2016 Center for Advanced Energy Studies (CAES) – LDRD

Call for Expressions of Interest

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Summary:
Worldwide, energy demand is growing at unprecedented rates alongside increasing concerns for the environmental consequences and security implications of energy production and consumption. The new energy paradigm calls for increased energy production through the improvement of existing energy technologies and the development of new ones, as well as an understanding of the societal policy issues required for their implementation. The Center for Advanced Energy Studies (CAES), a strategic collaboration between Boise State University, Idaho National Laboratory, Idaho State University, University of Idaho, and University of Wyoming envisions the acceleration of the nation’s transformation to sustainable energy self-reliance through collaborative research. The CAES research agenda is designed to deliver innovative, cost-effective, credible research that complements the partners’ portfolios and anticipates and exceeds stakeholder needs. This agenda is being implemented to provide the laboratory, the state, and the nation with: 1) well educated enthusiastic workers, 2) enhanced regional and national industrial relevance, and 3) strong research and development capabilities that lead to national prominence. One page Expressions of Interest white papers are being solicited at this time and will be due by November 16, 2015.

The CAES R&D agenda includes seven Core Research Capabilities coupled with three Research Initiatives that were formulated and are guided by a systematic selection and review process to ensure that each contributes to CAES mission accomplishment and adds stakeholder value.

The Core Research Capabilities include:

Nuclear Energy Science & Engineering
Materials Science and Engineering
Energy System Design and Analysis
Fossil Carbon Conversion
Geological Systems & Applications
Environment & Res. Sustainability
Energy Policy

The Research Initiatives are shorter term targeted efforts that address specific clients and opportunities and include:
FORGE - Frontier Observatory for Research in Geothermal Energy
http://snakerivergeothermal.org/
R4-MDF – Reduce, Reuse, Recycle and Recover Manufacturing Demonstration Facility
Fossil Conversion Coal/Carbon Engineering

In order to expand its member institutions’ research capabilities, CAES, through the INL Laboratory Directed Research and Development (LDRD) program, is investing up to $1 million annually (currently about $600K) to invest in collaborative research projects that build capability and have high potential to lead to new extramurally funded joint research. We expect that any LDRD funding will be leveraged with funding from State CAES investment funds, industry, etc. CAES has strong interest in formally partnering on LDRD proposals that are jointly funded by both CAES and another INL mission organization. To fulfill this strategy for Fiscal Year 2016, CAES is soliciting proposals for two expected LDRD awards in the Core Capabilities and/or the Research Initiatives areas. To qualify as a CAES proposal it is requisite that each proposal must have the involvement of at least two CAES associated institutions.

Expected funding for the proposals is in the $200K to $300K per year range, with a three year maximum, focused on national priorities with high commercial potential that engage CAES PIs shoulder-to-shoulder with university researchers and students and industry. Successful proposals may include co-funding by other INL mission areas that match the CAES investment.

CAES Proposal Scoring Criteria are listed below:

- **Quality** - of science and or engineering Weight: 30
- **Collaboration** - Creation of new industry and academic partnerships and collaborations that will increase opportunities for CAES programs to grow. Weight: 15
- **Impact** - Degree to which the proposed research will develop new capabilities that are critical to the success of CAES mission. Weight: 15
- **Leverage** - Alignment of the proposed research with the strategic directions of INL and CAES missions. Weight: 15
- **Program Development** - Potential for the proposed research to result in the development of new, direct funded programs at CAES. Weight: 10
- **Student Involvement** – Direct involvement of student(s) from CAES institutions. Weight: 5
- **Research Plan** - Appropriateness of the budgeting, scheduling, and staffing of resources relative to expected value of the research. Weight: 10

Schedule:
- 10/20/2015  Call for Expressions of Interest
- 11/16/2015  1-page Expressions of Interest due to Eric Peterson
- 11/30/2015  Full Proposal invitations out to PIs
- 01/10/2016  Review of proposals completed
- 01/31/2016  Awards announced