MORE NSF RESEARCH HIGHLIGHTS

[5] DR. EMILY WAKILD, HISTORY

PROTECTED LANDSCAPES AND THEIR IMPORTANCE: Since the creation of the first national park in Argentina in 1903, conservation efforts have preserved some of the most stunning landscapes of South America. But these parks exist in a historical vacuum. “Little comparative work has been done on their origins, evolution and societal meaning,” said Wakild. Her NSF award, “Comparative Histories of Scientific Conservation: Nature, Science, and Society in Patagonian and Amazonian South America,” focuses on these protected landscapes and their collective importance.

[6] DR. HANS-PETER MARSHALL, GEOSCIENCES

QUANTIFYING LATERAL WATER FLOW IN SNOWPACKS: Snowmelt doesn't just flow vertically through a mountain snowpack to the ground—it follows a complicated path along boundaries between snow layers and through concentrated cylindrical channels. With NSF funding, Marshall and faculty and student collaborators in the Department of Geosciences are using ground-penetrating radar and other geophysical tools to better understand the lateral flow of snowmelt in alpine snowpacks, information of great value in assessing flooding and landslide risks, seasonal water resources and the impacts of climate change.

[7] DR. JENNIFER FORBEY, BIOLOGY

MAMMALIAN HERBIVORES AND HABITAT USE: Because natural landscapes are changing rapidly, understanding the factors that determine how organisms select both habitats and resources remains a central question in ecology. Dr. Forbeys NSF-funded research explores the functional links between habitat features and habitat use. Tradeoffs among four habitat features (nutrients in food, toxins in food, security cover, and thermal cover) are measured in the laboratory and field in collaboration with Washington State University and University of Idaho researchers. They aim to model and compare the functional importance of these features to both specialist and generalist species.

[8] DR. SHARON MCGUIRE, PRINCIPAL INVESTIGATOR, VICE PROVOST FOR UNDERGRADUATE STUDIES

IMPROVING EFFECTIVENESS IN STEM EDUCATION: The CALIPER Project (Catalyst to Assess Learning and Instructional Practices for Evidence-based Reform) is leveraging Boise State’s recently reformed general education curriculum to transform undergraduate STEM instructional practices. By integrating assessment of evidence-based instructional practices and student learning outcomes, the CALIPER project aims to inform the national dialogue on effective education of future STEM professionals and a more scientifically literate citizenry.

[9] DR. SUSAN SHADLE, CO-PI, DIRECTOR, CENTER FOR TEACHING AND LEARNING

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NATIONAL SCIENCE FOUNDATION
PROJECTS AND PROGRAMS

With NSF support, Boise State faculty are pursuing research projects that are adding new knowledge and addressing critical issues.

- 69 ACTIVE NSF AWARDS and sub-awards
- MORE THAN 80 FACULTY CONDUCT NSF RESEARCH as principal and co-principal investigators
- PH.D., MASTER’S AND UNDERGRADUATE STUDENTS work with faculty on NSF-funded programs
- COLLABORATIONS WITH MANY TOP RESEARCH INSTITUTIONS
- INTERDISCIPLINARY PROJECTS bring together researchers from many fields
- RESEARCH STRENGTHS in Materials Science, Geosciences, Creative Writing, Sensors and Policy
- EMERGING RESEARCH STRENGTHS in Biomolecular Sciences, STEM Education, Ecology and Evolutionary Biology, Computer Science and Resource Economics
- FOUR CURRENT NSF CAREER AWARD RECIPIENTS (details, page 2)

Boise State is Idaho’s metropolitan research university, tucked along the Boise River in the heart of the state’s hub of business, politics, arts, health care, industry and technology. Our innovative and responsive offerings in undergraduate, master’s and doctoral programs serve more than 22,000 students. Find out more at boisestate.edu.
I have the best job in the world. I have the privilege of watching – studying – geological processes happening right in front of my eyes.”

– Jeffrey Johnson

Recipient of NSF’s Faculty Early Career Development Award have an invaluable opportunity to establish themselves as authorities in a niche of inquiry of their own choosing. In the process, they develop confidence, build laboratory resources, gain experience coordinating a research team, assemble a network of colleagues with similar research interests and lay the groundwork to successfully apply for future awards.

“By helping faculty early in their careers, we hope to foster their immediate and future success, and ultimately influence the culture of their universities as they grow to become tomorrow’s leaders,” said Theresa A. Maldonado, chair of the NSF’s CAREER award coordinating committee. “We hope their success will make them mentors among their colleagues and sought-out advisors to the university administration about the direction of the university’s research aspirations.”

Read more about Boise State’s NSF CAREER recipients in Explore, the university’s research magazine. Download the iPad App from the App Store or go to research.boisestate.edu/explore.