

11/24/09

iLab Project Gives High Schools Access to World-Class Science Labs

I am interested in hearing from some of you who have viewed or used the iLab resources. Thank you. – Anita

With a new iLab Network project underway at the School of Education and Social Policy and MIT, high schools that barely have funding for test tubes can access some of the most advanced science laboratory equipment in the world -- including instruments using output from nuclear reactors. The goal of the iLab Network, which recently received a two-year, \$1 million grant from the National Science Foundation, is to help students learn more and become more engaged with science through remote access to world-class science instrumentation. The Office of Science, Technology, Engineering, and Math Education Partnerships (OSEP) is developing a series of remote laboratory experiments geared for high schoolers, in partnership with MIT. For example, advanced high school science students will be able to use mass spectrometers and nuclear magnetic resonance (NMR) machines at Northwestern University, a neutron beam diffraction lab housed at MIT's research nuclear reactor, electronic circuit testers at the University of Queensland, and devices from other universities worldwide. The Northwestern team is developing innovative and accessible online interfaces for students to control the instruments remotely, see the devices operate via live webcam video, and visualize and analyze the experimental results.

In the past, the experiments available to the vast majority of high school students have been limited. "To a certain extent, a high school science lab curriculum is based on what supplies are available and what can be done in 45 minutes instead of what makes the most sense for learning science. iLabs will allow science teachers to reconfigure the science labs in a way that makes much more sense pedagogically. Labs can now be done in study hall or as homework as well as in class, so students can have a lot more time to conduct experiments," says Research Associate Professor Kemi Jona, principal investigator on the project and one of the leaders of OSEP. "Students will use actual instruments and get real data. These are not simulations," explains Research Assistant Professor Dean Grosshandler, associate director of OSEP and senior investigator on the project. "Students will have 24/7 access and will be able to conduct multiple runs, taking advantage of replicability and the opportunity to analyze variations in their results, both of which are at the heart of the scientific enterprise." With a mission of connecting K--12 students with world-class science, technology, engineering, and mathematics resources, OSEP was initiated by SESP, the Northwestern University Office of Research Development and the Northwestern Office of Research in 2007. More information about OSEP is available at <http://osep.northwestern.edu>.

T C E B

Triangle Coalition Electronic Bulletin

November 12, 2009 - Volume 15, Number 43

Online Version: <http://www.trianglecoalition.org/curtceb.htm>