



The Battelle Engineering, Technology, and Human Affairs (BETHA) Endowment

Previously Funded Projects

2012-2013

Big Data and the Social Future

Peter M. Shane
Law

A multidisciplinary conference on the potential for new enterprises grounded on "big data" to improve economic, social, and political life. The program would publicize the potential of "big data" enterprises in Columbus, and raise awareness of key law and policy issues. Potential topics include big data as an economic driver, challenges to privacy and information security, big data infrastructure requirements, and big data as it relates to government accountability, health care, and the urban future.

The End and the Beginning of Everything

Shane Mecklenburger
Art

The End and the Beginning of Everything is a collaborative art-science initiative between the OSU Departments of Art and Astronomy, the University of Chicago Department of Astrophysics, Chicago's Adler Planetarium and the Advanced Computing Center for the Arts and Design (ACCAD). Accelerating technologies are amplifying astronomers' ability to model and observe, expanding our understanding of life and the universe. This initiative guides young artists in creatively interpreting astronomical research for a public contemporary art exhibition.

Narrowing Technology Gaps between Ohio State and Eastern Africa Using Mobile Electronic Data Capture and Analysis System for Zoonotic Diseases Research and Training

Wondwosen Gebreyes
Veterinary Preventive Medicine

This project aims to provide opportunities for OSU students and faculty members to conduct a research outreach using *Mobile Electronic Data Capture and Analysis System* for monitoring foodborne pathogens in Eastern Africa. The proposed study aims to 1) narrow the technology gap and to facilitate scientific networking between OSU and eastern Africa partners; 2) enhance interactions among producers, scientists and policymakers; and 3) improve the livelihood of poor urban and peri-urban livestock producers in minimizing zoonosis.

Understanding Asia through Religion and Art: Creating Finding Aids and Search Tools for a Database of Original Source Materials

Patricia Sieber
East Asian Languages and Literatures

Understanding Asia, particularly through its religions and belief systems, is an imperative in today's global environment. This project will create "finding aids" for the online database of approximately 262,000 photographs in OSU's Huntington Photographic Archive of Buddhist and Asian art. Currently aimed at scholars with advanced knowledge, the Archive can vastly extend its reach to multidisciplinary and multi-level audiences through enhanced search capabilities, fostering education about Asia, and creating a template for other databases.

2011-2012

Communicating Health Sciences: Emerging Challenges and Opportunities for Public Engagement

John Barnard
Pediatrics

The promise of modern health science will be realized only if it is understood and adopted by an appropriately informed public. The media is a key factor in creating understanding. We propose two public colloquia, one on personal genomics and the other, nanomedicine, involving health care scientists, science communication experts and journalists. The result will be a unique discourse leading to greater understanding and better communication strategies in these two important emerging areas of health care.

SistaAction: Black Girls Creating Digital Futures

Elaine Richardson
Teaching and Learning

The SistaAction project proposes to enhance the critical media literacy skills of urban Black middle school girls in an afterschool mentoring setting, by providing them with access to digital and internet technology tools and assistance in the creation of self-authored counter narrative media productions that support wider representation of empowering images of young women. While work is local, this work addresses a national and global problem through which girls of color experience socialization into oppressive race and gender roles through mainstream mass mediated popular culture.

Re-visioning Light in Our Lives: A Holistic and Sustainable Approach

Mary Tarantino
Theatre

The study of light is often compartmentalized, isolated into physics, installation art, theatrical/entertainment, engineering, and sustainability. *Re-visioning Light in Our Lives* brings together individuals from Architecture, Engineering, Theatre, ACCAD, and outside project partners and consultants to examine lighting as it informs human needs, energy efficiency, and structures. Student teams will engage the community in outreach research inquiries and construct site-specific installations, testing contemporary lighting applications with an emphasis on lighting function and quality.

Seeds of Learning: Creating a Language Sciences Pod at COSI

Laura Wagner
Psychology

This project will create a research "pod" at the Columbus Center for Science and Industry (COSI) dedicated to the study of language. Ohio State faculty will conduct state of the art research studies inside the pod using museum visitors as research participants. Trained Ohio State students will provide educational explanations to adult and child visitors, promoting understanding of language sciences and the scientific process more generally.

2010-2011

E3 Lab: Sustainable Development Solutions for Energy, Economy and Equity in Africa

Charisma Acey
Architecture

The proposal establishes E3 Lab, a local energy solutions incubator for household alternative energy technologies in sub-Saharan Africa. The Ghana Sustainable Change program would examine biodigesters, a low-cost method of renewable energy production from the anaerobic digestion of organic waste. Using geographic information systems (GIS) students and community leaders would prioritize locations for siting biodigesters, as well as tracking adoption and diffusion. The E3 internet portal will enable ongoing communications between community members and study abroad participants.

Dance Fort: An Interactive Archive of Choreographic Process

Bebe Miller
Dance

For decades, the traditional method of an artist's choreographic legacy has been in the documentation of the finished work: videotapes of performance, photographs, etc. With Dance Fort we seek to create opportunities for artists and scholars to inscribe history in a living way and, using existing and emerging technologies, create archives that are dynamic and equally useful to the current and next generation, shifting the paradigm of an artist's archive from artifact to artwork.

Exploration of the Geometry and Cosmology of the Newark Octagon Earthworks

Alan Price
Design
Advanced Computing Center for the Arts and Design

This project is for the design of an interactive computer application for analysis and understanding of the geometric relationships of Ohio's Newark Octagon Earthworks to observations of the Moon and Sun. The simulation model will be used for research and to educate the public about these ancient sites in Ohio, and how scientific thinking and observation played an important role in the culture of ancestral Native America.

Reaching for the Moon: Technology for At-Risk Preschool Children

Kathy Cabe Trundle
Lucia Flevaras
Teaching and Learning

This project assesses the efficacy of using software to develop young children's computer skills and understanding of targeted science and mathematics concepts. Preschool teachers will be provided with professional development opportunities to develop their understandings of concepts and technology skills. The outcomes are increased teacher preparation and school and technology readiness for young children. This readiness is especially important for at-risk learners; without it they fall behind upon kindergarten entry, especially in STEM pathways.

2009-2010

Development of Globally Competent and Socially Engaged Engineers: International Collaborative Design Project for Aerial Detection of Landmines

James W. Gregory
Mechanical and Aerospace Engineering

The proposed project is a student-designed and constructed remote-control air vehicle for rapid, aerial detection of landmines. This project will develop technology that directly benefits society, and serve as a context for the development of future leaders in engineering who possess an integrated worldview of technical excellence, service, and global citizenship. A broad impact will result from citizens and students of eastern and western societies discussing the interface between technology and society via videoconference.

Reading the Code: Genetic Literacy Across the Middle School Curriculum

Richard J. Voithofer
Educational Policy and Leadership

Kathy C. Trundle
Adrienne D. Dixon
Teaching and Learning

Diana B. Erchick
Teaching and Learning
Newark

This project addresses the emerging need for genetic literacy. Through the creation of a problem-based learning computer simulation, this project will provide a learning technology for middle school students that crosses mathematics, science, and social studies. The ultimate outcome of this project is to help the leaders, STEM workers, and citizens of tomorrow to begin to understand the positive and negative impact of the growing body of genetic knowledge and increasing capacity for genetic manipulation.

Service Learning and Technology Transfer in Veterinary Public Health and Biotechnology: OSU-VPH-Biotech Eastern Africa

Wondwossen A. Gebreyes
Veterinary Preventive Medicine

More than two-thirds of emerging infectious diseases are zoonotic. OSU initiated a consortium in Eastern Africa where zoonotic diseases cause significant burden but technological capacity is lacking. While OSU has successful programs in infectious diseases, students are lacking global perspectives and first-hand exposure. Using the “One Health, One Medicine” approach, we propose to conduct service learning activities to enhance OSU students’ practical knowledge while contributing to control of zoonotic diseases and build biotechnology capacity.

Shifting Centers: Creative Collaboration in and outside of Africa through Cyberlearning and Ubiquitous Technologies

Esther Marian Baker-Tarpage
Dance

African and American contemporary choreographers use cyber technology and web-based communities as a space for artistic exchange and innovation. This proposal seeks funding for the development of an online performance symposium. Funds will be used to support research meetings with key collaborators, internationally recognized, award winning artists in Senegal, South Africa, Morocco, and Kenya. The symposium content will be determined by the research and creative work of the artists and students collaborating and contributing to the project.

2008-2009

Antibiotic Resistance Transmission through the Global Food Chain: Public Health Impact and Intervention Strategies

Hua Wang
Food Science and Technology
Microbiology

The rapid emergence of antibiotic resistant (ART) bacteria is becoming a major public health threat. Our studies found that ART non-pathogenic and “beneficial” bacteria were highly prevalent in conventional food products, and the food chain has become a significant community-based avenue transmitting ART to humans. We seek Battelle support for education/extension activities (international conference, food safety video, publications) to reveal the global health impact of ART bacteria and explore strategic breakthroughs to control the problem.

Enhancing Interest in Science and Technology by Engaging High School and Undergraduate Students in Real-Time Research Projects

Parwinder S. Grewal
Entomology
Ohio Agricultural Research and Development Center

Ensuring the vitality of the nation’s scientific and technological enterprise requires that we tap the talents of all citizens. The goal of this summer program is to enhance student interest in science, technology, engineering and mathematics (STEM disciplines) by immersing them in ongoing, OARDC research projects. By opening the doors to underrepresented high school and undergraduate students from rural areas, the program will influence future leaders and effectively engage OSU in the community.

Every Reader, Every Writer Has a Story

Cynthia L. Selfe
H. Lewis Ulman
English

Richard J. Selfe
Center for the Study and Teaching of Writing

“Every Reader, Every Writer Has a Story” focuses on the importance of preserving literacy stories, especially for groups whose literacy history has been ignored. These presentations and workshops acquaint audiences with the Digital Archives of Literacy Narratives (DALN), the first public, online repository to preserve personal accounts of how individual citizens, families, and communities learn to read and write, how literacy shapes their lives. The DALN supports historical, educational, and community research on literacy.

Influence of Culture, Society, and Religion on the Practice of Veterinary Medicine in Thailand: The Anatomy, Habitat, Health, and Behavior of Asian Elephants

Nongnuch Inpanbutr
Veterinary Biosciences

The proposed project is to develop an audiovisual program revealing how culture, social, and religion influence the practice of veterinary medicine in other countries such as Thailand. This educational program also includes anatomy, habitat, health and behavior of Asian elephants. This program will increase cultural sensitivity and enhance awareness of cultural diversity for students and elevate the quality of education on Asian elephants. This will promote International Studies at OSU, nationally, and globally.

The Virtual Pasture

Michael J. Mercil
Art

The Virtual Pasture is a project for the Department of Art with the College of Food, Agricultural and Environmental Sciences and the Wexner Center for the Arts. Beginning in spring 2009, *The Virtual Pasture* reanimates the central campus landscape with a small flock of sheep grazing off-site, but streaming through images transmitted live to a video monitor installed outside the Wexner Center to face the Oval. The project includes working with OSU Extension’s 4-H Youth Program to produce a documentary video. Through these and related activities, *The Virtual Pasture* creates a visible public forum for a variety of issues regarding the local production, marketing and distribution of food in an increasingly industrialized, mechanized and technology-centered agricultural economy.