

# Elements of Outreach

**PROMOTING** SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS IN OKLAHOMA THROUGH A ROBUST SET OF OUTREACH INITIATIVES



Cyber Infrastructure



OKLAHOMA EXPERIMENTAL PROGRAM TO STIMULATE COMPETITIVE RESEARCH



technology business needs.





## **POST-SECONDARY OUTREACH PROGRAMS**



## Oklahoma NSF EPSCoR

RESEARCH INFRASTRUCTURE IMPROVEMENT AWARD 2008-2013: GRANT NO. EPS-0814361 INCREASING THE STATE'S RESEARCH COMPETITIVENESS THROUGH STRATEGI SUPPORT OF RESEARCH INSTRUMENTS AND FACILITIES, RESEARCH COLLABORATIONS, AND INTEGRATED EDUCATION AND RESEARCH PROGRAMS.

OK EPSCoR supports education and human resources outreach programs that are designed to build Oklahoma's science, technology, engineering and mathematics (STEM) workforce through a robust set of initiatives. EPSCoR outreach programs target critical points in the STEM pipeline, while also seeking to broaden participation of women, American Indians and other underrepresented individuals in STEM fields.



Oklahoma EPSCoR promotes K-12 students' understanding of science, technology, engineering, mathematics (STEM) and bioenergy through support of meaningful enrichment programs that students wouldn't otherwise have access to, due to declining school budgets and rising legislative standards.

## OMN MOBILE SCIENCE VEHICLE

The Oklahoma Museum Network Science Matters Mobile Science Vehicle (MSV) is a discovery-based mobile museum that allows students in rural Oklahoma communities to experience science, while engaging in numerous activities throughout the multisensory vehicle. Students experience "ALTHOUGH PARTICIPATION CONTINUES TO INCREASE, WOMEN TODAY CONSTITUTE ONLY ONE-FOURTH. OR 26 PERCENT. OF THE COLLEGE-EDUCATED WORKFORCE IN STEM OCCUPATIONS," ACCORDING TO A 2008 NATIONAL SCIENCE BOARD REPORT. OKLAHOMA EPSCOR IS WORKING TO HELP UNDERREPRESENTED GROUPS IN OKLAHOMA BRIDGE THAT GAP.

## K-12 PROGRAMS FOR STUDENTS AND TEACHERS

- **BIOENERGY SUMMER TECHNOLOGY ACADEMIES**
- **BOTBALL EDUCATIONAL ROBOTICS TEAMS**
- SCIENCE EDUCATORS' TRAINING: GLOBE OBJECTIVES
- SCIENCE MATTERS! MOBILE SCIENCE VEHICLE
- WOMEN IN SCIENCE CONFERENCES

science through hands-on experiments that allow them to practice true discovery learning through mixing, measuring, investigating, creating and deducing outcomes-just like real scientists!

Teachers from EPSCoR-sponsored schools participate in an intense bioenergy-based science training workshop that provides them with skills and hands-on science materials to use in their classrooms throughout the year.

OK EPSCoR is pleased to support the MSV program, as well as other highquality outreach programs throughout Oklahoma

Questions? Call 405.744.9964.



"The University of Oklahoma and Oklahoma State University have added six new STEM faculty members to their staffs through funding received from the current OK EPSCoR NSF RII Award."

Outreach programs are available for every group within the STEM pipeline. Programs are designed

to meet the specific needs of these stakeholders, so STEM education will flourish, research programs

will grow, and highly qualified college graduates will be available to fill the state's emerging high

EPSCoR supports the recruitment of new STEM faculty members by Oklahoma institutions and offers opportunities for faculty development through seed funding, research opportunities, conferences, workshops and mentorship of junior faculty.

The University of Oklahoma and Oklahoma State University have added six new STEM faculty members to their staffs through funding received from the current OK EPSCoR NSF RII Award.

Other faculty development opportunities include Research Opportunity Awards, OK EPSCoR State Conferences and NSF Grants Workshops. See the column at the right for a full listing of current faculty development opportunities.

## **PROGRAMS FOR RESEARCHERS**

- ANNUAL NSF EPSCoR STATE CONFERENCES
- NATIONAL SCIENCE FOUNDATION GRANTS WORKSHOPS
- NATIONAL SCIENCE FOUNDATION ADVANCE WORKSHOPS
- **RESEARCH OPPORTUNITY AWARDS (ROA)**
- OKLAHOMA SUPERCOMPUTING SYMPOSIUMS
- INVESTIGATOR TRAVEL





EPSCOR SUPPORTS INITIATIVES THAT **ENCOURAGE COLLEGE STUDENTS TO SELECT** AND ULTIMATELY REMAIN IN SCIENCE. TECH-NOLOGY, ENGINEERING AND MATHEMATICS (STEM) FIELDS. RECRUITMENT AND RETEN-TION OF POSTSECONDARY STUDENTS IN STEM FIELDS ARE VITAL TO BUILDING THE HUMAN **RESEARCH INFRASTRUCTURE IN OKLAHOMA.** 

**RETENTION RATES OF OUTSTANDING STEM** STUDENTS IN OKLAHOMA ARE INCREASED THROUGH SUPPORT OF PROGRAMS THAT PROMOTE EARLY STUDENT PARTICIPATION IN HIGHER EDUCATION AND STEM RESEARCH COMMUNITIES.

THE EPSCOR PROGRAM HAS MADE A STRONG COMMITMENT TO SERVE OKLAHOMA'S NATIVE AMERICAN POPULATION AND OTHER UNDERREPRESENTED GROUPS IN THE STATE, INCLUD-ING WOMEN, AFRICAN AMERICANS AND PERSONS WITH DISABILITIES. EPSCOR INITIATIVES ARE GEARED TOWARD THE REMOVAL OF EXISTING BARRIERS THAT PREVENT RECRUITMENT, RETENTION AND GRADUATION OF THESE POPULATIONS THAT ARE NOT WELL-REPRESENTED IN STEM FIELDS. THE PROGRAM SEEKS TO CONTRIBUTE TO THE SUCCESS OF THESE INDI-VIDUALS, WHILE REMAINING CULTURALLY SENSITIVE.

MENTORING PROGRAM AT LANGSTON UNIVERSITY **RESEARCH DAY AT THE CAPITOL** SUPERCOMPUTING IN PLAIN ENGLISH WORKSHOPS **OKLAHOMA RESEARCH DAY FOR REGIONAL UNIVERSITIES RESEARCH EXPERIENCES FOR UNDERGRADUATES (REU)** TRAVEL FOR STUDENTS TO PROFESSIONAL MEETINGS JUMP START RISE (RETENTION INITIATIVE STUDENT EXCELLENCE) **REYAP: RETIRED EDUCATORS FOR YOUTH AGRICULTURAL PROGRAMS** TRIBAL COLLEGE OUTREACH

"For more information about any of these outstanding outreach programs, visit www.okepscor.org today!"

> THE OK EPSCOR PROGRAM. IN PARTNERSHIP WITH THE OKLAHOMA CENTER FOR THE ADVANCEMENT OF SCIENCE AND TECHNOLOGY (OCAST) AND I2E. INC., SUPPORTS ECONOMIC DEVELOPMENT IN OKLAHOMA BY PROVIDING PROGRAMS THAT ENCOURAGE AN ENTREPRENEURIAL SPIRIT AMONG RESEARCHERS AND STUDENTS AND AN AWARENESS OF OPPORTUNITIES IN STATE **R&D FACILITIES. INITIATIVES ARE DESIGNED TO** SUPPORT THE COMMERCIALIZATION OF IDEAS. INNOVATIONS AND PRODUCTS BORN OUT OF FACULTY MEMBERS' AND STUDENTS' RESEARCH AND KNOWLEDGE.

### **ECONOMIC DEVELOPMENT PROGRAMS**

- OCAST INDUSTRY INTERNSHIPS
- ENTREPRENEURIAL WORKSHOPS
- BUSINESS PLAN COMPETITIONS

## Because STEVI is a part

## STEM is a part of Oklahoma's Future.

The Oklahoma Experimental Program to Stimulate Competitive Research (OK EPSCoR) was established by the National Science Foundation in 1985 to strengthen Oklahoma's exploration and growth in science, technology, engineering and mathematics. OK EPSCoR's central goal is to increase the state's research competitiveness through strategic support of research instruments and facilities, research collaborations, and integrated education and research programs.

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