

## **QUEST: Quality Elementary Science Teaching**

**Project Title:** QUEST: Quality Elementary Science Teaching

**Project Director:** Dr. Deborah Hanuscin

**Lead Institution:** University of Missouri - Columbia

**Duration of Project:** Three years (Cycle-9 is the first year for this project)

**Grade Level Focus:** K-6

**Credit Hours to be Provided:** 3 undergraduate credits, 10 CEUs

### **Project Summary:**

This 3-year project will provide professional development in inquiry-based teaching to 30 K-6 teachers and special educators, as well as 6 pre-service teachers annually. The program promotes success for *all learners* in science through applying principles of Universal Design for Learning (UDL) to instruction. Building on our experience from a previous ITQ project, we will utilize an innovative format that combines teacher professional development with a summer academy for students. Participating teachers attend a 2-week full-time summer institute at the University of Missouri. During week one teachers develop their understanding of physical science content and real-world applications of physics concepts to environmental and social issues. Specific topics are selected to address teachers' greatest area of need in terms of subject matter knowledge, and GLEs they report most difficult for students to master. In week two, participants refine their instruction and assessment skills and are guided in implementing the knowledge and pedagogical skills they develop in the program and applying UDL to teach the content to elementary students. 6 of the participants will serve as 'mentors' during this week. Mentor participants will have received additional training on data team processes, so that they can guide teachers in using assessment data to inform instruction. Following the summer institute, teachers continue their professional development through (1) implementation of administrator-supported action plans targeting improved student achievement in science, (2) individualized support visits by project staff, (3) a series of face-to-face follow-up sessions, and (4) an interactive project website that enables teachers to share instructional materials they develop and discuss their implementation of these materials with colleagues in other buildings and school districts. This project represents a strong collaboration between the Department of Physics & Astronomy, the MU Science Education Center, the Department of Special Education, Heart of Missouri Regional Professional Development Center, and partner schools.