

SURA RFP#: LASSO-009
LASSO Visiting Scientist/Engineer Program

Overview: The LASSO Visiting Scientist/Engineer Program is designed to increase interactions between U.S.-based university researchers, corporate partners and scientists at NASA's Kennedy Space Center (KSC). Selected scientists or engineers will spend time at KSC to work with NASA on evaluating NASA research capabilities and instrumentation in specific laboratory areas. With RFP# LASSO-009, SURA is accepting applications in the area of Agricultural/Bioengineering and controlled environment engineering, with a focus on establishing research pathways to develop crop production systems for space exploration. Both plant science and controlled environment engineering are areas of interest. Specific areas of interest include:

- Agricultural/Bioengineering (or related) education and experience with controlled environmental technologies for plant and biological research
- Identify systems required to develop a unique controlled environment systems to support testing for long duration crop production in microgravity and on lunar and Martian surfaces.
- Experience or ability to work with systems that control temperature, lighting – intensity/spectral, humidity, atmospheric pressure, gas concentration, and water/ nutrient delivery for plants.
- Experience or ability to gather gas exchange (e.g., CO₂ uptake and transpiration) data from crop systems for feedback environmental control.

There are two specific tasks that NASA is looking for in connection with this position:

- Outline capabilities of what NASA needs in terms of chambers and facilities to support science for the moon and Mars
- Prepare statements of merit on the necessary chambers

Laboratories available for use during the program include the KSC plant research labs including walk-in/reach-in environmental chambers. Support services in molecular biology, microbiology, chemistry, horticulture, cell culture and other support disciplines are also included. Several shop facilities are available to support fabrication.

SURA will host an informational webinar in September to present the laboratories and areas of interest in more detail; contact Carolyn Wilson (cwilson@sura.org) for more information.

This opportunity is open to all researchers, including those new to NASA research, who are working at any U.S. university or commercial entity and who are U.S. citizens or lawful permanent residents. Funding for the visiting scientist will come from the Laboratory Support Services and

Operations (LASSO) contract, which operates and maintains a diverse set of laboratories, development shops, and test facilities at KSC. SURA and its member universities partner with Amentum on the LASSO contract to involve academic researchers and other subject matter experts in KSC's scientific research and engineering activities.

Period of Performance: Visiting scientists may propose one long visit or multiple shorter visits to KSC between January 1, 2022 and September 30, 2022 but one contiguous twelve-week visit is required.

Deliverables: Funded visiting scientists or engineers are required to electronically submit a final report to SURA that summarizes their recommendations within one month following the end of their period of performance.

Application Requirements:

1. **SURA Cover Sheet:** A completed cover sheet (attached) is required for submission, including signatures from the visiting scientist and an authorized institutional representative.
2. **Curriculum Vitae:** A two-page CV for the visiting scientist that includes any relevant education, experience, and publications.
3. **Statement of Interest:** The statement must not exceed four pages and must contain a concise, written narrative describing how the visiting scientist's expertise can help NASA evaluate laboratories and improve capabilities in areas of plant pathology and microbial ecology. Please also include what the visiting scientist expects to gain from the interaction.
4. **Budget:** The total budget should not exceed \$100,000.
 1. **Visitor Budget:** The budget may only include (a) salary with applicable fringe and university overhead and (b) travel. Travel will be reimbursed directly to the visiting scientist and is not subject to university overhead.
 2. **NASA Budget:** Estimated costs for materials, supplies, and other direct costs while at KSC.
5. **Rate Agreement:** Include evidence of the institution's federally approved indirect rate agreement.

Submission Instructions: Send all proposal requirements electronically to Carolyn Wilson, Space Science and Technology Director, at cwilson@sura.org by October 15, 2021. PIs are encouraged to reach out to Ms. Wilson while developing their proposal to discuss the direction of their application in more detail.