

Reaching new audiences with STEM messages and experiences by using digital technologies

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The need for students to develop STEM skills has never been greater due to economic transitions associated with the information age and automation.

To address the challenge of our growing reliance on STEM skills, CSIRO Education and Outreach develops and delivers programs to build essential STEM skills among school-aged students, teachers and the community. In delivering these programs, CSIRO is exploring and piloting innovations that leverage digital technologies to provide greater access for all students, particularly those in regional, rural and remote areas.

One of these innovations enables students and families to take virtual tours of the RV *Investigator*—Australia's only blue-water research vessel dedicated to marine research throughout Australia's vast ocean territories.

Another innovation sees high school students pilot the concept of "virtual" work experience, where CSIRO scientists use on-line tools to supervise groups of high school students collaborating on real-world STEM projects.

A third development is an on-line platform that supports communities of practice and collaboration spaces enabling students and teachers to share STEM ideas, and to learn from each other and subject matter experts. We have also trialled an adaptive platform and are about to pilot a virtual laboratory based on CSIRO's Food and Nutrition research.

As these innovations are piloted, it is important to evaluate their efficacy in creating engagement in STEM and achieving project objectives. This session will explore CSIRO Education and Outreach's technology-enabled pilots, describe the findings from their early-stage evaluations and pose questions for program improvement.