

# NSF invites "CREATIV" research proposals

Looking to stimulate innovative interdisciplinary research proposals, NSF officials announced in November a new \$24 million program that will provide grants to projects that can attract interest from at least two agency program directors. Proposals submitted under the Creative Research Awards for Transformative Interdisciplinary Ventures (CREATIV) program will be reviewed internally, cutting the time to approval to three months or less—about half the time required for a standard investigator-initiated grant.

The CREATIV program "will tap productive interdisciplinary cross sections while answering calls from the [scientific] community to facilitate the funding of potentially transformative and high-risk, high-reward research," said NSF director Subra Suresh. The new grant mechanism's solicitation and review processes will ensure that "no proposals fall silently between disciplinary silos," he said, and added that CREATIV is expected to generate proposals "that might be discouraged by perceived bias against interdisciplinary work, or that might be discouraged by adherence to bureaucratic practices."

Grants of up to \$800 000 over five years will be awarded for proposals that receive endorsement by two NSF directorates, and awards of up to \$1 million over five years will be made for those getting the nod from three or more directorates, said Thomas Russell, of NSF's Office of Integrative Activities. Applicants must receive approval from

the heads of at least two directorates prior to submitting their proposals, which must be received by 15 June 2012. The agency isn't soliciting, nor is it suggesting, particular topics or fields for CREATIV proposals. Richard Behnke, cochair with Russell of the NSF working group that developed the CREATIV program, said the research's "potentially transformational" requirement could include challenging conventional wisdom. As with all NSF grants, the proposals also must address how the research will produce societal benefits, a requirement that has come to be known as "broader impacts."

The CREATIV project is the first under an NSF umbrella program known as Integrated NSF Support Promoting Interdisciplinary Research and Education. Other INSPIRE initiatives will be announced in the coming months, the three officials said, though CREATIV is the only one due for launch this fiscal year. Suresh said that NSF expects INSPIRE's budget to grow to \$120 million—about 2% of the agency's total grant portfolio—by 2016.

The internal review for CREATIV will allow interdisciplinary research



**Subra Suresh,**  
NSF  
director

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proposals to bypass the inherently conservative disciplinary-specific external review process, said the American Mathematical Society's Sam Rankin, who chairs the Coalition for National Science Funding lobbying group. Many mathematicians are involved in interdisciplinary research, he says; Suncica Canic, professor of mathematics at the University of Houston, for example, has developed computing models to help guide the search for improved coatings for stents used in the treatment of coronary artery disease.

Other existing interdisciplinary mech-

anisms at NSF include grant solicitations in such topical areas as cyber-enabled discovery and innovation, water sustainability and climate, and mathematical geosciences. NSF-funded centers in science and technology, materials research and engineering, and science of learning bring together interdisciplinary research teams from academic institutions. The agency also supports interdisciplinary training programs such as the Integrative Graduate Education and Research Traineeship, Research Experiences for Undergraduates, and Interdisciplinary Training

for Undergraduates in Biological and Mathematical Sciences.

Emphasizing that CREATIV is a pilot project, Russell said NSF officials hope to find out whether anecdotal evidence of reviewers' bias against interdisciplinary research is real or perceived. "Part of the pilot will be to assess what sort of proposals come in, how out of the box are they, how strong are they, and [whether] this is something that we should continue to pursue," he said. That evaluation will determine whether the program will be extended into fiscal year 2013.

**David Kramer**

## Science fellows find policy "a perfect fit"

"I feel like I'm an ambassador for science," says Anna Quider about her new position as a staff member for US Representative Russ Carnahan (D-MO). Thanks to a fellowship from the American Physical Society (APS), the University of Cambridge PhD astronomy graduate is now working on such issues as telecommunications, patent law, and education. "About halfway through [graduate school] I realized I didn't want the traditional academic career," says Quider, the daughter of a former politician in Buffalo, New York.

Quider is among more than 200 science and technology fellows serving 12-month terms in Congress and the executive branch. More than 30 scientific organizations partner with the American Association for the Advancement of Science (AAAS), which manages the fellowships, to place policy-minded scientists in federal offices or on committees that could benefit from their technical skills. This year the American Institute of Physics (AIP) and four of its member societies, including APS, are sponsoring nine PhD fellows.

### The direct route

Like Quider, condensed-matter physicist Erin Boyd says she's "fairly certain" she will pursue a career in public policy once her fellowship expires. For now, the Harvard University graduate is working on energy, environmental, and agricultural issues as an APS fellow in the office of Senator Al Franken (D-MN). Boyd says she hopes to eventually become involved with the "more detailed nitty-gritty of implementing policy" that is typically done in the executive branch, but she is enjoying the process of crafting policy in the Senate.

"I've been interested in public policy

since I was a little kid," says chemist TJ Augustine, a Stanford University graduate. Cosponsored by the Optical Society of America (OSA) and SPIE, he is working on energy, environment, and health-care policy as a staff member for Sen. Dick Durbin (D-IL). Augustine views the AAAS program as "the most direct route [for scientists] to a career in policy." As a graduate student, OSA/Materials Research Society (MRS) fellow Laura Povlich decided to pursue policy after participating in a

Washington, DC, immersion experience coordinated by the Consortium for Science, Policy, and Outcomes at Arizona State University. A University of Michigan graduate with a degree in macromolecular science and engineering, Povlich is working in the office of Rep. Sander Levin (D-MI) on health-care policy and on health-technology innovation.

"I think [the policy world] is going to be a good place for me," says astrophysicist Meredith Drosback, a gradu-



**Congressional fellows** sponsored by the American Institute of Physics and its member societies this year. In the front row, from left, are Anna Quider, Laura Povlich, Erin Boyd, and Makenzie Lystrup; in the back row, from left, are TJ Augustine, Meredith Drosback, Rebecca French, and Ian Lloyd.