposed project, as well as its connections to the Mizzou Advantage initiative. This discussion should include the overall hypothesis or goal(s), specific objectives, approach and expected outcomes of the project including, where appropriate, how this research will be leveraged by both the PI and all listed Co-Investigators for peer-reviewed publications and subsequent submissions for specific competitive extramural funding. It should also indicate possible future/current external collaborations with foundations, businesses, and/or individuals who may be interested in the research.

C. Letter of support from the PI's and all Co-Investigator's department chairs or divisional leader(s) substantiating that the project furthers the college/unit/department's strategic goals and priorities.

The following core criteria must be present and abundantly clear within the LOI. These core criteria will be used by the Mizzou Advantage Facilitators to determine if the project meets the essential standards meriting consideration of a full proposal by the Research Council Committee:

- From a team of at least two tenured, tenure-track, or ranked non-tenure track faculty members at the level of Assistant Professor or higher.

- Interdisciplinary (as defined above)

- Strong and clear connections to/across one or more of the Mizzou Advantage areas of strength (Food for the Future; Media of the Future; One Health/One Medicine; Sustainable Energy)

LOIs that meet/exceed the above basic criteria may receive additional feedback from the Mizzou Advantage Facilitators. Such recommendations are just that, recommendations. The

intent is to use the review process to build more robust and innovative teams and projects. **LOI packets, including cover pages, summaries, and letters of support, must be received by Pamela J. Cooper at cooperpj@missouri.edu no later than April 7, 2017.** A confirmation receipt will be sent once all materials have been received. All LOIs will be evaluated by May 1, 2017 and determinations communicated to applicants at that time. Deadlines for receipt of full Mizzou Advantage Interdisciplinary Research Grants to the Research Council Committee (one deadline in the fall and one deadline in the spring) will be communicated at that time as well.

PHASE III: FULL PROPOSALS

Approved LOIs will qualify the project for evaluation of a full proposal by MU Office of Research, Research Council Committee. The Mizzou Advantage will not be involved in the evaluation of full proposals. Rather, Mizzou Advantage will honor the recommendations of the Research Council and fund accordingly based upon available resources.

Applicants are encouraged to submit Mizzou Advantage proposals at least six months prior to the projected start date for their research project.

Mizzou Advantage funds cannot be used for reimbursement for items purchased before the grant account start date. The earliest a grant account can be established is the first of the month during which the grant application was approved.

It is the responsibility of the applicant to ensure that destination or project countries are not under any federal restrictions or embargoes.

FORMAT

- Applicants should keep in mind that members of the Research Council Committee represent a variety of disciplines from across the campus. *Therefore, applicants must write their proposals without excessive jargon and in a style that is clear to reviewers who may not be experts in the specified area.*

- Every electronic application must include the required cover page, completed in eFunding, and the information requested below is to be uploaded to eFunding. Please use the major organizational headings, in the order given. **Include all of the information that is requested under these headings.**

- Please indicate on the cover page which **sector(s)** your projects best fits (Behavioral, Biological, Arts & Humanities, Mathematics, Physical, or Social).

- Please indicate on the cover page which area(s) of the Mizzou Advantage the proposal best fits (One Health/One Medicine; Food for the Future; Sustainable Energy: Media of the Future

- Applications that are incomplete or exceed the page limit will be returned to the PI.

- Include the PI's name as a header in the upper right-hand corner of each page of uploaded documents.

- All applications must use a 12-point or larger font or 15 characters or less per inch, and be single-spaced with 1-inch margins. Any applications that have fonts smaller than 12-point or more than 15 characters per inch will be returned to the PI.

- All uploaded files are required to include the PI's last name as the first word in the file name. For example, instead of CV.doc, use DoeCV.doc.

- All application text should be presented in English. If you have particular words, a section of text, or a document that is not in English, please provide a translation.

- Sections II, III, IV, and Research Compliance listed below need to be uploaded and named as separate files in eFunding. See below for the code categories.

I.   **Cover Page with Required Signature**
     PI: To create a cover page, log into eFunding (https://research.missouri.edu/efunding/) using your MU e-mail user name and password. Click "My Projects," click "Create New Project or Report," and then click "Mizzou Advantage Interdisciplinary Research Proposal." As you complete the sections called Applicants, Proposal Information, Compliance, Abstract and My Account, the system begins to create a cover page for you. To print the cover page after you have completed the above sections, go to the main My Project page and find the Action column on the far right side of the screen that has a pull down menu. One of the options is "Print Cover Page." You can select Print Cover Page at any time before or after you submit the proposal. You will find a signature line on the cover page you print out. The cover page needs to be signed, scanned, and e-mailed to melissa@missouri.edu. We can also accept cover pages with electronic signatures. We will no longer accept hard (paper) copies of the signed cover page.

     Cover pages with the PI's signature and the signatures of your chair and dean can be scanned and emailed to melissa@missouri.edu as one email or multiple emails. An electronic copy of the full proposal must be given to applicable department chairs and/or divisional deans.

Compliance: If your project does not have any research compliance issues, mark the **not applicable** box as "yes" and the others choices as "no". If your project does have research compliance issues, please check the appropriate box(es) and see the compliance section below for what information should be upload to eFunding.

My Account: The *My Account* section can be found by clicking *My Account* after logging into eFunding. There are two items of information that you can edit in the My Account section. They are Nickname and *Date Employed* at MU. To edit, click "My Account," enter the correct information in the boxes and click "Save." The rest of the *My Account* section is downloaded from MU's Human Resources PeopleSoft information database. To edit the PeopleSoft information, first contact your department Human Resources person and request that she/he make the appropriate edits in PeopleSoft. After PeopleSoft editing has been completed, send an e-mail to melissa@missouri.edu and request that eFunding be synchronized with PeopleSoft.

II.   **Detailed Plan of Project**
(Maximum 7 pages for items A. – G.; no page limits for items H & I. This section needs to be coded as Detailed Plan of Project.) The items can be uploaded as separate files or as a single file. This information will need to be uploaded to eFunding as a PDF.)

The plan should include the following information:

A. Overall goals and objectives or specific aims

B. Evidence of interdisciplinarity (as defined on page 1) and collaborative nature of the proposed project

C. Explanation of specific ties to one or more Mizzou Advantage areas of strength (Food for the Future; Media of the Future; One Health/One Medicine; Sustainable Energy)

D. Relevant background and literature

E. Significance of project

F. Methods and procedures

G. Post-award opportunities:

- How will this research be leveraged by the PI and the Co-I(s) for peer-reviewed publications?

- How will this research be leveraged by all PI and the Co-I(s) in pursuit of specific competitive extramural funding?

       o Explanation of possible current/future external collaborations with foundations, the private sector, and/or individuals who may be interested in the project and its implications.

H. Citations

I. Letters of support. Letters of support should be included as a separate document, not an Appendix (e.g., MU and/or non-MU collaborators, school districts, state agencies, archives, or outside institutions).

III. **Biographical Sketch/Curriculum Vitae**
(Include all of the information below for the PI and all Co-Is listed on the cover page, maximum 2 pages per applicant. This section needs to be coded as Biographical Sketch/Curriculum Vitae. Each Biographical Sketch/Curriculum Vitae can be uploaded as separate files or as one file. This information will need to be uploaded to eFunding as a PDF.)

Include the following types of information:

A. Education. Indicate institution, degrees, and dates.

B. Employment history. Include postdoctoral research and/or professional experience.

C. List of grants or fellowships. Indicate grantor, inclusive dates, and amount of each award. List here those grants not mentioned in the "Internal and External Support" section.

D. List publications most closely related to the proposed project and other significant publications: include titles and all authors. Indicate refereed journals, juried shows, etc. with an asterisk (*). Summarize your productivity by indicating the total number of refereed and non-refereed journal articles, books, book chapters, invited papers, invited performances, juried shows, etc.

IV. **Internal and External Support**

A. Internal support.
List all *current* and pending internal funds, including start-up funds, Research Board, Research Council, Instructional Design and Development Grant, Faculty Development Leave, Experiment Station and special programmatic funds.

    1. Provide source of support, project title, dates of entire project period, award amount, and extent of overlap with the proposed project.

2. Describe what portion of internal support funds are encumbered/unencumbered.

3. Provide information about any other funding sources available to support the proposed project, including any personal sources that will be used.

B. External support.
List all current and pending external funds. Provide source of support, project title, dates of entire project period, award amount, and extent of overlap with the proposed project.

V. **Budget & Previous Support**
(Maximum 3 pages. This section needs to be coded as Budget.) This information will need to be uploaded to eFunding as a PDF.

Teams may request up to $50,000. Allowable expenses are listed in the "Budget Categories" section of these guidelines. Round all budget items to the nearest dollar. If applicants currently have funding for a similar project through outside agencies, a detailed explanation must be given if requesting funds for similar items from the Research Council. Indicate if the department or division will share in the cost of the research.

Budget Categories—Mizzou Advantage Interdisciplinary Research Grants may be used for the following categories. Each item in the requested budget should be *carefully explained* and *fully justified*. The Research Council Committee will review the budget and may recommend a reduction if the need for each requested item, or its cost, is not clearly established.

A. **Personnel.** Funds for other personnel must be justified as an integral and essential component of the proposed project. Generally, such support will be limited to those activities in which the faculty member either does not have the appropriate expertise or for other reasons could not reasonably be expected to perform the task. In the past, types of assistance that typically have been funded include routine laboratory and field work, data entry, and computer programming. If requesting funds to hire a person outside of the university, please contact Business Services. Proposals submitted by faculty members for projects that involve undergraduate and graduate student participation as research assistants are eligible. Mizzou Advantage funds cannot be used for financial aid, tuition fee waivers, and student health insurance. Mizzou Advantage funds **will *not* pay** faculty salary or bridge salary.

B. **Equipment.** Proposals for equipment to support specific research activities will be considered. The applicant should establish that such equipment is not reasonably available for the proposed project elsewhere and is critical to completion of the project.

C. **Computing.** Funding requests for computer software will be considered. Requests for computers *require special justification and must be project specific*. (The expectation is that other funds will generally be used to purchase computers.)

D. **Travel.** The Research Council Committee will consider requests for foreign and domestic travel to the primary destination for the conduct of research, scholarly and creative activities. Awards normally are limited to lowest round-trip airfare. The Research Council Committee will also consider requests for funds for local travel. Requests for lodging and meal expense reimbursement at a modest level will be considered. Applicants should consult university policy (http://www.umsystem.edu/ums/fa/management/travel/) in developing budget requests for travel expenses. Travel funding for participation in professional meetings, invited performances, or exhibitions is not covered by this program and cannot be requested here.

E. **Other Expenses.** Consumable supplies, permission fees, publication costs, copying costs, participant fees, and animal use costs will also be considered. Applicants are strongly encouraged to provide evidence that materials will be obtained at the lowest possible prices. These funds are not to be used to support campus or local conferences, meetings or symposiums. Book indexing costs are not supported. If incentives are included in your budget, please justify the need for incentives and for the level of incentive funding requested.

F. **Other Sources of Funding:** Does the completion of this project depend on funds from additional sources beyond Mizzou Advantage? If so, explain how the project will be completed in the event that these anticipated additional funds are not secured.

These awards are not to be used to fund expenses for research collaborators or Co-I(s) with external institutional affiliations. Mizzou Advantage research funding *is NOT awarded for* the preparation of textbooks, preparation of a course or portion of a course, or projects of an explicitly commercial nature.

VI. **Appendix.** *(Use only if relevant; reviewers are not required to review the Appendix). This section needs to be coded as Appendix. If applicable, this information will need to be uploaded to eFunding as a PDF.*

If complex methodology, equations, statistical analysis, or artwork is the focus of the project, up to 2 additional documents may be included as an appendix. This must be placed at the end of the application. Do not use the appendix to circumvent the page limitations of the research plan. It is to the applicant's advantage to use the appendix judiciously, because reviewers are not required to review the appendix or refer to materials in the appendix. An application must be able to stand on its own without the appendix.

RESEARCH COMPLIANCE

(This section needs to be coded as Compliance Paperwork.) If applicable, this information will need to be uploaded to eFunding as a PDF.

All research must be conducted in compliance with federal and university regulations. We do NOT need the compliance letter(s) or e-mail(s) at the time of the application submission. **Funds will not be released until notice of compliance approval is received in the Office of Research.** A compliance approval letter or e-mail must be either e-mailed to melissa@missouri.edu (after award is made) or uploaded to eFunding (before award is made).

Application forms for the following committees can be found on the Office of Research website: https://research.missouri.edu/compliance/

- **Human Subjects.** Application information and forms may be obtained from the website listed above, from the Campus IRB coordinator (882-9585), or from the Health Sciences IRB coordinator (882-3181).

- **Animal Protocols.** Application information and forms may be obtained from the website listed above or from the ACUC Coordinator (884-6758).

- **Export Controls.** Any actual or deemed export of certain technology may be restricted by the Department of State or the Department of Commerce. Any involvement of non-U.S. citizens with restricted technology should be referred to the MU Office of Research (882-9500).

Application forms for the following committees can be found on the Environmental Health and Safety website: http://ehs.missouri.edu/

- **Hazardous Materials.** Authorization information may be obtained from the website listed above or from MU Office of Environmental Health and Safety (882-7018).

- **MU Research Reactor.** Authorization information may be obtained from the website listed above or from the Radiation Safety Advisor (882-5226).

- **Radiation Safety.** Authorization information may be obtained from the Radiation Safety Coordinator (882-7221).

- **rDNA/Biosafety Protocols.** Authorization information may be obtained from the website listed above or from the rDNA/Biosafety Coordinator (882-7923). Note that possession of Select Agents is regulated through the MU Biosafety Committee.

Evaluation and Administration

RESEARCH COUNCIL COMMITTEE MEMBERS

Members of the Research Council Committee (see https://research.missouri.edu/internal/researchcouncil), who are appointed by the Vice Chancellor for Research, Graduate Studies, and Economic Development, will review Mizzou Advantage Interdisciplinary Research Grant proposals. A list of current members can be found at https://research.missouri.edu/internal/files/RCCommittee.pdf. Contact with current Council members regarding your application during its preparation or before or after review is inappropriate, due to the potential for and the appearance of a conflict of interest. The Research Council Committee encourages discussion of the Research Council grant program and guidance on the specific proposal with *former* members of the Council. A list of *former* members who have served in the last three years is available on the web at https://research.missouri.edu/internal/files/Former_Members.pdf. If you have questions or desire guidance in the preparation of a proposal, please send an e-mail to melissa@missouri.edu.

CRITERIA USED IN THE REVIEW

In the review process, the Council seeks to identify and support the most worthy applications, regardless of discipline or faculty rank. *PIs may hold only one Mizzou Advantage research grant at a time*. The Research Council Committee encourages cost matches from other sources, including divisions, departments, RIF accounts, or external funding.

All applications are reviewed in accord with the following criteria:

- **Goals/Objectives.** Is the overall goal of the project well-conceived? Is there a clearly stated hypothesis? Are the specific objectives clearly stated?

- **Interdisciplinarity.** Strength of interdisciplinarity (as defined on page 1) and collaborative nature of the proposed project.

- **Mizzou Advantage Connection.** Strength of specific ties to Mizzou Advantage areas of strength (Food for the Future; Media of the Future; One Health/One Medicine; Sustainable Energy).

- **Intrinsic Merit.** (Significance, originality and creativity) If the project is successful, will it result in an important, original contribution?

- **Design & Procedures.** Is the design appropriate to achieve the stated goals? Are the procedures clearly stated? Is the approach sound and innovative?

- **Feasibility.** Is the project likely to succeed? Can the project be completed in the time allowed? Are the necessary support resources available? Are letters of support included (e.g., MU collaborators, school districts, state agencies, archives, non-MU collaborators and/or outside institutions)?

- **Qualifications.** Do the applicants have training and demonstrated expertise in the areas of the proposed project?

- **Productivity.** Have the applicants demonstrated productivity in publications, presentations, and creative works? What products have resulted from past internal support?

- **Budget Evaluation.** Is the budget adequate and appropriate?

- **Publications.** Likelihood that this research will be leveraged by the PI and the Co-I(s) for high quality peer-reviewed publications.

- **Extramural Funding.** Potential for proposed project to secure specific competitive extramural funding.

- **Future External Collaborators.** Strength of potential external collaborations with foundations, the private sector, and/or individuals who may be interested in the project and its implications.

ADMINISTRATION OF AWARDS

Within reasonable bounds, projects approved for funding by Mizzou Advantage are to be completed as described in the original application. If the project extends beyond the duration of the project period, a formal request for an extension must be e-mailed to Pamela J. Cooper at cooperpj@missouri.edu **at least 30 days prior** to the termination date of the project. Only a single, one-year extension will be allowed. If significant changes in the research project are contemplated, they should be described in writing to the Director of the Mizzou Advantage, who in consultation with the Faculty Fellow for the Office of Research will decide whether to approve the changes or resubmit the proposal to the Council as a whole.

At the end of the project period, all unspent funds will revert to the Mizzou Advantage if an extension is not granted. Funds not used at the end of the extension will revert to the Mizzou Advantage.

RESUBMISSION OF MIZZOU ADVANTAGE INTERDISCIPLINARY RESEARCH GRANTS

If your proposal is not recommended for funding you have the option of resubmitting a revised proposal to another Mizzou Advantage Interdisciplinary research deadline. However, there is a limit of one resubmission for a given project within a two-year period.

There is one additional requirement for a resubmission (in addition to the proposal). We ask that you also include a statement (2-page limit) with your resubmission that specifically addresses the comments of the reviewers and how the revised proposal reflects your consideration of those comments. The applicant should not only include a response statement; she/he should also edit the Detailed Plan of Project accordingly. In addition, while the request for a resubmission is promising, it should be emphasized that this does not guarantee eventual approval or award.

After an application and a revised resubmission of that application have been denied funding, any *subsequent* application cannot be a revision of the previously submitted proposal; for example, it is not sufficient to merely change portions of the aims or methods and re-submit the proposal. In other words, if a proposal has been submitted two times for a Mizzou Advantage Interdisciplinary Research Grant and not funded, it cannot be revised and re-submitted. The Research Council recognizes that for many PIs, multiple projects in a research program may bear some similarities to one another. However, a new proposal must differ substantially from previously unfunded proposals. If the new proposal does overlap with a previously unfunded proposal, the PI is asked to include in the new

application a discussion of the nature and extent of overlap in order to support the new application's substantial difference.

To submit a resubmission in eFunding you will need to complete a new submission and upload the statement mentioned above. The statement needs to be coded in eFunding as **Response to Reviewers** (Resubmission only).