FEATURED COLLECTION

February 2000

Bugscope

Bugscope is a science outreach project created by the Imaging Technology Group at the Beckman Institute for Advanced Science and Technology on the University of Illinois, Champaign-Urbana campus. Bugscope enables K-12 students (who successfully apply to the program) to access a powerful environmental electron scanning microscope. Schoolteachers and their students send bugs they have collected to the Beckman Institute. The bug (or bugs) is placed in the microscope and the students then remotely control the scope via the World Wide Web. (Below are some examples of images captured by schools for projects completed in 1999.)

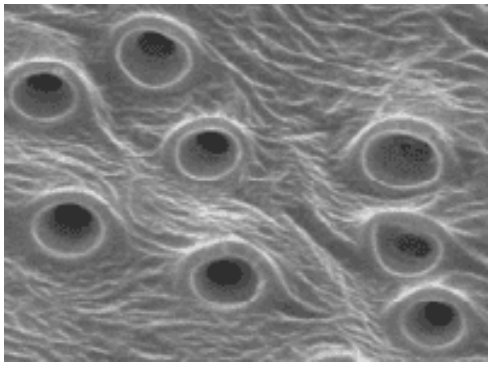

Figure 1: Image captured during a project by Triad High School, Troy, IL. Teacher: Sandra Perkins. Proposal number 1999-072. Copyright © 1999 University of Illinois at Urbana-Champaign. Used with permission.

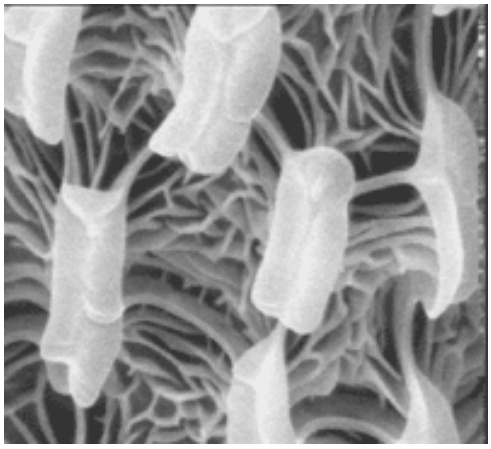

Figure 2: Image captured during a project by Sumner High School, Sumner, WA. Teacher: Bruce Kelly. Proposal number 1999-075. Copyright © 1999 University of Illinois at Urbana-Champaign. Used with permission.

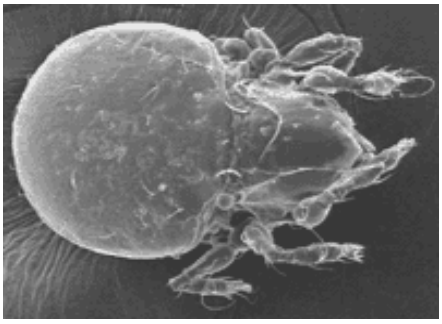

Figure 3: Image captured during a project by Croton-Harmon High School, Croton-on-Hudson, NY. Teacher: Donna Light-Donovan. Proposal number 1999-036. Copyright © 1999 University of Illinois at Urbana-Champaign. Used with permission.

Bugscope is one of many ITG projects -- collectively known as the World Wide Laboratory -- that provide interactive and remote access to imaging technology over the Internet through a variety of user interfaces. Other imaging technology available remotely includes the transmission electron microscope (TEM) and a magnetic resonance imager (MRI).

This remote instrumentation has many advantages: it has been used by researchers at the University of Illinois to collaborate with others around the world; a given instrument also can be used by a remote researcher with minimal local operator help; an instrument can be automated using an intelligent computer system so that the instrument functions as if a human operator were there; and remote instrumentation has been used for education and training, as in Bugscope and Chickscope.

Applications are currently being accepted for Bugscope. The URL for Bugscope is < http://bugscope.beckman.uiuc.edu >.

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