Deans, Assoc. Deans for Research, Directors, and Department Heads:
Please forward this information to the appropriate faculty immediately.

Institutional Limit on Proposal Submissions

TOWARDS A LEADERSHIP-CLASS COMPUTING FACILITY – PHASE I


ORED Preproposa Deadline: Friday, June 2, 2017
Letter of Intent Required: Friday, July 14, 2017
NSF Full Proposal Deadline: Monday, Nov. 20, 2017

LIMITED SUBMISSION: One (1) PER INSTITUTION

Below is information about the National Science Foundation (NSF) for the Towards a Leadership-Class Computing Facility – Phase I proposal for 2017 (NSF 17-558). Mississippi Arts Commission (MAC) grant programs for 2017. NSF limits the number of proposals an organization can submit, as described above. Therefore, if the number of proposals exceeds that limit, an internal review will be conducted to determine which proposal(s) will be submitted from Mississippi State University.

If you are interested in submitting a proposal on, please include the information listed below and submit by **5:00 p.m. Friday, June 2, 2017** to the Office of Research and Economic Development (ORED), electronically to Dr. Teresa Gammill at tgammill@research.msstate.edu and copied to Jessica Northcutt at jnorthcutt@research.msstate.edu in the ORED office and copy the Associate Dean for Research (ADR) in our college:

All preproposals must include:
1. Title of proposal to NSF
2. Deadline of NSF proposal
3. PI and Co-PIs with title and unit affiliation
4. Abbreviated vita of PI
5. Partner institutions/industries/national labs (if any)
6. Indicate if this is a resubmission – If so include copies of panel summary and all reviews
7. Three- four detailed paragraphs providing a brief, but detailed description of the proposed activities.
Based upon responses, if the number of preproposals exceed the institutional/college limit, a committee of faculty members will screen applications and select the nominee(s) to represent the University.

**Synopsis of Program:**

NSF invites proposals for the acquisition and deployment of a High Performance Computing (HPC) system, called the Phase 1 system, with the option of a possible future upgrade to a leadership-class computing facility. The Phase 1 system will serve two important and complementary purposes:

1. It will serve as a robust, well-balanced, and forward-looking computational asset for a broad range of research topics for which advances in fundamental understanding require the most extreme computational and data analysis capabilities; and
2. It will serve as an evaluation platform for testing and demonstrating the feasibility of an upgrade to a leadership-class facility five years following deployment.

A competitive proposal in response to this solicitation will have the following five characteristics:

1. A detailed acquisition plan for deploying a reliable and well-balanced HPC system with at least two- to three-fold time-to-solution performance improvement over the current state of the art, the University of Illinois at Urbana-Champaign's (UIUC) Blue Waters system, for a broad range of existing and emerging computational and data intensive applications;
2. A thorough operations plan for the Phase 1 system to ensure that it will serve as an effective computational tool for the broad scientific and engineering community, and for the Nation at large;
3. A detailed three- to five-year project plan for scientific and technical evaluation of the Phase 1 system that will lead to an upgrade design of a leadership-class system, called the Phase 2 system, as well as the physical facility that will host it: the Phase 2 system is expected to have a ten-fold or more time-to-solution performance improvement over the Phase 1 system;
4. Clear and compelling science and engineering use cases, as well as detailed strategic project goals for a leadership-class computing facility; and
5. A persuasive articulation of educational and industry outreach, and the achievement of other broader societal impact goals, in the long-term strategic plan for the leadership-class computing facility.

Note that the award of a Phase 1 system does not imply any commitment beyond support for beginning the initial planning process for a leadership-class computing facility. The facility planning process may be terminated at any time if satisfactory progress is not demonstrated through annual reviews.
**Anticipated Type of Award:** Cooperative Agreement

**Estimated Number of Awards:** 1

**Anticipated Funding Amount:** $60,000,000

A total of $60,000,000 in FY 2018 will be used to fund one award, subject to the availability of funds. At least 95% of the proposal amount should be for the system acquisition cost.

Following system acceptance, user support and operating costs are *expected* to be an additional 20% of the acquisition cost annually and, if approved, are anticipated to be made available as a separate funding action. Should the proposed resource require *additional* user and operating funds, an additional 5% of the acquisition cost can be requested but the proposal must provide strong justification for such a request. Again, if approved, these costs will be provided as a separate funding action.

Up to $2,000,000 in additional funds are anticipated to be available in FY 2019 as a separate funding action for the planning activities associated with the *conceptual design phase for Phase 2 of the award*.

Note that this solicitation requests proposals for the acquisition and operation of a Phase 1 system as well as a project plan for the design of a potential upgrade or replacement to a leadership-class computing facility at the end of the five-year deployment period, subject to the availability of funds. Support for subsequent *preliminary design* and *final design* phases for Phase 2 will be provided in separate funding actions.