Internal Selection Procedures

for

2012 ORAU/ORNL High Performance Computing (HPC) Grant Program

**Summary:** Oak Ridge Associated Universities (ORAU) has partnered with the Oak Ridge National Laboratory (ORNL) to provide opportunities for meaningful faculty and student engagement with ORNL’s leadership-class computing capabilities through the ORAU/ORNL High-Performance Computing (HPC) Grant Program. This is a competitive grant program managed and funded by ORAU and open only to ORAU’s member institutions, including UAHuntsville. Each grant awarded to a faculty member provides potential funding of up to $75,000 ($25,000 per year for up to three years). The goals of the joint ORAU/ORNL HPC Program include:

- Provide the opportunity for faculty to create or expand collaborative research with ORNL in scientific areas of discovery requiring HPC capabilities; and
- Provide ORAU member institutions the opportunity to create a strategic partnership with ORNL through alignment of faculty proposals with ORNL’s science agenda; and
- Enhance the development of the future workforce in scientific discovery through computing by providing real-world experiences for students.

The ORNL 2012 research projects are aligned with ORNL’s major, leadership positions in Neutron Science & Technology, Computational Science and Engineering, Advanced Materials, and Nuclear Science and Engineering. The joint HPC proposals should focus on filling gaps and addressing opportunities in support of the Laboratory’s Science & Technology Laboratory Agenda in the following areas:

(1) **Scientific Discovery and Innovation** – ORNL’s “transformational” outcomes for their Scientific Discovery and Innovation thrust area centers on high impact types of outcomes. ORNL has modernized itself and recruited some of the world’s top scientific talent. Each year, ORNL updates the Laboratory Plan to communicate to DOE the status of the Laboratory’s core capabilities and the focus of major S&T initiatives. Therefore, the lab is looking for proposals that fill the gaps and address opportunities in their S&T agenda and other emerging research priorities aimed to extend their capabilities and advance outcomes and achievement in Grand Challenge Science that have a high potential for enhancing ORNL’s visibility and prestige through high-impact publications and innovative technologies. Examples include: Biofuels and Byproducts, Climate Change Science, Nuclear Physics, and Quantum S&T.

(2) **Clean Energy Science and Technology** – advance research in development, demonstration, and deployment of clean energy technologies, such as Fission Energy Systems; Fusion Energy S&T, and Sustainable Transportation.

(3) **Global Security Science and Technology** – strengthen and apply core capabilities in service of global security missions, including Energy Infrastructure Cyber Protection; Forensic Sciences; and Science for National Defense and Homeland Security.

**Proposal Limitations:** Only one proposal per ORAU member institution may be submitted.

**Selection Process:** Should more than one NOI be received from across the University, they will be reviewed by a process established by the Office of the Vice President for Research (OVPR) in consultation with the Provost. The OVPR will notify each applicant whether or not their proposal has been selected to move forward and represent the University.
Proposal Schedule:  
Internal NOI due to OSP on 7 October 2011, 5:00 p.m. CDT  
OVPR Notification of NOI selected to move forward by 11 October  
Proposal due to OSP on 26 October 2011, by 11:00 a.m. CDT  
Proposal due to ORAU 31 October 2011, by 11:00 a.m. CDT  

Direct any questions about the internal NOI preparation or process to your OSP Contract Administrator.

NOI Format and Content:  
Proposal pages should have at least 1” margins all around, and use no smaller than an 11-point font for the text. Tables and figures are exempt from the 11-point font requirement, but must be clearly legible.

Number of NOI copies:  Submit original and 5 copies

NOI Contents:

1.  Cover Page:   
   a.  Include “2012 ORAU/ORNL High Performance Computing”  
   b.  Project title should convey the primary purpose of the proposal.  
   c.  Names, departments/centers, campus address and email address for each PI, Co-I, and key personnel proposed.  
   d.  List of other partnering institutions and entities.  
   e.  Name of ORNL Partner (see Section 7.1 and 8)

2.  Executive Summary: (Limit: 2 pages double-spaced) Describe the concept of the proposed HPC project and a summary of the project description as outlined below.

3.  Project Description\(^1\) (Limit: 6 pages, double-spaced) Please include in this section the following information, each in its own subsection with the following headings:

   Subsection 3.a. Project Objectives

   Subsection 3.b. Scientific Merit
   - Scientific significance  
   - Potential to develop or expand faculty member’s research program  
   - Alignment with ORNL’s Research Projects requiring HPC capabilities and a need for ORNL staff collaboration  

   Subsection 3.c. Faculty-student approach
   - Describe the faculty-student team who would spend some time during the summer of each award period in working with the LDRD PI. You can mention past history as examples, but briefly describe your plans during the actual award period – 2012-2014.

4.  One to two-page bio for each PI, Co-I and key personnel proposed.

\(^1\) See Sections 7.1 and 7.4 of the ORAU/ORNL solicitation for more information