Fitting 'smart' mobile phone with magnifying optics creates 'real' cell phone

EurekAlert!

Research presented at ASCB annual meeting, Dec. 15-19, San Francisco

By fitting a "smart" mobile phone with magnifying optics, bioengineers at the University of California, Berkeley created a real "cell" phone, a diagnostic-quality microscope that can be used by clinics in developing countries and inside — and outside — American biology classrooms, according to Eva M. Schmid, PhD, who described the development of CellScope at the American Society for Cell Biology Annual Meeting, Dec. 17, in San Francisco.

Dr. Schmid, who is in the bioengineering and biophysics lab of Daniel Fletcher, PhD, said that the UC Berkeley researchers initially envisioned a mobile phone-microscope so rugged that it could be used for high-resolution imaging outside traditional laboratory environments, especially for disease diagnostics in developing countries. But, after a chance encounter with a secondary school science teacher, Dr. Schmid and her colleagues decided to evaluate CellScope in an alternate environment: a middle school science classroom at the San Francisco Friends School.

Over the course of a year, the middle schoolers participated in the development of educational CellScopes by carrying out a "Micro:Macro" project outside the classroom, where they took macroscopic and microscopic pictures of objects in their homes, gardens, parks and playgrounds. Dr. Schmid said that the captured images were displayed in real time on the phone's touch screen and were viewed simultaneously by multiple individuals, thereby sparking interactive discussions among students and teachers.

Image modifications and annotations were performed directly on the smartphone screen, and results were subsequently posted to social media platforms for further discussions. Now the devices are being tested for educational outreach with other classrooms and museums. Researchers at the University of Hawaii have taken the CellScopes and their students to the beach to monitor plankton diversity, Dr. Schmid said.

Source: http://www.eurekalert.org/pub_releases/2012-12/asfc-fm120312.php [1]

Source URL (retrieved on *04/19/2014 - 4:51am*):
http://www.ecnmag.com/news/2012/12/fitting-smart-mobile-phone-magnifying-optics-creates-real-cell-phone?qt-recent_content=0

Links:

[1] http://www.eurekalert.org/pub_releases/2012-12/asfc-fm120312.php