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NIH to fund development of K-12 neuroscience education programs

Selected grantees will use neuroscience to engage young people in science

Eight investigators across the United States will receive funding over the next five years to develop innovative neuroscience education programs for K-12 students and their teachers. Activities described within some proposals include using touch tablet technology to teach neurobiology, and the creation of a 1,400-square-foot interactive learning center. These grants are funded by the NIH Blueprint for Neuroscience Research Science Education Award and the Science Education Partnership Award Program of the National Center for Research Resources (NCRR). The National Institute on Drug Abuse (NIDA), part of the National Institutes of Health and administrator of the grants, made the announcement.

These educational programs aim to increase science literacy and understanding as well as an interest in science among K-12 students and their teachers. This is particularly important, since the most recent trends published by the U.S. Department of Education indicate that U.S. eighth graders score lower than students from nine other countries in science knowledge and skills. The project seeks to close this gap as well as fulfill the NIH mission to ensure that adequate numbers of students are entering science education tracks and eventually pursuing careers in biomedical science.

“Creative strategies are needed to ensure that the United States maintains its competiveness in the scientific field,” said NIDA Director Nora D. Volkow, M.D. “Since neuroscience cuts across many different disciplines and can help in understanding all kinds of behavior, it is the ideal vehicle for capturing people’s interest and engaging them in science—at any age.”

Awardees are as follows:

Steve Snyder, Ph.D., The Franklin Institute, Philadelphia
Project: Neuroscience in Your World: A Partnership for Neuroscience Education Across the K-12 Spectrum
This collaborative effort between The Franklin Institute and the Center for Neuroscience and Society at the University of Pennsylvania will develop neuroscience programs at The Franklin Institute, a high school course, and a digital toolkit of neuroscience educational materials to engage K-12 students and teachers in learning about the importance of neuroscience in their world.

Louisa Stark, Ph.D., University of Utah, Salt Lake City
Project: The Neuroscience of Our Senses

Dr. Stark's group plans to develop novel approaches for teaching students about the neurobiology of the five senses, using devices such as the iPad, the Motorola Xoom and interactive whiteboards.

Leslie Miller, Ph.D., William Marsh Rice University, Houston
Project: Virtual Clinical Trials: Advances in Neuroscience
This project aims to develop a game-based website that will educate middle school students about the scientific process of discovery, testing, and adoption of new treatments that emerge from neuroscience research as well as engage students in interactive role play across a variety of neuroscience careers.

Dina Markowitz, Ph.D., University of Rochester, N.Y.
Project: Neuroscience Activities for Hands-on Learning
The goal of this project is to develop, field test, disseminate and evaluate the use of innovative hands-on neuroscience activities that high school biology teachers can easily integrate into existing curriculums.

Susanna Cunningham, Ph.D., University of Washington, Seattle
Project: How Do I Learn: Neurosciences Advances Inform Learning
This project will engage middle school science teachers, students and parents/community groups in an innovative program of neuroscience education focused on answering the questions, "How do I learn?" and "How do I teach students about how they learn?"

Nancy Moreno, Ph.D., Baylor College of Medicine, Houston
Project: The Learning Brain - Interactive Inquiry for Teachers and Students
Dr. Moreno's group will develop, evaluate and disseminate new science and health teaching resources for elementary school audiences nationwide, focused on emerging areas in neuroscience, with connections to reading/language arts.

Eric Chudler, Ph.D., University of Washington, Seattle
Project: Sowing the Seeds of Neuroscience
This project will give middle school students an opportunity to study how chemicals in plants and herbs, such as Gingko biloba or the caffeine in tea leaves, affect health and behavior. These investigations aim to improve student understanding about neuroscience and encourage them to pursue careers in biomedical sciences.

Michael Kavanaugh, Ph.D., University of Montana, Missoula
Project: The Big Sky Brain Project
The University of Montana will collaborate with the Exploratorium in San Francisco to create a neuroscience learning center called the Brainzone, which will feature four exhibits, a computer lab, and a working laboratory. This exhibit will also be used in a mobile program that brings hands-on science education projects to isolated, underserved, rural and tribal schools.

"These innovative NIH-funded awards enable teams of researchers and educators to engage students in the creativity and excitement of cutting-edge research in human health and disease," said NCRR Director Barbara M. Alving, M.D.

The NIH Blueprint for Neuroscience Research is a cooperative effort among the 16 NIH Institutes, Centers and Offices that support neuroscience research. By pooling resources and expertise, the Blueprint identifies cross-cutting areas of research, and confronts challenges too large for any single Institute or Center.

For more information about the NIH Blueprint for Neuroscience Research, go to http://neurosciencebluepr int.nih.gov/.

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The National Institute on Drug Abuse is a component of the National Institutes of Health, U.S. Department of Health and Human Services. NIDA supports most of the world's research on the health aspects of drug abuse and addiction. The Institute carries out a large variety of programs to inform policy and improve practice. Fact sheets on the health effects of drugs of abuse and information on NIDA research and other activities can be found on the NIDA home page at www.drugabuse.gov. To order publications in English or Spanish, call NIDA's new Drug*Pubs* research dissemination center at 1-877-NIDA-NIH or 240-645-0228 (TDD) or fax or email requests to 240-645-0227 or drugpubs@nida.nih.gov. Online ordering is available at http://drugpubs.drugabuse.gov. NIDA's new media guide can be found at http://drugabuse.gov/mediaguide/.

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