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Arizona Science Center Receives \$1.2 Million Grant from National Institutes of Health to Explore New Directions in Bioscience

Five-year project will explore new ways to educate families, students and teachers about advances and research in the field of bioscience.

PHOENIX, AZ: Arizona Science Center (ASC) announces receipt of the National Institutes of Health (NIH) Science Education Partnership Award (SEPA), supported by The National Center for Research Resources (NCRR). Entitled *Framing New Pathways to Medical Discover for Families, Students and Teachers (Pathways)*, the five-year program will provide students and the general public with a window to understanding the human body, its parts and processes as well as new advances in biomedical research and technology. *Pathways* will also raise awareness of a wide range of careers opportunities in research, medicine, health, education and engineering. The general framework for the project is built around three biomedical research areas inspired by NIH's Roadmap for Medical Research: Building Blocks, Biological Pathways and Networks; Bioinformatics; and Nanomedicine.

The *Pathways* project brings together a team of educators, scientists and the public to design a range of activities and training to study their impact on the understanding of how the body works and how new advances in technology contribute to overall health. The project consists of on-site demonstrations and tabletop activities, basic and intermediate hands-on laboratory experiments, orientation workshops and teacher training sessions, program guides, as well as community and classroom outreach. This variety of elements allows for the education of all audiences while inspiring the next generation to explore new directions of biomedical research.

“This prestigious SEPA award from the NIH will enable Arizona Science Center to create immersive presentation and lab space that will offer hands-on science learning about the biosciences and the human body,” says Arizona Science Center President and CEO Chevy Humphrey. “Developed in partnership with the scientific and educational communities, the new programming will offer visitors of all ages and backgrounds a fun and accessible window to understanding how bioscience technology works, and how these types of NIH-funded medical advances are relevant to them and their families.”

A significant need for this program is evident in the economic and education sectors of Arizona. At an economic level, the biosciences are one of the most active growth sectors in the world economy. According to the *Arizona Bioinsider*, in Arizona alone, bioscience employment has grown by 80% during the past eight years, outpacing national growth trends. These bioscience firms are requiring a more highly educated workforce with skills not only in biological and/or

biomedical sciences but also spanning IT, technical writing, presentation abilities as well as many other scientific disciplines involved in interdisciplinary research.

Educational research shows that while high school level biology courses cover more advanced topics, such as genetics and molecular biology, it is critical to introduce more complex human biology concepts at earlier grade levels. This will avoid grounded misconceptions about ones' body at younger grade levels that become difficult to overcome at later ages. Teacher professional development and school partnerships for grades 2-6 will be key components for the development of the *Pathways* program.

In addition to filling an economic and educational need the *Pathways* program also addresses the need for general public awareness and understanding of the biosciences and new technologies that can allow for proper preventative care and treatments to help ensure healthy living and good quality of life for everyone. Adults and parents are just as important to educate, in addition to youth, about the bioscience industry and how they can create a healthy and positive understanding of biosciences within their own families and relationships. Hands-on learning in informal environments, such as science centers, allow for interactive conversations that serve as an effective learning experience for everyone involved.

Arizona Science Center has established vital partnerships with scientific institutions in order to fulfill its mission and to bring correct, timely scientific information to the communities it serves. The Principle Investigator for the project is Dr. Laura Martin, Director of Science Interpretation at Arizona Science Center. Martin recently co-authored a book for the National Research Council on how people learn science in informal environments. "The evidence is clear that people learn a great deal about science and health and get to participate in important scientific activities through museums, camps and classes, their hobbies, and the media, so this is a terrific opportunity to capitilize on our strength as an educational resource," says Dr. Martin.

On this project, key biomedical partners will collaborate with the Science Center as part of the design team that will develop the biomedical science content and related educational resources for *Pathways*. Dr. Adrienne Scheck, Senior Staff Scientist in Neuro-Oncology and Neurosurgery Research at Barrow Neurological Insitutue of St. Joseph's Hospital and Medical Center, will serve as Senior Research Scientist and will oversee the development of biomedical research content.

"I am very excited to be a part of Arizona Science Center's SEPA Grant," says Dr. Scheck of Barrow, "Biotechnology has become an integral part of forefront medicine and this program will spark the interest and imagination of the scientists and physicians of tomorrow."

Other research partners include Arizona State University's Biodesign Institute and its College of Liberal Arts and Sciences, the University of Arizona College of Medicine, Translational Genomics (TGen), and the Arizona Department of Health Services.

Research references are available upon request.

About Arizona Science Center

The mission of Arizona Science is to inspire, educate and entertain people of all ages about science. Featuring more than 300 hands-on exhibits, live demonstrations, a multi-media Dorrance Planetarium, an IMAX® Theater and programming to fit kids of all ages, zero to gray, Arizona Science Center provides educational entertainment and inspiration year-round. Arizona Science Center is located at 600 E. Washington Street in Downtown Phoenix. The Center is open daily 10 a.m. – 5 p.m. For more information about Arizona Science Center, visit www.azscience.org.

About Barrow Neurological Institute

Barrow Neurological Institute at St. Joseph's Hospital and Medical Center is an internationally renowned medical center that offers care for people from throughout the world with brain and spine diseases, disorders and injuries. *U.S. News & World Report* routinely lists St. Joseph's as one of the top 10 best hospitals in the nation for neurological and neurosurgical care. For more information about Barrow Neurological Institute, visit www.thebarrow.org.

About The Science Education Partnership Award (SEPA) Program

The SEPA program, established in 1991, provides funding for innovative educational programs. Such projects create partnerships among biomedical and clinical researchers and K-12 teachers and schools, museums and science centers, media experts, and other educational organizations. SEPA, with an FY 2009 budget of \$18 million, currently supports more than 70 projects and is sponsored by the National Center for Research Resources (NCRR), part of the National Institutes of Health (NIH). For more information, visit www.ncrrsepa.org.

About The National Center for Research Resources

The National Center for Research Resources (NCRR), a part of NIH, provides laboratory scientists and clinical researchers with the resources and training they need to understand, detect, treat and prevent a wide range of diseases. NCRR supports all aspects of translational and clinical research, connecting researchers, patients and communities across the nation. For more information, visit www.ncrr.nih.gov.

About The National Institutes of Health (NIH)

The National Institutes of Health – *The Nation's Medical Research Agency* – includes 27 Institutes and Centers and is a component of the U.S. Department of Health and Human Services. It is the primary federal agency for conducting and supporting basic, clinical and translational medical research, and it investigates the causes, treatments, and cures for both common and rare diseases. For more information about NIH and its programs, visit www.nih.gov.