

Idaho NASA EPSCoR Program.

NASA's Experimental Program to Stimulate Competitive Research (EPSCoR) was authorized by Congress in 1993, and establishes partnerships between government, higher education and industry to effect lasting improvements in a state's research infrastructure, research and development capacity, and national R&D competitiveness in fields of importance to NASA and to related aerospace and earth systems industries.

NASA EPSCoR awards support research and technology development and enable faculty development and graduate student support. Idaho receives \$125,000 core funding annually to engage faculty and graduate students in aerospace-related research activities with NASA scientists and engineers. Dr. Aaron Thomas, associate professor in Chemical Engineering, is Idaho's NASA EPSCoR Director.

Program goals include:

- Encouraging the development of research expertise and infrastructure that will allow researchers in the state to compete nationally in areas of strategic importance to the NASA mission;
- Improving capabilities of Idaho researchers to successfully compete for outside funding
- Supporting research in areas to enhance economic development in Idaho
- Developing partnerships between NASA personnel, academic institutions, and industry; and
- Providing educational opportunities to minority students and students in rural areas.

Idaho NASA EPSCoR programs continue to promote research and economic development in the state of Idaho, including workforce development in technical fields. All Idaho NASA EPSCoR-funded research projects support the goals of increasing the research and the workforce in science and technology fields.

The state of Idaho has received funding from the National NASA EPSCoR major research competition which supports 3 year, interdisciplinary, multi-institutional research projects.

Idaho holds five major research awards, ranking first among NASA EPSCoR jurisdictions:

- Spacecraft Component Sterilization using Supercritical Carbon Dioxide (with JPL): Developing technologies to treat biological contaminants on the surfaces of Mars-bound spacecraft.
- Electrical Propulsion in Low Temperature Co-Fired Ceramic Materials (with JPL): Developing miniaturized propulsion systems for the growing market of nano-satellites.
- Molecular Mechanisms of Cellular Mechanoreception in Bone (with Johnson and Ames): Understanding the molecular details of cellular mechanoreception and bone homeostasis and building Idaho's education capacity in the area of bone loss.



- Remote Sensing of the Cryosphere: Calibration and Validation (with Goddard and JPL). Improving estimates of snow-water equivalency from microwave remote sensing.
- Investigations of the Potential for Microorganisms Residing on Mars-Based Spacecraft to Inhabit Mars and Pose Planetary Protection Challenges (with JPL).

Other benefits of the program include the patents, publications, presentations, and advanced degrees awarded. In the past three years, funding has been provided for 34 research projects and 10 graduate fellowships, 3 of which have been Hispanic graduate students who have obtained advanced degrees. The program has contributed to economic advancement of the state through collaborative studies with industry and government entities. Workforce development through the education of students in STEM fields is a primary goal.



Consequences of Reduced Funding.

Reduced funding for Idaho NASA EPSCoR would cause Idaho to fall further behind other states in competitiveness for research dollars. The current economic atmosphere has led to increased competition among more researchers for less money. The relatively small investment in the NASA EPSCoR program provides a level of funding for researchers and students in the smaller states that translates into more research dollars in the future. A reduction in funding will mean less aerospace-related projects in the state, less leveraging of outside funding, and fewer publications, patents, and advanced degrees awarded.

For more information, please contact:

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