AR Girls: Augmented-Reality Targeting Science

Overview:
AR Girls is an NSF Innovative Technology Experiences for Students and Teachers (ITEST) funded initiative that uses an innovative approach that combines stealth science, emerging technologies (i.e., augmented reality), digital art, place-based communication and non-hierarchical design to engage art-oriented girls in science or Information and Communication Technology (ICT) career pathways. The project targets art-oriented girls ages 15-18 in rural Maine with no prior interest in STEM who partner with scientists to communicate an issue in their community through a science-based augmented reality (AR) story. Using a stealth science model, the girls are recruited through their interest in art and media design in partnership with a local art organization. The project aims to support girls in developing possible selves as communicators, digital designers, and change agents in their community with a long-term goal of increasing the number of girls from rural areas in science and ICT careers.

Scope of Work:
Drs. Martin Storksdieck and Kelly Riedinger are collaborating with project partners at the University of Maryland Center for Environmental Science, the Maine Math Science Alliance, the Harvard Graduate School of Education and the University of Wisconsin to pursue the following research questions:
1. Does involving girls in producing locally-based AR experiences increase their interest in ICT careers (i.e., digital design)?
2. Does involving girls in science communication change their perspective about the process of science?
3. Does working in partnership with scientists on AR experiences increase girls' self-efficacy for (1) communicating, (2) designing with digital tools, and (3) using science information?

Broader Impacts:
The AR Girls project will advance the field through testing potentially innovative approaches to engaging girls in science and technology and addressing disparities in female participation in related fields, particularly for underserved girls from rural areas. By involving scientists as community partners, the project will also develop participating scientists' abilities to communicate their work and engage public audiences. Moreover, the project will build knowledge around developing effective partnerships and collaborations between scientists and local communities.