FUNDING OPPORTUNITY ANNOUNCEMENT

DOE TRAINEESHIP IN ROBOTICS

Funding Opportunity Announcement (FOA) Number: DE-FOA-0001374
Announcement Type: Initial
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<table>
<thead>
<tr>
<th>FOA Issue Date:</th>
<th>8/04/2015</th>
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<tbody>
<tr>
<td>Submission Deadline for Letter of Intent:</td>
<td>8/21/2015, 5:00pm ET</td>
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<tr>
<td>Submission Deadline for Full Applications:</td>
<td>9/30/2015, 5:00pm ET</td>
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<tr>
<td>Expected Date for EM Selection Notifications:</td>
<td>11/30/2015, 5:00pm ET</td>
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<tr>
<td>Expected Timeframe for Award Negotiations</td>
<td>December - January</td>
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## EXECUTIVE SUMMARY

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<tr>
<th>Letters of Intent Means of Submission</th>
<th>Letters of Intent must be submitted via email to Jeremy R. Germann at <a href="mailto:germanjr@id.doe.gov">germanjr@id.doe.gov</a> by 08/21/2015. (Letters of Intent see FOA Section IV B. 1)</th>
</tr>
</thead>
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<tr>
<td>Full Applications Means of Submission</td>
<td>Full Applications must be submitted through Grants.gov. (See FOA Section IV A.)</td>
</tr>
<tr>
<td>Total Amount to be Awarded</td>
<td>$10M subject to the availability of appropriations and congressional direction. (See FOA Section II B.)</td>
</tr>
<tr>
<td>Average Award Amount</td>
<td>EM anticipates making awards in the $1 million per year range, with a five-year award not to exceed $5.0 million in total Federal funding. (See FOA Section II C. &amp; E.)</td>
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<tr>
<td>Types of Funding Agreements</td>
<td>Cooperative Agreement (See FOA Section II A.)</td>
</tr>
<tr>
<td>Period of Performance</td>
<td>60 months (five years) (See FOA Section II F.)</td>
</tr>
<tr>
<td>Eligible Applicants</td>
<td>Awards are restricted to U.S. colleges and universities with graduate programs of study in Science, Technology, Engineering and Mathematics that support robotics. (See FOA Section III)</td>
</tr>
<tr>
<td>Cost Share Requirement</td>
<td>Applicants are encouraged, but not required to contribute cost share under this FOA. (See FOA Section III B.)</td>
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<tr>
<td>Application Forms</td>
<td>Required forms and templates for Full Applications are available at Grants.gov. (See FOA Section IV A.)</td>
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<tr>
<td>FOA Summary</td>
<td>The purpose of this FOA is to create a DOE funded Graduate Robotics Engineering Traineeship Program that supports university-led traineeships that strategically addresses workforce training needs in the area of robotics. (See FOA Section I)</td>
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Section I - FUNDING OPPORTUNITY DESCRIPTION

Traineeship in STEM
Robotics

US Department of Energy
Office of Environmental Management

Description

The purpose of this Funding Opportunity Announcement (FOA) is to award one or more cooperative agreements (anticipated to be for a term of up to five years) to accredited United States (U.S.) Colleges and Universities (hereafter referred to as “Universities”) to train graduate students in specific disciplines or sub-disciplines aligned with U.S. Department of Energy (DOE) science, technology, engineering and mathematics (STEM) workforce needs in the area of Robotics, particularly as they apply to the mission of DOE’s Office of Environmental Management (EM). Robotics engineers with education and advanced degrees in hardware, software, and integration of robotics are needed to enable the design, manufacturing, and deployment of advanced radiation robotics. This DOE Traineeship program will support innovative proposals for graduate level training that leverage DOE assets and capabilities and strategic partnerships, and address emerging needs in graduate training to enable preparedness for STEM careers beyond those in academia.

Recent accidents and off-normal events world-wide and at the Department of Energy’s Office of Environmental Management facilities have highlighted the need for robotics and semi-autonomous systems. Events at Japan’s Fukushima Nuclear Power Plant, unexpected occurrences such as the unknown buildup of material in the annulus of Hanford’s double sheet tank AY-102, salt haul truck fire at WIPP, and ruptured TRU drum at WIPP, as well as standard decommissioning of highly contaminated areas, are just some of the examples of where robotics and semi-autonomous systems are required to accomplish safe and cost effective work. Critical mission execution needs include remote access, characterization, monitoring and radiation mapping of both small confined space and large areas such as high level waste tanks, black cells, hot cells and gloveboxes across the DOE complex; and removal of asbestos. Robotic access is needed in areas and spaces within nuclear, chemical, and other high-hazard facilities that are: inaccessible; hard to reach; limited by size and configuration; inhabitable (due to poor air quality or extreme conditions); unsafe (due to the presence of contaminants or toxins or structurally unsound); or unsuitable direct entry by workers. Tasks that need to be performed include: monitoring, measuring, sampling, surveying, imaging, and other characterization and investigative tasks, as well as work tasks such as cutting, dismantlement, decontamination, repair, replacement, and surveillance.

DOE has mission-specific workforce needs in STEM fields and a responsibility to support the training of the next generation of STEM professionals who will serve that mission. The complex nature of the scientific and technical work supported by DOE and carried out
by the DOE laboratories, colleges and universities, and the private sector generally requires advanced graduate level training. Historically, the DOE’s primary mechanism for supporting the training of graduate students has been through the inclusion in standard research awards to universities and DOE laboratories. This FOA will establish DOE-sponsored University-led traineeships as a mechanism for graduate-level training critical to DOE mission-driven workforce needs. This will be accomplished through a focused academic graduate program that delivers unique, innovative curriculum, coupled with a rigorous thesis or dissertation research requirement, in the desired DOE-relevant scientific or technical discipline(s). The DOE-sponsored University-led traineeships will strategically address identified STEM workforce training needs in the area of Robotics as they apply to: nuclear environmental remediation; radioactive waste retrieval, treatment, processing, storage, transportation, and disposal; stewardship of spent nuclear fuel and special nuclear materials; nuclear facility and infrastructure operations, maintenance and sustainment; facility/infrastructure deactivation and decommissioning; occupational (worker) safety; industrial and nuclear facility safety; and other activities related to the handling and management of high-hazard, high-consequence materials and waste.

Individual Universities may apply or a consortium of Universities may apply. Universities awarded cooperative agreements (CA) as a result of this FOA will receive and administer traineeship funding awarded by the DOE-EM to selected students who will be attending their Universities.

These CAs will allow students from recipient Universities to apply for DOE-EM traineeships through separate competitive applications issued, reviewed and selected by the University. Cooperative agreement(s) issued as a result of this FOA will provide a vehicle for the traineeship funding to be transferred to the Universities and establishes the allowable costs for the program. These will provide funding to the Universities to establish and manage the DOE-EM Robotics Traineeship Program. DOE-EM traineeship funding is provided for the competitive recruitment and selection of trainees, cost for the actual training and experiential learning for the students, including stipends and expenses incurred for related travel during traineeship activities. DOE-EM traineeship funding is provided for the preparation and production of academic and professional reports, publications in professional journals, papers and posters for professional conferences, and other DOE-EM designated events and activities. The traineeships are targeted to support two years of training and experiential learning for a graduate student pursuing a terminal Master’s degree or a Ph.D. degree in Robotics or closely-related STEM areas at Universities geographically located in the U.S.

One of the DOE-EM’s mission activities is to lead the DOE investment in the development and exploration of advanced science and technology. DOE-EM promotes environmental management as a resource capable of meeting the Nation’s energy, environmental, and national security needs by resolving scientific, technical, and regulatory challenges through research, development, and demonstration.

For the purpose of this FOA, Robotics refers to the study, science and engineering of technologies associated with the theory, design, fabrication, testing, and application of mechanical devices and systems capable of performing a variety of investigative or
manipulative tasks (1) as directed by human command or control or (2) according to pre-determined or programmed instructions.

DOE-EM is placing emphasis on the application of Robotics for: (1) handling of high-hazard, high-consequence materials and waste, (2) performing worker/operator tasks that are dirty (contaminated, toxic), dull (routine, labor-intensive, repetitive), and dangerous (pose significant occupational hazards); (3) easing the performance of worker/operator tasks that are physically demanding on or stressful to human body; (4) performing tasks that are beyond human abilities; (5) improving the ability to respond to and recover from unplanned events or operational emergencies; and (6) improving the safety, quality, efficiency, and productivity of facility operations.

The objectives of DOE-EM’s Traineeship in Robotics are to support the training of the next generation of STEM professionals at Universities through the following objectives:

- Advance the DOE mission by advancing specific STEM workforce competencies required for the DOE’s unique mission to ensure America’s security and prosperity by addressing its science, energy, environmental, and robotic challenges;
- Address priority DOE technical workforce needs and identified gaps by advancing those critical STEM disciplines and competencies specifically relevant to the DOE’s mission where other development programs do not exist or where DOE-relevant applications are not being leveraged to support specific DOE mission responsibilities.

Example topics and areas of academic, scientific and engineering pursuit for the application of DOE-EM robotics technologies include, but are not limited to:

- Remote Access
  - Radiation hardened systems (i.e., systems that are immune or unaffected by the effects of ionizing radiation or radioactivity) and radiation tolerant systems (i.e., systems that are resistant to the effects of ionizing radiation or radioactivity to certain threshold limits) that provide remote entry into areas and spaces that are otherwise inaccessible or prohibit direct access by workers due to
    - Unsafe, unstable, or unknown physical or structural conditions
    - Configurations that are hard to reach or beyond reach without taking extraordinary mechanical measures
    - The presence or potential presence of radiological, chemical, biological, or physical hazards that will or may result in unacceptable occupational exposure or increased health or safety risk
    - Other conditions that preclude safe entry or are otherwise uninhabitable such as areas or spaces that have or potentially have: oxygen-depraved environments or other conditions of poor air quality; explosive gases, materials or devices; extreme temperatures; extreme pressures; poor or
no visibility or direct line of sight due to lack of lighting or obstructions; and submerged or substantially liquid-covered surfaces

- Non-Destructive Testing and Evaluation
  - Radiation hardened/tolerant acoustic, optical, radiographic, thermographic, electromagnetic, and other tooling and methods for non-destructive sensing, detecting, monitoring, measuring, characterizing, and assaying a wide variety of radiological, chemical, environmental, and physical parameters

- Imaging, Surveying, Mapping, and 3D Rendering
  - Radiation hardened/tolerant tooling and methods for the generation of graphical depictions and representations as well as virtual replications, simulations and models of the real world

- Manipulation and End-Effectors
  - Radiation hardened/tolerant systems for remotely performing tasks in harsh environments and work conditions to keep occupational exposure to hazards as low as reasonably achievable (ALARA)

- Worker Assistance
  - Wearable and prosthetic-like radiation hardened/tolerant robotic devices (a.k.a., co-robots) that improve worker health and safety, enhance worker performance and endurance, or compensate for physical limitations of extremities by relieving physical stresses on the body and avoiding occupational injuries such as those caused by: repetitive and forceful exertions and motions; frequent, heavy, or overhead lifts or tasks; ergonomically incorrect work positions; use of vibrating (shock-inducing) equipment; and muscle fatigue

- Heavy Operations
  - Radiation hardened/tolerant systems for performing tasks that are beyond worker capability and require substantially greater strength, dexterity, reach and access, or capacity

- Task Automation
  - Radiation hardened/tolerant systems for more efficiently performing routine or repetitive tasks and operations such that worker interface is needed only for performance monitoring and quality control

DOE’s Traineeships are guided by the following key principles:

1. DOE Traineeship programs will be University-led, targeted training opportunities.
2. DOE Traineeships will not duplicate the efforts of other Federal agencies and will leverage DOE assets and capabilities where beneficial and practicable.
3. STEM training areas to be addressed in DOE Traineeships are derived from an evidence-based assessment of the DOE workforce needs.

4. Cooperative Agreements resulting from this FOA will be established following best practices for open, competitive solicitation processes, including rigorous external peer review using established merit review criteria specified in the FOA.

5. The DOE and the Universities will develop rigorous evaluation plans for Traineeship programs that will include clear program goals and mechanisms for tracking program outcomes and evaluating program success.

Providing training in Robotics will:

- Support the ongoing need for personnel who can develop and maintain the nation’s environmental management technology;
- Enhance a University’s ability to conduct research and development; and
- Fulfill national demand for highly trained technical professionals to work environmental STEM areas in which DOE-EM has ongoing needs.

Traineeship awards made under this FOA are for institutions of higher education that support the specialized training of graduate students (Masters and Ph.D. students) in Robotics. This specialized training includes training beyond traditional research and laboratory skills. The awards will offset the cost of stipends, tuition and fees, and training related expenses for appointed trainees. The awards will not typically pay for institutional personnel salaries, but very limited faculty salary support may be allowed in some instances; traineeship awards may provide limited support for staff time for new curriculum development. The awarded institution is responsible for

1) Establishing an application/selection process for student trainee candidates,
2) Implementing the training program as described in this FOA and the awarded application, and
3) Implementing measures to evaluate the effectiveness of the training program.

A traineeship award to a University is anticipated to be awarded as a CA having a period of performance of five years. DOE-EM may conduct an external progress review in year three to inform the decision to fund the remainder of the 5-year award period. At DOE-EM’s option and with concurrence by the University, the award may be renewed or re- competed at the end of the award term to help to develop an enduring institutional capacity for graduate training in the STEM area(s) important to DOE.

Overall, this DOE Traineeship program shall support:

- One or more five-year proposals from Universities proposing to train graduate students in specific disciplines or sub-disciplines aligned with
DOE STEM workforce needs; for this FOA this is specifically in the area of Robotics.

- Targeted support for two years of a graduate student’s Ph.D. level training; the traineeship can also support graduate students pursuing a terminal Master’s degree if the Master’s degree requires a thesis project. Traineeship programs at a given academic institution should be relatively small and focused, supporting 5-10 new students per year, with a total of 10-20 students per year supported after the first year.

- An overall university-led graduate training program that includes a combination of targeted, relevant and innovative STEM course work, mentored graduate research, and other required activities in Robotics. Such activities, designed to address essential knowledge and skills and to leverage DOE capabilities and assets, could include focused workshops; seminars; research practicums at a DOE laboratory or other DOE-supported assets; internships with strategic partners; or participation in external courses and programs.

- A graduate training program that includes structured support for graduate student professional development in non-research skills, including but not limited to project management, oral and written science communication, developing and working within large collaborations (team science), and entrepreneurial skills.

- Research results, conference papers, journal articles, or other scientific information (e.g. dissertations/thesis) shall be made publically available as required by DOE Public Access Plan (http://energy.gov/open-government) and reporting requirements (See Section VI.C.) under the resulting CA.

To help establish DOE Traineeships programs that focus on critical STEM disciplines and competencies specifically relevant to DOE’s mission, applications responsive to this FOA require the inclusion of at least one of the following DOE-focused program elements (for additional details, see FOA Section IV.C):

1. Partnership with a DOE National Laboratory
2. Partnership with a private sector for-profit or non-profit organization currently sponsored by DOE
3. Partnership with a non-DOE-sponsored public or private sector organization to address a specific DOE workforce training need

Eligibility requirements for graduate student trainees are limited to:

- U.S. Citizens
- Be at least of 18 years of age
- Be enrolled full-time in qualified graduate program at the CA awardee’s academic institution of either pursuing a Ph.D. or a Master’s degree as their degree objective
- Conduct graduate study and research aligned with the Robotics discipline defined in FOA
- Be able to meet the traineeship program requirements specified by the applicant in the application

*The Universities selected under this FOA must comply with the attached guidelines. See Appendix A.*

NOTE: The term “applicant” as used in this FOA means Universities that submit an application to DOE in response to this FOA; it does not refer to students who apply for traineeships under the DOE Traineeship in Robotics Program.

Also, the term “application” as used in this FOA refers to the application provided in response to the FOA made by Universities; it does not refer to individual traineeship applications by students to apply for funds.

**Section II - AWARD INFORMATION**

A. TYPE OF AWARD INSTRUMENT

Cooperative Agreements

DOE anticipates awarding cooperative agreements under this funding opportunity announcement (See Section VI.B.2 Statement of Substantial Involvement).

B. ESTIMATED FUNDING

Amount New Awards

Approximately $2 million is expected to be available for new awards in FY 2016 and an additional similar funding is expected to be available for awards under this announcement in years FY 2017 through FY 2020. Funding for all awards and future budget periods is contingent upon the availability of funds appropriated by Congress for the purpose of this program and the availability of future-year budget authority. The overall funding per award is limited to no more than $1.0 million/year.

C. MAXIMUM AND MINIMUM AWARD SIZE

Ceiling (i.e., the maximum amount for an individual award made under this announcement):

The award offsets the cost of stipends, tuition and fees, and training related expenses for appointed trainees. The overall funding per award should be limited to no more than $1.0 million per year, with no five-year award exceeding $5.0 million.
The individual student traineeship amounts to be awarded by the University will be as follows: A maximum of $55,000 per student per year. The $55,000 per student per year assumes 12-month student participation, a $30,000 to $35,000 stipend per year, and no more than $2,000 to $3,000 for traineeship-related travel. The remainder should provide for associated costs to carry out the scope of the training program, including partnership costs, limited equipment, program evaluation efforts, and/or supplemental support for tuition and fees for the student.

It is anticipated that awards may support five (5) to ten (10) new students per year with a total of ten (10) to twenty (20) supported each year after.

Floor (i.e., the minimum amount for an individual award made under this announcement): $ None

D. EXPECTED NUMBER OF AWARDS

Number of Awards

DOE plans between 2 - 4 awards from this FOA. But, DOE may elect to award more or less than this given workforce development training needs, availability of funds, and quality of applications received. Awards will be limited to those Universities who meet the restricted eligibility requirements, and all other requirements set forth in this FOA. Only one cooperative agreement award per University is necessary under this FOA.

E. ANTICIPATED AWARD SIZE

Award Range

The overall funding per award is anticipated to be no more than $1.0 million per year, with no five-year award exceeding $5.0 million. There is no set limitation on the number of students who apply for traineeships who may be accepted at a particular University under these cooperative agreements (see Paragraph C).

F. PERIOD OF PERFORMANCE

Number of Years

DOE anticipates making awards to selected school(s) that will run for up to five years for awarding new traineeship funds. DOE retains the option to renew or re-compete the award at the end of the award term period of performance. Each traineeship is expected to run from one to two years. For example, the first class of trainees will complete the traineeship two years into the award period of performance. The second class of trainees will complete the traineeship in the third year of the award’s period of performance, and so on until the fourth class of trainees will complete the traineeship at the end of the award’s fifth year of performance.
G. TYPE OF APPLICATION

New Applications Only

DOE will accept only new applications under this announcement.

Section III - ELIGIBILITY INFORMATION

A. ELIGIBLE APPLICANTS

Restricted Eligibility (December 2014)

In accordance with 2 CFR 910.126(b), eligibility for award is restricted to U.S. Colleges and Universities. Eligibility is restricted to Universities with graduate programs of study in science, technology, engineering, mathematics that support Robotics. Minority serving institutions (e.g., historically black colleges and universities (HBCU), Black-serving non-HBCUs, Hispanic-serving institutions, Asian-serving institutions, and American Indian-serving institutions) with these types of graduate study programs are encouraged to apply. Universities with cooperative programs which share coursework between two or more colleges and universities to meet the above requirements are also encouraged to apply.

B. COST SHARING

Cost sharing is not required. Because this FOA is for training, the Energy Policy Act of 2005 requirements for cost sharing from the Awardee are not applicable, even though the traineeship may include ancillary research and development activities. However, any University may propose cost sharing. Cost sharing is not an award consideration.

C. Traineeship Partners.

Because the FOA requires DOE Traineeships programs include at least one of the following DOE-focused program elements below (for additional details, see FOA Section IV.C), at least one of the following requirements apply:

1. Partnership with a DOE National Laboratory
2. Partnership with a private sector for-profit or non-profit organization currently sponsored by DOE
3. Partnership with a non-DOE-sponsored public or private sector organization to address a specific DOE workforce training need

Partnership with a DOE National Laboratory.

The following applies if the University is partnering with a DOE National Laboratory:
Federally Funded Research and Development Center (FFRDC) Contractors. FFRDC contractors may be proposed as a partner or team member (not a prime awardee) on the University’s application subject to the following guidelines:

Authorization for non-DOE/NNSA FFRDCs. The Federal agency sponsoring the FFRDC contractor must authorize in writing the use of the FFRDC contractor on the proposed project and this authorization must be submitted with the application. The use of a FFRDC contractor must be consistent with the contractor's authority under its award and must not place the FFRDC contractor in direct competition with the private sector.

Authorization for DOE/NNSA FFRDCs. The cognizant contracting officer for the FFRDC must authorize in writing the use of a DOE/NNSA FFRDC contractor on the proposed project and this authorization must be submitted with the application. The following wording is acceptable for this authorization:

"Authorization is granted for the [Name] Laboratory to participate in the proposed project. The work proposed for the laboratory is consistent with or complimentary to the missions of the laboratory, will not adversely impact execution of the DOE/NNSA assigned programs at the laboratory, and will not place the laboratory in direct competition with the domestic private sector."

Value/Funding. The value of, and funding for, the FFRDC contractor portion of the work will not normally be included in the award to a successful applicant. Usually, DOE will fund a DOE FFRDC contractor through the DOE field work proposal system and other FFRDC contractors through an interagency agreement with the sponsoring agency.

Cost Share. Cost sharing is not required for this award. However, if the applicant proposes cost sharing, the applicant's cost share requirement will be based on the total cost of the project, including the applicant's and the FFRDC contractor's portions of the effort.

FFRDC Contractor Effort: The scope of work to be performed by the FFRDC contractor may not be more significant than the scope of work to be performed by the applicant.

Responsibility. The applicant, if successful, will be the responsible authority regarding the settlement and satisfaction of all contractual and administrative issues, including but not limited to, disputes and claims arising out of any agreement between the applicant and the FFRDC contractor.

National Laboratory Contractors

A DOE/NNSA National Laboratory Contractor is eligible to be a team member or partner (not a prime awardee) under this announcement if its cognizant contracting officer provides written authorization and this authorization is submitted with the application. (This is not required for the National Energy Technology Laboratory since it is a Government Owned/Government Operated (GOGO)). If a DOE/NNSA National Laboratory Contractor is selected for award, the proposed work will be authorized under
the DOE work authorization process and performed under the laboratory's M&O contract. The following wording is acceptable for the authorization:

"Authorization is granted for the [Name] Laboratory to participate in the proposed project. The work proposed for the laboratory is consistent with or complimentary to the missions of the laboratory and will not adversely impact execution of the DOE/NNSA assigned programs at the laboratory."

**Partnership with a private sector for-profit or non-profit organization currently sponsored by DOE.**

The following applies if the University is partnering with a private sector for-profit or non-profit organization currently sponsored by DOE (DOE sponsored organization):

Private sector for-profit or non-profit organization currently sponsored by DOE (DOE sponsored organization). DOE sponsored organizations may be proposed as a partner or team member (not a prime awardee) on the University’s application subject to the following guidelines:

Authorization for DOE sponsored organizations. The DOE office sponsoring the DOE sponsored organization must authorize in writing the use of the DOE sponsored organization on the proposed project and this authorization must be submitted with the application. The use of a DOE sponsored organization must be consistent with the organization's authority/sponsorship under its award. The cognizant DOE contracting officer for the DOE sponsored organization must authorize in writing the use of a DOE sponsored organization on the proposed project and this authorization must be submitted with the application. The following wording is acceptable for this authorization.

"Authorization is granted for the [Name] DOE sponsored organization to participate in the proposed project. The work proposed for the DOE sponsored organization is consistent with or complimentary to the missions of the DOE sponsored organization and will not adversely impact execution of the DOE/NNSA assigned programs at the DOE sponsored organization."

DOE sponsored organization effort: The scope of work to be performed by the DOE sponsored organization may not be more significant than the scope of work to be performed by the applicant.

Responsibility. The applicant, if successful, will be the responsible authority regarding the settlement and satisfaction of all contractual and administrative issues, including but not limited to, disputes and claims arising out of any agreement between the applicant and the DOE sponsored organization.

**Partnership with a non-DOE-sponsored public or private sector organization to address a specific DOE workforce training need at FFRDC/National Laboratories.**

The following applies if the University is partnering with a non-DOE-sponsored public or
private sector organization:

Non-DOE-sponsored public or private sector organization (non-DOE-sponsored organization). Non-DOE-sponsored organizations may be proposed as a partner or team member (not a prime awardee) on the University’s application subject to the following guidelines:

Authorization for non-DOE-sponsored organizations. An official of the non-DOE-sponsored organization with the authority to legally bind the non-DOE-sponsored organization must authorize in writing the use of the non-DOE-sponsored organization on the proposed project and this authorization must be submitted with the application. The following wording is acceptable for this authorization.

"Authorization is granted for the [Name], a non-DOE-sponsored organization, to participate in the proposed project. In consideration of this participation, the non-DOE-sponsored organization hereby releases the Government from any and all liability under this agreement for further equitable adjustments attributable to such facts or circumstances giving rise to the DOE-sponsored Traineeship in Robotics."

Non-DOE-sponsored organization Effort: The scope of work to be performed by the non-DOE-sponsored organization may not be more significant than the scope of work to be performed by the applicant.

Responsibility. The applicant, if successful, will be the responsible authority regarding the settlement and satisfaction of all contractual and administrative issues, including but not limited to, disputes and claims arising out of any agreement between the applicant and the non-DOE-sponsored organization.

Section IV - APPLICATION AND SUBMISSION INFORMATION

A. ADDRESS TO REQUEST APPLICATION PACKAGE

Apply at Grants.gov

Application forms and instructions are available at Grants.gov. To access these materials, go to http://www.grants.gov, select "APPLICANT", then Click “Apply for Grants,” and then select "Download a Grant Application Package." Enter the CFDA and/or the funding opportunity number located on the cover of this announcement and then follow the prompts to download the application package.

B. LETTER OF INTENT AND PRE-APPLICATION

1. Letter of Intent.
Applicants are requested to submit a letter of intent by **August 21, 2015 at 5:00pm Eastern Time.** This letter should include the name of the applicant, the title of the project as “DOE-EM Robotics Traineeship”, the name of the Project Director/Principal Investigator(s), the amount of funds requested, and a one-page abstract. Letters of intent will be used by DOE to organize and expedite the merit review process. Failure to submit such letters will not negatively affect a responsive application submitted in a timely fashion. The letter of intent should be sent to the Contract Specialist, Jeremy Germann by E-mail to:

germanjr@id.doe.gov

Each Applicant must provide the following information as part of the Letter of Intent:

- Project Title;
- Lead Organization;
- Organization Type (University);
- Whether the Application has been previously submitted to EM;
- % of effort contributed by the Lead Organization;
- The Project Team, including:
  - The Principal Investigator for the Prime Recipient;
  - Partner organizations (as defined in Section I.A.2.g, including verification of the DOE or DOD sponsorship, if partnering with non-Federal DOE or DOD-sponsored organization, which should include the award number, the title and short description of the project to confirm it is in a relevant technical area) and Team Members (i.e., Subrecipients); and
  - Key Participants (i.e., individuals who contribute in a substantive, measureable way to the execution of the proposed project); and
- Abstract – The abstract provided should be 200 words in length, and should provide a truncated explanation of the proposed project.

2. Pre-application

Pre-applications are not required.

C. CONTENT AND FORM OF APPLICATION

You must complete the mandatory forms and any applicable optional forms (e.g., SF-LLL-Disclosure of Lobbying Activities) in accordance with the instructions on the forms and the additional instructions below. Files that are attached to the forms must be in Adobe Portable Document Format (PDF) unless otherwise specified in this announcement.

1. **SF 424 - Application for Federal Assistance**

Complete this form first to populate data in other forms. Complete all required fields in accordance with the pop-up instructions on the form. The list of certifications and assurances referenced in Field 21 can be found on the DOE Financial Assistance Forms
2. Other Attachments Form

Submit the following files with your application and attach them to the Other Attachments Form. Click on "Add Mandatory Other Attachment" to attach the Project Narrative. Click on "Add Optional Other Attachment," to attach the other files.

**Project Narrative File - Mandatory Other Attachment**

The program narrative page limitation is as described in each section below. The program narrative, when printed, will fit standard 8.5" by 11" paper with 1 inch margins (top, bottom, left, and right) single spaced. EVALUATORS WILL REVIEW ONLY THE NUMBER OF PAGES SPECIFIED IN THE PRECEDING SENTENCE. The font must not be smaller than 11 point. Do not include any Internet addresses (URLs) that provide information necessary to review the application. See Part VIII.D for instructions on how to mark proprietary application information. Save the information in a single file named "Project.pdf," and click on "Add Mandatory Other Attachment" to attach.

The project narrative must include:

**Program Description.**

The program description should clearly and completely address each of the Merit Review Criteria listed in Section V.2 of this FOA. The page is limited to 20 pages. Pages submitted over the page limit will not be reviewed.

This section should describe the currently established graduate study programs in Science, Technology, Engineering and Math programs, including to specify graduate study programs in Robotics. Please provide a brief history of the academic program, discuss the current program and describe the future plans for the program. In the last discussion on the future plans, provide evidence as to the University’s commitment to the growth and maintenance of the academic program. The description should also include additional attachments as stated below. These attachments are not included in the two-page per discipline limitation of the program description.

- Applications are required to include information about the process for student recruitment, planned courses, curricula, seminars, workshops, or tutorials that address the targeted STEM area in Robotics, and how the specific targeted STEM area of Robotics will be incorporated into mentored research experiences.

- The application should describe targeted support for two years of a graduate student’s Ph.D. level training in Robotics. The application may also describe targeted support for graduate students pursuing a terminal Master’s degree in Robotics if the Master’s degree requires a thesis project.
The application should describe the proposed traineeship program in Robotics at the academic institution. Include a description of the number of new students anticipated to be supported in the first year of the award, as well as each year thereafter.

The application should describe the overall university-led graduate training program, including targeted, relevant and innovative STEM course work, mentored graduate research, and other required activities in Robotics designed to address essential knowledge and skills and to leverage DOE capabilities and assets. Specify other required activities (e.g., focused workshops; seminars; research practicums at a DOE laboratory or other DOE-supported assets; internships with strategic partners; or participation in external courses and programs, etc.) and how they will be accomplished. Describe the graduate training program’s structured support for graduate student professional development in non-research skills, including but not limited to project management, oral and written science communication, developing and working within large collaborations (team science), and entrepreneurial skills, etc., and how this will be accomplished.

The application must clearly describe the planned curriculum for Robotics-related graduate training, and describe any proposed new curriculum development where new courses, workshops, etc. are needed as part of the traineeship program of study. Provide detailed information about the planned curricula, including courses, workshops and seminars, research experiences, and mentoring that will be incorporated into the proposed DOE traineeship program. Describe any limited support for staff time for new curriculum development, if any.

Specify how the proposed Robotics program will specifically address the DOE workforce training need specified by this FOA.

Provide an overview of how the University will review and assess the quality of the trainee program and the overall impact of the trainee program on the workforce training goal of DOE-EM. Note that as a deliverable under any resultant award, the awardee will be required to develop and deliver for DOE approval a rigorous evaluation plan that explains how the awardee will review and assess the quality of the trainee program and the overall impact of the trainee program on the workforce training goal of the sponsoring DOE Program Office.

Provide an acknowledgement of the requirements for eligible graduate students, mentors, and academic institutions as outlined in Attachment A to this FOA.

To help establish DOE Traineeships programs that focus on critical STEM disciplines and competencies specifically relevant to DOE’s mission, proposals responsive to the FOA must include at least one of the following DOE-focused program elements:

1. Partnership with a DOE National Laboratory. Universities may propose to partner with one or more DOE national laboratories to incorporate program elements that enhance the quality of the training program and specifically
address Robotics discipline training. The required structured program elements for graduate trainees carried out in partnership with a DOE national laboratory can include:

- Long-term or short-term research internships at a DOE national laboratory in collaboration with DOE laboratory scientists or engineers;
- Laboratory practicums that occur at a DOE national laboratory in collaboration with DOE laboratory scientists or engineers;
- Scientific or technical workshops at a DOE laboratory that hosts unique research capabilities or facilities relevant to the target STEM discipline area;
- Focused long-term or short-term summer credit-bearing courses at a DOE laboratory that offers unique research capabilities or facilities related to the target STEM discipline area; or
- Workshops related to professional development skills critical to a broader range of career options, including research project management, science communication, technology transfer, or related regulatory requirements.

2. Partnership with a private sector for-profit or non-profit organization currently sponsored by DOE. Universities may propose to partner with one or more DOE-sponsored private sector organizations. This would help incorporate elements that enhance the quality of the training program and specifically address the DOE STEM discipline training in Robotics. Required, structured program elements for graduate trainees carried in partnership with a private sector organization can include:

- Research internships at the organization;
- Scientific or technical workshops at a partner organization hosting unique research capabilities or facilities related to the target STEM discipline area;
- Workshops related to professional development skills critical to a broader range of career options, including research project management, construction project management, entrepreneurial skills, science communication, technology transfer, or related regulatory requirements that can be uniquely provided by the organization.

3. Partnership with a non-DOE-sponsored public or private sector organization to address a specific DOE workforce training need in Robotics. The University may propose unique partnerships with non-DOE sponsored public or private sector organizations to carry out activities that enhance the overall training program to meet Robotics workforce training needs.

- List and provide an explanation for the courses offered under each relevant graduate degree, which are most relevant to the graduate
program. Please include a table with course title, course number, description, and number of times offered per year;

- List the facilities, research areas and affiliated program areas and provide a brief description of each facility as to how it is used in the relevant academic program offered (two page limitation);

- List any collaborative or affiliated, if any, relevant academic programs with other colleges and universities (Optional); and

- Metrics on current and recent existing graduate student population involved in the relevant academic graduate programs:
  - Number of students currently enrolled.
  - Number and type of degrees issued over the past five years.
  - Titles of Projects/Research, Theses and Dissertations complete over the past five years.

Describe your institution’s process for helping students at your school to learn about the traineeship opportunity.

Describe your school’s process for distributing traineeship funds to students selected for award as well as tracking usage and reporting, including post-traineeship results reporting.

**Project Summary/Abstract File**

The project summary/abstract must contain a summary of the proposed activity suitable for dissemination to the public. It should be a self-contained document that identifies the name of the applicant, the project director/principal investigator(s), the project title, the objectives of the project, a description of the project, including methods to be employed, the potential impact of the project (i.e., benefits, outcomes), and major participants (for collaborative projects). This document must not include any proprietary or sensitive business information as the Department may make it available to the public if an award is made. The project summary must not exceed one (1) page when printed using standard 8.5" by 11" paper with 1" margins (top, bottom, left and right) [select single or double spaced] with font no smaller than 11 point. Save this information in a file named "Summary.pdf," and click on "Add Optional Other Attachment" to attach.

**Faculty Description.**

Principal Faculty Members: List the names, title (Associate, Assistant, Professor), research interest areas and percentage of time devoted to the program for each faculty member involved in delivering the relevant academic programs.

**Commitment Letters from Third Parties Contributing to Cost Sharing**

Cost sharing is not required for this award but may be proposed by the University, if desired. If a third party, (i.e., a party other than the organization submitting the
application) proposes to provide all or part of the required cost sharing, the applicant must include a letter from the third party stating that it is committed to providing a specific minimum dollar amount of cost sharing. The letter should also identify the proposed cost sharing (e.g., cash, services, and/or property) to be contributed. Letters must be signed by the person authorized to commit the expenditure of funds by the entity and be provided in a PDF format. Save this information in a single file named "CLTP.pdf" and click on "Add Attachments" in Field 12 to attach.

**Budget (if applicable) for DOE/NNSA Federally Funded Research and Development Center (FFRDC) Contractor**

For any FFRDC contractor that is to perform a portion of the work, you must provide a DOE Field Work Proposal in accordance with the requirements in DOE Order 412.1 Work Authorization System. This order and the DOE Field Work Proposal form are available at https://www.directives.doe.gov/directives-documents/0412.1-BOrder-A-admchg1 Use the FFRDC name as the file name (up to 10 letters) and attach to the R&R Other Project Information form in Field 12 - Add Attachments.

**SF 424 A Excel, Budget Information - Non-Construction Programs File**

You must provide a separate budget for each year of support requested and a cumulative budget for the total project period. Use the SF 424 A Excel, "Budget Information - Non Construction Programs" form on the DOE Financial Assistance Forms Page at http://energy.gov/management/office-management/operational-management/financial-assistance/financial-assistance-forms under DOE budget forms.

You may request funds under any of the Object Class Categories as long as the item and amount are necessary to perform the proposed work, meet all the criteria for allowability under the applicable Federal cost principles, and are not prohibited by the funding restrictions in this announcement (See PART IV, G). Save the information in a single file named "SF424A.xls," and click on "Add Optional Other Attachment" to attach.

**Budget Justification File**

You must justify the costs proposed in each Object Class Category/Cost Classification category (e.g., identify key persons and personnel categories and the estimated costs for each person or category; provide a list of equipment and cost of each item; identify proposed subaward/consultant work and cost of each subaward/consultant; describe purpose of proposed travel, number of travelers, and number of travel days; list general categories of supplies and amount for each category; and provide any other information you wish to support your budget). Provide the name of your cognizant/oversight agency, if you have one, and the name and phone number of the individual responsible for negotiating your indirect rates. If cost sharing is proposed, you must have a letter from each third party contributing cost sharing (i.e., a party other than the organization submitting the application) stating that the third party is committed to providing a specific minimum dollar amount of cost sharing. In the budget justification, identify the following information for each third party contributing cost sharing: (1) the name of the organization;
(2) the proposed dollar amount to be provided; (3) the amount as a percentage of the total project cost; and (4) the proposed cost sharing - cash, services, or property. By submitting your application, you are providing assurance that you have signed letters of commitment. Successful applicants will be required to submit these signed letters of commitments. Save the budget justification information in a single file named "Budget.pdf," and click on "Add Optional Other Attachment" to attach.

Other Instructions for proposed budgets for DOE Traineeship in Robotics:

- The overall funding per award should be limited to no more than $1.0 million/year, with no five-year award exceeding $5.0 million.

- Proposal budgets should provide for program support that is equivalent to no more than $55 thousand per student per year. Funding should provide for monthly stipends, supplemental support for university tuition and fees, travel related to the scope of the training program, and other training related expenses. The $55 thousand per student per year assumes 12-month student participation, a $30-35 thousand stipend per year, and no more than $2-3 thousand for traineeship-related travel per student per year. This per student cost cap is as of FY 2015. Increasing this cost cap may be considered in out years of the award by DOE to account for cost of living increases and support levels of comparable federal traineeships (any change made to the cap will be by mutual agreement of the parties and by written modification to the award). However, for application budget proposal purposes, applicants should consider/use this per student cap for the entire 5-year duration of the project. The remainder should provide for associated costs to carry out the scope of the training program, including partnership costs, limited equipment, program evaluation efforts, and/or supplemental support for tuition and fees for the student. The university should expect to pay for any additional tuition or fee costs required by the graduate student and cost of staff time (with the exception noted below).

Generally, DOE Traineeship awards will not support institutional personnel salaries. However, a limited amount of funding in the overall budget for staff time under circumstances where research or technical staff is developing new training related curriculum, workshops, or courses is allowed. Allowable costs must comply with all Federal cost accounting standards and requirements (2 CFR 220).

- Awards should support 5-10 new students per year, with a total of 10-20 students supported each year after the first year.

**SUBAWARD (TOTAL FED + NON-FED) FORM**

Budgets for Subrecipients, other than DOE FFRDC Contractors, including Partnerships private sector for-profit or non-profit organizations currently sponsored by DOE, as well as Partnerships with non-DOE-sponsored public or private sector organizations to address a specific DOE workforce training need at FFRDC/National Laboratories.

You must provide a separate cumulative budget for each subrecipient that is expected to
perform work estimated to be more than $100,000 or 50 percent of the total work effort (whichever is less). Download the Budget Attachment from the SUBAWARD BUDGET (Total Fed + Non-Fed) FORM and e-mail it to each subrecipient that is required to submit a separate budget. After the Subrecipient has e-mailed its completed budget back to you, attach it to one of the blocks provided on the form. Use up to 10 letters of the subrecipient's name as the file name.

**PROJECT/PERFORMANCE SITE LOCATION(S)**

Indicate the primary site where the work will be performed. If a portion of the project will be performed at any other site(s), identify the site location(s) in the blocks provided.

Note that the Project/Performance Site Congressional District is entered in the format of the 2 digit state code followed by a dash and a 3 digit Congressional district code, for example VA-001. Hover over this field for additional instructions.

Use the Next Site button to expand the form to add additional Project/Performance Site Locations.

4. **SF-LLL Disclosure of Lobbying Activities**

If applicable, complete SF-LLL. Applicability: If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the grant/cooperative agreement, you must complete and submit Standard Form - LLL, "Disclosure Form to Report Lobbying."

5. **Environmental Checklist**

Applicants must complete the environmental checklist attached to this FOA and submit it with the application. Save the information in a single file named "EnviroChecklist.pdf," and click on "Add Mandatory Other Attachment" to attach.

**Summary of Required Forms/Files**

Your application must include the following documents:

<table>
<thead>
<tr>
<th>Name of Document</th>
<th>Form</th>
<th>File Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application for Federal Assistance – SF424</td>
<td>Form</td>
<td>N/A</td>
</tr>
<tr>
<td>Project Narrative File and Attachments</td>
<td>PDF</td>
<td>Project.pdf</td>
</tr>
<tr>
<td>SF-LLL Disclosure of Lobbying Activities, if applicable.</td>
<td>Form</td>
<td>N/A</td>
</tr>
</tbody>
</table>

D. **SUBMISSIONS FROM SUCCESSFUL APPLICANTS**
If selected for award, DOE/NNSA reserves the right to request additional or clarifying information for any reason deemed necessary.

E. SUBMISSION DATES AND TIMES

1. Pre-application Due Date

Pre-applications are not required.

2. Application Due Date

Applications will be accepted continuously until September 30, 2015 at 5:00 PM Eastern Time. You are encouraged to transmit your application well before the deadline. APPLICATIONS RECEIVED AFTER THE DEADLINE WILL NOT BE REVIEWED OR CONSIDERED FOR AWARD.

Applications Due Date September 30, 2015 at 5:00 PM Eastern Time

F. INTERGOVERNMENTAL REVIEW

Program Not Subject to Executive Order 12372

G. FUNDING RESTRICTIONS

Funding for all awards and future budget periods are contingent upon the availability of funds appropriated by Congress for the purpose of this program and the availability of future-year budget authority.

Cost Principles. Costs must be allowable, allocable and reasonable in accordance with the applicable Federal cost principles referenced in 2 CFR 200 as amended by 2 CFR part 910 [DOE Financial Assistance Regulation]. The cost principles for commercial organization are in FAR Part 31.

Pre-award Costs. Recipients may charge to an award resulting from this announcement pre-award costs that were incurred within the ninety (90) calendar day period immediately preceding the effective date of the award, if the costs are allowable in accordance with the applicable Federal cost principles referenced in 2 CFR 200 as amended by 2 CFR part 910 [DOE Financial Assistance Regulation]. Recipients must obtain the prior approval of the contracting officer for any pre-award costs that are for periods greater than this 90 day calendar period.

Pre-award costs are incurred at the applicant's risk. DOE is under no obligation to reimburse such costs if for any reason the applicant does not receive an award or if the award is made for a lesser amount than the applicant expected.

H. OTHER SUBMISSION AND REGISTRATION REQUIREMENTS
1. Where to Submit

Application package must be obtained through the "Apply for Grants" function at www.Grants.gov by downloading the application package and its instructions. Save these files to your computer for future reference and use. You do not need Internet access to read the instructions or to complete the application once you save them to your computer. Once your application is completed, submit it through FedConnect at www.FedConnect.net.

2. Registration Process

You must be registered with FedConnect in order to submit your application. Guidance on registering can be found at www.FedConnect.net through the link “Have Questions? Need help getting started? Click here.” We recommend you register and become familiar with FedConnect at least two weeks before you submit your application.

Section V - APPLICATION REVIEW INFORMATION

A. CRITERIA

1. Initial Review Criteria

Application Award Eligibility

Prior to a comprehensive merit evaluation, DOE will perform an initial review to determine that (1) the applicant is eligible for an award; (2) the information required by the announcement has been submitted; (3) all mandatory requirements are satisfied; and (4) the proposed project is responsive to the objectives of the funding opportunity announcement.

2. Merit Review Criteria

The evaluation criterion and their order of importance are provided below. All applications received in response to the DOE Traineeship FOA shall be subject to internal and external merit-based peer reviews. Each proposal shall receive reviews from external subject matter experts who are free of any conflict of interest with the application or the applicant/partners and who have expertise in relevant STEM research disciplines and graduate level training. In accordance with the evaluation criterion and available funding, DOE-EM will make the final selection.

Order of Importance: Criteria 1 and 2 are of equal importance, followed by Criterion 3, followed by Criterion 4.

1. Scientific and/or technical merit of the proposed project and the educational benefits of the proposed project. This criteria will consider the potential of the
program to conduct graduate STEM education in Robotics as well as alignment of the graduate programs with the EM mission, in particular in the area of Robotics. This includes the scope and depth of the classes, as well as history and future plans of the graduate STEM program. This also includes the extent to which the proposed traineeship program is innovative and has the potential to increase graduate student enrollment and graduation in robotics fields.

2. Appropriateness of the proposed method or approach. This criterion will consider the appropriateness of the University’s proposed method and approach to accomplish the traineeship program. This includes the likelihood that the program will be successfully implemented at the applicant University, including the acceptability of your school’s processes for helping students to learn about the traineeship opportunity, as well as the processes for distributing fellowship/scholarship funds, tracking usage and reporting.

3. Competency of applicant’s personnel and adequacy of proposed resources. This criteria will review the qualifications, experience, and resources of the applicant to accomplish the traineeship program, including competency of University’s graduate faculty personnel and adequacy of proposed resources in the Robotics area of graduate STEM training. This will take into consideration, but not limited to staff education, experience and expertise, available graduate STEM resources, institutional/organizational commitment to graduate STEM education, and (if appropriate) access to technologies.

4. Reasonableness and appropriateness of the proposed budget. This criterion will consider the reasonableness and appropriateness of the proposed budget, including its compliance with 2 CFR 200 cost principles and that the budget adequately supports the traineeship activities to be performed.

Other Program Policy Selection Factors

The DOE selection official may consider the following program policy factors in the selection process:

• Institutional diversity and consideration of institutions underrepresented in the DOE EM University Programs portfolio, including minority serving institutions. It may be desirable that different kinds and sizes of Universities be selected for Award in order to provide a balanced programmatic effort and a variety of different traineeship perspectives;

• Geographic distribution. It may be desirable to select for award a University or Universities representing or serving a broad or specific geographic distribution of the population.

• The degree to which the proposed project, including proposed cost shares, optimizes the use of available DOE and EM funding to achieve programmatic objectives.
B. REVIEW AND SELECTION PROCESS

1. Merit Review

Applications Subject to Merit Review

Applications that pass the initial review will be subjected to a merit review in accordance with the guidance provided in the "Department of Energy Merit Review Guide for Financial Assistance." This guide is available at http://energy.gov/management/office-management/operational-management/financial-assistance under Financial Assistance Policy and Guidance.

2. Selection

Selection Official Consideration

The Selection Official will consider the merit review recommendation, program policy factors, and the amount of funds available.

3. Discussions and Award

Government Discussions with Applicant

The Government may enter into discussions with a selected applicant for any reason deemed necessary, including but not limited to: (1) the budget is not appropriate or reasonable for the requirement; (2) only a portion of the application is selected for award; (3) the Government needs additional information to determine that the recipient is capable of complying with the requirements in 2 CFR part 200 as amended by 2 CFR part 910 and/or (4) special terms and conditions are required. Failure to resolve satisfactorily the issues identified by the Government will preclude award to the applicant.

C. ANTICIPATED NOTICE OF SELECTION AND AWARD DATES

Selection and Award Date

DOE anticipates notifying applicants selected for award by the end of November 2015 and making awards in the December 2015 - January 2016 timeframe.

Section VI - AWARD ADMINISTRATION INFORMATION

A. AWARD NOTICES

1. Notice of Selection
Selected Applicants Notification

DOE will notify applicants selected for award by email. This notice of selection is not an authorization to begin performance.

Non-selected Notification

Organizations whose applications have not been selected will be notified by email as promptly as possible. This notice will explain why the application was not selected.

Nondisclosure and Confidentiality Agreements Representations

In submitting an application in response to this FOA the Applicant represents that it will not require its employees or contractors seeking to report fraud, waste, or abuse to sign internal nondisclosure or confidentiality agreements or statements prohibiting or otherwise restricting such employees or contactors from lawfully reporting such waste, fraud, or abuse to a designated investigative or law enforcement representative of a Federal department or agency authorized to receive such information.

2. Notice of Award

Notice of Award

An Assistance Agreement issued by the contracting officer is the authorizing award document. It normally includes either as an attachment or by reference: (1) Special Terms and Conditions; (2) Applicable program regulations, if any; (3) Application as approved by DOE; (4) 2 CFR part 200 as amended by 2 CFR part 910 [DOE Financial Assistance Regulation]; (5) National Policy Assurances To Be Incorporated As Award Terms; (6) Budget Summary; and (7) Federal Assistance Reporting Checklist, which identifies the reporting requirements.

For grants and cooperative agreements made to universities, non-profits and other entities subject to Title 2 CFR, awards made under this funding opportunity should include the government-wide Research Terms and Conditions. A new version of the Terms and Conditions based on the changes to 2 CFR 200 is not yet available. Once the Terms and Conditions become available, they will be located at http://www.nsf.gov/bfa/dias/policy/rtc/index.jsp. If an award is made under this funding opportunity before the Terms and Conditions are posted, alternative Terms and Conditions may be included in the award.

3. External Peer Progress Review.

DOE may consider conducting an external peer review of progress near the end of year three of the award and determine at that time whether to continue funding the remaining two years of the award based on the review outcome.

B. ADMINISTRATIVE AND NATIONAL POLICY REQUIREMENTS
1. Administrative Requirements

The administrative requirements for DOE grants and cooperative agreements are contained in 2 CFR part 200 as amended by 2 CFR part 910 (See: http://www.eCFR.gov). For grants and cooperative agreements made to universities, non-profits and other entities subject to Title 2 CFR, awards made under this funding opportunity will include the government-wide Research Terms and Conditions. A new version of these Terms and Conditions based on the changes to 2 CFR 200 is not yet available. Once they become available, they will be located at http://www.nsf.gov/bfa/dias/policy/rtc/index.jsp

DUNS AND SAM REQUIREMENTS

Additional administrative requirements for DOE grants and cooperative agreements are contained in 2 CFR, Part 25 (See: http://www.eCFR.gov). Prime awardees must keep their data at the System for Award Management (SAM) current at http://www.sam.gov current SAM is the government-wide system that replaced the CCR. If you had an active registration in the CCR, you have an active registration in SAM. Subawardees at all tiers must obtain DUNS numbers and provide the DUNS to the prime awardee before the subaward can be issued.

2. Special Terms and Conditions and National Policy Requirements


The National Policy Assurances To Be Incorporated As Award Terms are located at http://www.nsf.gov/bfa/dias/policy/rtc/appc.pdf

Intellectual Property Provisions. The standard DOE financial assistance intellectual property provisions applicable to the various types of recipients are located at: http://energy.gov/ge/standard-intellectual-property-ip-provisions-financial-assistance-awards

Lobbying Restrictions. By accepting funds under this award, you agree that none of the funds obligated on the award shall be expended, directly or indirectly, to influence congressional action on any legislation or appropriation matters pending before Congress, other than to communicate to Members of Congress as described in 18 U.S.C. 1913. This restriction is in addition to those prescribed elsewhere in statute and regulation.

Statement of Substantial Involvement

DOE anticipates having substantial involvement in the performance of awards made under this FOA. In various aspects of effort necessary to accomplish the completion of students selected for traineeships. Substantial direct operational involvement/ participation is
anticipated to ensure compliance with the objectives of the Traineeship Program. This involvement includes but is not limited to collaboration as necessary with schools, participation in the management of the project and intervention in the activity, namely:

- Assist in publicizing traineeship opportunities (at no additional expense to the schools) on either a national, regional or local basis, as may be determined necessary by DOE-EM;

and

- Reviewing and providing feedback to the University regarding its selecting students for receipt of traineeships as well participate in the decision as to whether a traineeship is continued.

- Reviewing and approving the school’s proposed mechanism/plan for tracking program outcomes and evaluating program success. This could include requiring annual reports specifically on the evaluation activities and DOE-EM access to questionnaire data. This includes development by the school and review/approval by DOE-EM of a rigorous Program Evaluation Plan to address the following two questions regarding the execution of the program:
  1. Is the Traineeship program being run effectively and providing a high quality experience?
  2. Is the Traineeship program having an impact on its stated goal?

Plans should include the development of a logic model, and should address what activities will be performed by DOE-EM and what activities are expected to be performed by the Awardee (university).

- Reviewing annual outcomes of the selection process of graduate student trainees for the two year program.

- Reviewing the institutional role and implementation of evaluation activities and periodic technical reports to DOE-EM.

- Serving in a technical liaison role with other program-sponsored organizations (e.g. DOE labs, centers, etc.).

C. REPORTING

Reporting requirements are identified on the Federal Assistance Reporting Checklist, DOE F 4600.2, attached to the award agreement. The checklist is available at: http://energy.gov/management/office-management/operational-management/financial-assistance/financial-assistance-forms under Award Forms.
Section VII - QUESTIONS/AGENCY CONTACTS

A. QUESTIONS

Questions regarding the content of the announcement must be submitted through the FedConnect portal. You must register with FedConnect to respond as an interested party to submit questions, and to view responses to questions. It is recommended that you register as soon after release of the FOA as possible to have the benefit of all responses. DOE/NNSA will try to respond to a question within 3 business days, unless a similar question and answer have already been posted on the website.

Questions and comments concerning this FOA shall be submitted not later than 10 calendar days prior to the application due date. Questions submitted after that date may not allow the Government sufficient time to respond.

Questions relating to the registration process, system requirements, how an application form works, or the submittal process must be directed to Grants.gov at 1-800-518-4726 or support@grants.gov. DOE/NNSA cannot answer these questions.

B. CONTACTS

For questions regarding Traineeship Support, contact:

Name: Jeremy R. Germann
E-mail: germanjr@id.doe.gov

Section VIII - OTHER INFORMATION

A. MODIFICATIONS

Notices of any modifications to this announcement will be posted on Grants.gov and the FedConnect portal. You can receive an email when a modification or an announcement message is posted by registering with FedConnect as an interested party for this FOA. It is recommended that you register as soon after release of the FOA as possible to ensure you receive timely notice of any modifications or other announcements.

B. GOVERNMENT RIGHT TO REJECT OR NEGOTIATE

DOE reserves the right, without qualification, to reject any or all applications received in response to this announcement and to select any application, in whole or in part, as a basis for negotiation and/or award.

C. COMMITMENT OF PUBLIC FUNDS
The Contracting Officer is the only individual who can make awards or commit the Government to the expenditure of public funds. A commitment by other than the Contracting Officer, either explicit or implied, is invalid.

Funding for all awards and future budget periods are contingent upon the availability of funds appropriated by Congress for the purpose of this program and the availability of future-year budget authority.

D. PROPRIETARY APPLICATION INFORMATION

Patentable ideas, trade secrets, proprietary or confidential commercial or financial information, disclosure of which may harm the applicant, should be included in an application only when such information is necessary to convey an understanding of the proposed project. The use and disclosure of such data may be restricted, provided the applicant includes the following legend on the first page of the project narrative and specifies the pages of the application which are to be restricted:

"The data contained in pages [Insert pages] of this application have been submitted in confidence and contain trade secrets or proprietary information, and such data shall be used or disclosed only for evaluation purposes, provided that if this applicant receives an award as a result of or in connection with the submission of this application, DOE shall have the right to use or disclose the data herein to the extent provided in the award. This restriction does not limit the government's right to use or disclose data obtained without restriction from any source, including the applicant."

To protect such data, each line or paragraph on the pages containing such data must be specifically identified and marked with a legend similar to the following:

"The following contains proprietary information that (name of applicant) requests not be released to persons outside the Government, except for purposes of review and evaluation."

E. EVALUATION AND ADMINISTRATION BY NON-FEDERAL PERSONNEL

In conducting the merit review evaluation, the Government may seek the advice of qualified non Federal personnel as reviewers. The Government may also use non-Federal personnel to conduct routine, nondiscretionary administrative activities. The applicant, by submitting its application, consents to the use of non-Federal reviewers/administrators. Non-Federal reviewers must sign conflict of interest and non-disclosure agreements prior to reviewing an application. Non-Federal personnel conducting administrative activities must sign a non-disclosure agreement.

F. INTELLECTUAL PROPERTY DEVELOPED UNDER THIS PROGRAM – N/A
G. NOTICE OF RIGHT TO REQUEST PATENT WAIVER – N/A

H. NOTICE REGARDING ELIGIBLE/INELIGIBLE ACTIVITIES

Eligible activities under this program include those which describe and promote the understanding of scientific and technical aspects of specific energy technologies, but not those which encourage or support political activities such as the collection and dissemination of information related to potential, planned or pending legislation.

Section IX - APPENDICES/REFERENCE MATERIAL

Appendix A: Eligibility Requirements for Universities, Trainees, and Mentors
Appendix A: University Responsibilities

Eligibility requirements for graduate student trainees, mentors, and academic institutions.

i. Requirements for Graduate Student Trainees: To be eligible to participate in the university-led traineeship program, graduate student candidates must:
   
   • Be a U.S. citizen. (*DOE Program Offices may decide to extend eligibility to legal permanent residents.*)
   • Be at least 18 years of age.
   • Be enrolled full-time in a qualified graduate program at the Principal Investigator’s academic institution either pursuing a Ph.D. or a Master’s degree as their degree objective. A Master’s degree-level traineeship program must require a thesis project to be eligible. A “qualified graduate program” is:
     
     • Conduct graduate research aligned with the STEM discipline(s) defined in the FOA.
     • Be able to meet the traineeship program requirements specified in the application.

ii. Requirements for Mentors: Eligible mentors from the host university and from partner institutions should be qualified researchers or related subject matter experts with a strong record of performance, including a record of publications, and a favorable record in training and mentoring students at the graduate level.

iii. Requirements for Academic Institutions: Applications must be submitted by qualified individuals from eligible institutions of higher education who are established researchers with demonstrated scientific and administrative leadership skills. Eligible institutions include academic institutions of higher education with accredited graduate programs granting Masters and Ph.D. degrees in STEM fields aligned with the workforce training needs of the sponsoring DOE Program Office. Successful proposals will be expected to share information regarding innovative curriculum that addresses the targeted science and/or engineering training needs developed under the DOE Traineeship award.