NASA Opportunity - STMD Early Career Faculty Information

Here is the web release: https://www.nasa.gov/directorates/spacetech/strg/archives_stro.html

The solicitation link (Appendix to SpaceTech-REDDI on NSPIRES): http://tinyurl.com/NASA-19ECF. Proposals are due on **May 1st**. I have also attached the solicitation and a Frequently Asked Questions doc. Please note: the solicitation calls for Notice of Intent by 4/3 – but this is NOT mandatory.

The Appendix seeks proposals from accredited U.S. universities on behalf of outstanding early-career faculty members who are beginning independent research careers. Grants will be funded up to $200,000 each per year, with a maximum duration of three years.

This Appendix exclusively seeks proposals that are responsive to one of the four topics described:

· **Advancing Human-Robot Teams for Space Exploration**

- The objective of this topic is to develop technologies that enable high-performing human-robot teams for space exploration.

· **Terrain Mapping and Processing Algorithms**

- The objective of this topic is to develop algorithms for processing terrain data in real time to improve the probability of successful landings on NASA's exploration missions.

· **Intelligent Calibration of Constellations of Sensors**

- The objective of this topic is to develop the capability to rapidly calibrate various sensors distributed across a spacecraft constellation, both individually and relative to each other.

· **Advanced Thermal Control Materials for Exploration Spacecraft**

- The objective of this topic is to identify, develop, and demonstrate novel technologies which address challenges in, and advance performance of, thermal control systems for both manned and unmanned spacecraft.

STMD's digital publication, Technology Innovation, recently released an edition all about STRG which has a feature on Early Career Faculty. You can find that here.

To access the full publication:

1. Click here and agree to Adobe's online access, or here: https://viewer.aemmobile.adobe.com/index.html#project/20151817-e5ce-4721-aff0-65bc38c9679b/view/topLevelContent/article/NASAmasterEULA
2. Scroll down to and select Technology Innovation 18.1
3. Select the article: Robot Outreach: NASA robotics get a boost from Early Career Faculty Space Technology Research Grants.

Below is an excerpt from this digital publication that provides an overview of ECF:

Early Career Faculty

Funding early on can set the direction of an academic's career and indirectly support students with an interest in NASA's priority technologies.

Launched in 2012, Early Career Faculty (ECF) awards typically provide about $200,000 a year for up to three years — for $600,000 in potential funding — to universities on behalf of faculty researchers early in their careers. While these projects must have a single principal investigator, NASA does expect that students and postdoctoral researchers will also participate.

ECF solicitations feature focused topics that describe challenges NASA currently faces or expects in coming years. The topics enable early career faculty to shape their own expertise to fit NASA's needs.

Rebecca Kramer-Bottiglio, an ECF-funded professor at Yale University, says the ECF solicitation was the impetus for the project she proposed and the direction her lab has since taken. Kramer-Bottiglio was working on soft robotics when she saw the annual NASA solicitation for the award she eventually won — her first significant source of funding. NASA's topic for the grant inspired her to consider how her own area of expertise might improve exploration of unknown planetary terrains.

"The idea for this project originated from the solicitation," Kramer-Bottiglio says. "I read the solicitation and wanted to be responsive to it."

So far, two ECF grant projects have been recognized with Presidential Early Career Awards for Scientists and Engineers, the most prestigious award bestowed by the Federal Government on outstanding scientists and engineers beginning their independent careers. Michele Manuel, a 2012 ECF grant recipient who now chairs the University of Florida's Materials Science and Engineering Department, was selected in 2016 for her work on self-healing metals. Marco Pavone , a professor in Stanford University's Aeronautics and Astronautics Department and also a 2012 ECF recipient, was selected in 2017 for his work to automate spacecraft.

Thanks, again! Please let me know if you have any questions or need anything else.

Best,
-Stephanie

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Frequently Asked Questions the SpaceTech-REDDI Early Career Faculty Appendix (80HQTR19NOA01-19ECF-B1) As of March 13, 2019

Space Technology Research Grants Program, Early Career Faculty Appendix