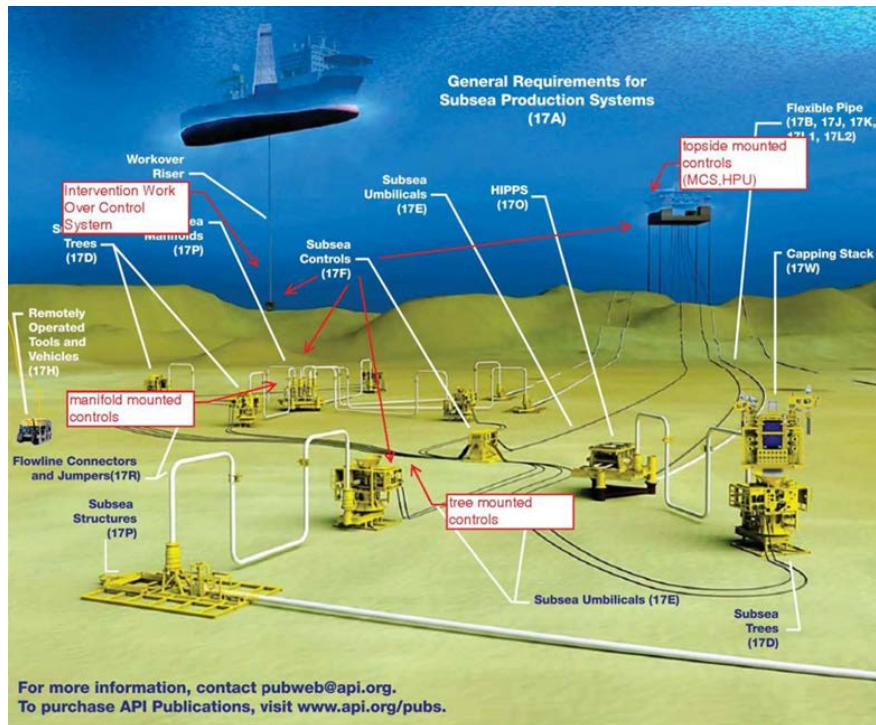


Competitive Research Program Request for Applications SUBJECT TO TCEQ FUNDING APPROVAL

RESEARCH GRANT OPPORTUNITY

Subsea Systems Institute (SSI) is a Center of Excellence formed under the RESTORE Act and represents a collaboration between the University of Houston, Rice University and NASA/Johnson Space Center. The mission of SSI is to improve safety and efficiency of offshore energy development by facilitating engineering, science and policy research and through third party unbiased validation of technology and practices.

The scope of SSI activities includes the offshore technologies shown below:



Hardware:

- Drilling:
 - Risers
 - BOPs
 - Well Control
- Wellbore:
 - Integrity
 - Monitoring
- AUVs

Systems:

- Integrated Systems
 - Subsea Power
 - Automation
 - Digitalization
 - Sensors
 - Robotics
 - Human Factors
- Flow Assurance
- Renewable Energy
- Emissions Management
- Materials
- Decommissioning

OBJECTIVE

SSI Research Grants are designed to seed innovative research that can positively impact safe and reliable exploration and energy production in the Gulf of Mexico. Successful applications will lead to technology advancement consistent with the mission objectives of the SSI. The support of industry partners is strongly encouraged.

PROGRAM DESCRIPTION

Proposals that address core areas of research of SSI are solicited. The research program outcome should target early stage (TRL 1 through TRL 3) within the program budget and timeline. In this solicitation, the institute is requesting proposals that address the following challenges:

- a. Life Extension and Decommissioning of Offshore Assets
- b. Offshore Asset Integrity Monitoring
- c. Power Electronics and Power Systems for Offshore Systems

These efforts can range from advances in robotics and automation, digital transformation, renewable energy integration, emissions reductions, offshore communication, artificial intelligence, materials challenges

amongst other approaches that are all part of the broad range of solutions that address the afore-mentioned challenges.

AWARD INFORMATION

SSI Research Grant funding is made possible through RESTORE Act Center of Excellence (COE) funds made available to SSI through the Texas Commission on Environmental Quality (TCEQ) and the U.S. Department of the Treasury.

Type of award: SSI Research Grants from not for profit research institutions in the State of Texas as lead institutions

Estimated Number of Awards: 7

Anticipated funding amount: Up to \$75,000 total **direct cost** funding per award.

Period of Performance: November 15, 2020 – November 14, 2021 (12 months). No extensions. (Subject to TCEQ Contract Finalization)

ELIGIBILITY INFORMATION

SSI is pleased to invite applications from non-profit organizations as described below. The objective is to advance critical offshore oil and gas exploration, production and decommissioning research our institutions and those in research (not for profit) institutions in Texas and create new solutions to complex challenges, furthering the goals of safe and reliable exploration and production in the deepwater Gulf of Mexico. Industry (for profit) organizations may participate as collaborators in the research program.

BUDGETARY INFORMATION

The duration of grants should be a maximum of twelve (12) months (with an expiration date no later than 11/14/2021) and for a total maximum budget of \$75,000 of direct costs. Up to Seven (7) awards are anticipated. Cost-sharing from industry and other non-federal funding sources is strongly encouraged.

GRANT APPLICATION REQUIREMENTS AND SUBMISSION INFORMATION

Grant applications must be prepared under the following guidelines. The grant application should utilize 12-point font with at least one-inch margins. Submit applications as a single computer file, preferably in PDF form (With the exception of the budget spreadsheet, which may be submitted as a separate Excel file). Applications that do not adhere to these guidelines will be returned without review.

1. **Title and Affiliations:** Page 1 will include the title, names and affiliations of the Principal Investigator and Co-Investigators involved in the project.
2. **Abstract:** Page 2 will be a one-paragraph abstract (limit 500 words) that clearly includes a description of the area(s) of research that will be the focus of the grant application, the planned approach, and the specific goals of the project, including the potential impact(s).
 - a. Grant applications are expected to describe the relevance to Gulf of Mexico exploration, production, asset integrity management and decommissioning
 - b. The Research Grant Application must be submitted from a not for profit research institutions in Texas as the lead institution.
 - c. Industry collaboration and participation including cost-sharing is strongly encouraged. Please note that none of the funds can be directed towards industrial collaborators.
3. **Research Plan: (Maximum 8 pages + References).** The following elements are required:
 - a. Specific Goals
 - b. Background and Significance
 - c. Preliminary Studies and Rationale
Approach and Research Envisioned (include project task and project deliverable schedules – templates attached)
 - d. Industry Collaborations and Partnerships

- e. Strategy for Future Funding and Technology Impact
- f. References (Not Included in eight (8) page limit)

4. **Budget and Budget Justification:** Key budget items and justification should be identified detailing travel and consumables. Foreign travel will require pre-approval. No equipment over \$5,000 is permitted. Use attached Excel template to prepare the budget.

5. **Biographical Sketches.** Provide a biographical sketch of the Principal Investigator and all Co-Investigators. Limit to two (2) pages each with relevant publications using the standard NSF format.

6. **Resources:** Please list equipment and facilities available for the project at each institution including shared resources and major equipment.

7. **Institutional Approval:** Approval and sign off by the appropriate institutional representative will be required after selection. Other compliance documents may also be required.

Please submit grant applications via email by 5:00pm (CST), October 2, 2020 to SSI (SSI@uh.edu).

KEY DATES

Full Grant Applications:

Planned Start Dates:

Firm deadline is October 2, 2020 - 5 PM CST

November 15, 2020

REVIEW AND SELECTION PROCESS

A grant review team from the SSI Technical Advisory Committee will review submissions and provide their recommendations to the SSI Director. This team will include industry subject matter experts who will evaluate the submissions against the prepared evaluation criteria.

These criteria will include:

- **Relevance to SSI Objectives:** *Is the project relevant to SSI objectives at an appropriate TRL level?*
- **Significance:** *Does the project address an important need for the oil and gas industry? Is there evidence of industry support?*
- **Innovation:** *Can the project provide original and innovative technology?*
- **Approach and Work Plan:** *Is there a well-developed work plan with a schedule and outcomes/deliverables?*
- **Quality of Investigators:** *Do the investigators have the necessary research background and experience to carry out this work?*
- **Cost Effectiveness:** *Is the project cost effective including the impact of any leveraged contributions? Is there evidence of Industry Support and pathways for translation?*

AWARD ADMINISTRATION INFORMATION

1. REPORTING REQUIREMENTS

Successful Applicants are advised of the following requirements for post-award reporting:

- Concise, quarterly reports on scientific progress according to schedule below due on specified dates, as will be advised by the SSI Director;
Quarterly reporting is required according to the following schedule:
Progress Report #1 – Q4 2020 (November 2020 – February 2021)
Progress Report #2 – Q1 2021 (February 2021 – May 2021)
Progress Report #3 – Q2 2021 (May 2021 - August 2021)
Progress Report #4 – Q3 2021 (August 2021 - November 2021)
- Final scientific report;
- Further reporting instructions will be disseminated to awardees.

2. AWARD TERMS AND CONDITIONS

- In addition to the terms and conditions in the notice of award, the projects selected will be subject to Federal Terms and Conditions applicable to the original funding provided to the SSI COE and are available at the SSI website.

RELEVANT LINKS

- Subsea Systems Institute <http://www.subseasystems.institute>
- NASA Chief Technologist roadmaps: <http://www.nasa.gov/offices/oct/home/roadmaps/index.html>
- NASA Software catalog: <https://software.nasa.gov>
- ISS Research opportunities: <http://www.iss-casis.org>
- NASA Technology Transfer Program: <http://technology.nasa.gov>
- NASA (TechPort): http://www.nasa.gov/centers/johnson/external_relations/university/index.html

CONTACT INFORMATION

Please direct any questions or concerns regarding this Request for Grant Applications to Ramanan Krishnamoorti, Director, Subsea Systems Institute, ramanan@uh.edu, (713) 743-4307 or Stephanie Coates, Project Manager, SSI, sacoates@uh.edu, (713) 743-6530.