Jürgen Gadau, David Pearson and Kate Ihle in Gamboa, Panama.

ASU global classroom launched with the Smithsonian Institution

A novel virtual classroom debuted this fall with the launch of the School of Life Sciences' "Current Topics in Tropical Biology" class. Through high-quality, multipoint Vidyo™ video conference exchanges, experts from the Smithsonian Tropical Research Institute (STRI) and scientists at the Smithsonian Institution in Washington, D.C., are sharing real time classroom activities with ASU professors and students.

"Vidyo's groundbreaking technology and video conferencing system transforms mediated classrooms on campus into real time, research and learning environments," said **Robert E. Page, Jr.**, dean of the School of Life Sciences. "Students can participate in high quality video interactions with researchers from remote areas, plus collect and share data via the Internet, all at the same time, on their laptop or desktop PCs or Mac."



Kate Ihle (left) and Fernando Bouche (right) using Vidyo on Barro Colorado Island as it is projected into a SOLS classroom at ASU.

Developed and directed by ASU professors **David Pearson** and **Jürgen Gadau**, the tropical biology class features a series of experts from ASU and Panama. In addition to the expanded global classroom activities, Smithsonian researchers are working with ASU colleagues and mentoring students on site in Arizona. Eight students from the fall course will go on to do field work in Panama during ASU's winter session, based on the research approaches that they develop with ASU and Smithsonian faculty. Their winter cohort will also include graduate students from Panama.

Page worked to develop the ASU-STRI partnership with Eldredge Bermingham, director of STRI. "This December we will celebrate 100 years of Smithsonian science in Panama," said Bermingham. "Given the importance of tropical ecosystems to human well-being in the 21st century, we are pleased to partner with ASU to give North American university students direct access to scientists working in tropical forest and reef environments that inspire exploration."

The Smithsonian Tropical Research Institution (STRI) in Panama offers facilities that allow staff scientists, fellows, and visiting scientists to pursue a range of tropical studies, from field studies in sustainability and ecoservices to investigations of molecular and marine sciences and sociobiology. The continuity of the institution's long-term ecological programs, for example on Barro Colorado Island, enables in-depth investigations that attract more than 900 elite scientists, students and visitors a year. The first test of the Vidyo system in the field was conducted at Barro Colorado Island, an internationally recognized biological research station.

Although long distance virtual education has become more common with increasingly sophisticated software and technology that allows conferences to be accessed via the Internet, what sets Vidyo apart is low cost, mobility – the ability to use it in a field setting – use of a simple desktop interface, and the number and quality of multiple simultaneous connections.

"Vidyo technology and products are uniquely suited for applications such as the educational partnership between ASU and the Smithsonian," said Ofer Shapiro, co-founder and CEO of Vidyo. "Vidyo delivers HD, multi-party video communication over less than perfect networks such as the Internet. It allows access by multiple participants over PC and Mac laptops, desktops, and soon, tablets and smartphones. This is why it is perfect for use in field settings and remote locations. The high quality Vidyo delivers from a jungle in Panama is what makes this solution exceptional."

"The benefits of this Smithsonian partnership in Panama to our work in education and sustainability are immense," said **Charles Perrings**, a professor in ASU's School of Life Sciences. Perrings and colleague **Ann Kinzig** study the ecosystem services that managed forests deliver to the Panama Canal and their importance to global commerce.

One important goal of the ASU-STRI collaborative is to promote educational opportunities globally; in particular, research and discovery in the areas of biofuels, social structure, sustainability and species diversity. The educational experiences to be created by the ASU-Smithsonian virtual learning sessions are expected to extend beyond Arizona State to users, such as K-12 classrooms, worldwide. "We would like the benefits of this program to reach other students who would otherwise not have access to such a great resource," said Page. According to **Charles Kazilek**, creator of ASU's K-12 online science education website, *Ask A Biologist*, "With the ASU Vidyo virtual classroom system in place, we can offer a very affordable program to public schools – the only thing that's needed is an Internet connection. Vidyo's solution is a fraction of the cost of alternatives and was the only solution that could actually do what we wanted." ■

ASU was recently recognized as second among 20 of the nation's "Up-and-Comers," universities highlighted in the 2011 Best Colleges guidebook by *U.S. News & World* Report.