'Bugscope' Gives Internet Users Anywhere Chance To Study Insects

ScienceDaily (Apr. 2, 1999) --- CHAMPAIGN, Ill. -- With a computer and an Internet connection, young students in classrooms across the country can focus their eyes on insects and do their own research by signing on to Bugscope.

"I think for most youngsters, bugs are second in popularity only to dinosaurs," said Clint Potter, co-director of Bugscope, which is based at the Beckman Institute for Advanced Science and Technology at the University of Illinois. "We are hoping to channel that enthusiasm for bugs to get high school students, and even younger kids, interested in and excited about scientific research."

Online testing began in March. So far, schools in California, Illinois, Maryland, Massachusetts, New Jersey, New York, Oklahoma, South Carolina, Tennessee, Texas and the Virgin Islands have applied to use Bugscope.

Members of Beckman Institute's Imaging Technology Group made a recently acquired environmental scanning electron microscope available to schools that are accepted into the program. With their computers, users can command the microscope to take specific images of the bugs under study.

A scanning electron microscope uses sophisticated technology to examine the three-dimensional structure of surfaces in great detail. Students can see bug parts that are undetectable to the naked eye. Bugscope can serve as a jumping-off point for many in-class projects, such as a thorough study of entomology, an understanding of microscopy, and a basic understanding of what is involved in scientific research.

"Our goal is really to get the students to look beyond their textbooks," Potter said. "That is what Bugscope is all about -- making science interesting and exciting. We also hope it will serve as a model for future outreach efforts."

Four high school students at University High School in Urbana, Ill., have been trained to run the microscope. They will prepare specimens and put them in the microscope's viewing chamber. David Stone, an entomologist and teacher at University High School, is the resident bug expert. Faculty and graduate students from the U. of I. entomology department also are resources. The University High students also have written a Web-based handbook for using the microscope. The students will monitor all experiments and be available for online, real-time discussions.

Bugscope is an outgrowth of Chickscope, another Web-based science project run by the Beckman Institute. Chickscope, which was established in 1996, allowed students to view and study magnetic resonance images of developing chick embryos.

Funding for various components of Bugscope has come from the Illinois Consolidated Telephone Co., National Science Foundation, Beckman Institute, IBM Shared University Research Program and the Informix Software Innovation Grant Program.

For more information, go to the Bugscope Web site at http://bugscope.beckman.uiuc.edu.

Adapted from materials provided by University Of Illinois At Urbana-Champaign.

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