BioQUEST Workshop

Tools for learning science ... ... as a way of knowing.

Interested in gaining hands-on experience with BioQUEST software? Sign-up for the four part workshop to be offered at the AMCBT meeting at Millikin University in Decatur, Illinois October 28-30, 1993. Previous experience with BioQUEST software or Macintosh computers is not necessary. BioQUEST simulations and the problem-solving approach can be a powerful tool in helping students think like scientists. You will have the opportunity to pose and solve research problems as you might have your students do when using the BioQUEST simulations. The sessions will include a discussion of the role of problem posing, problem solving and persuasion of peers with explicit concern for how student learning in biology can become more meaningful when student thinking parallels the processes of science. The workshops will enable you to gain experience with some of the BioQUEST simulations from within The BioQUEST Library as well as some new modules that are being nominated for inclusion on the next CD. The BioQUEST workshops will be held on Saturday, October 30th, directly after the formal meeting of the AMCBT meeting at Millikin University in Decatur, Illinois.


Patti Soderberg, Director, BioQUEST, Beloit College and the University of Wisconsin--Madison

John R. Jungck, Editor, The BioQUEST Library, Beloit College

2:00 - 3:00PM Six simultaneous mini-workshops (Please choose one for the full period and then switch groups at the break):

(1) Patti Soderberg, Beloit College and the University of Wisconsin--Madison

Workshop One will feature the Genetics Construction Kit, a module on Mendelian Genetics. For anyone who has never tried a BioQUEST module, this session is highly recommended.

(2) John R. Jungck, Beloit College

Workshop Two will feature the Microbial Genetics Construction Kit, a module on replica plating, serial dilution, auxanography, complementation, and conjugation.

(3) Marc Roy, Beloit College and Richard S. Manalis, IUPUIFW (Indiana University - Purdue University - Fort Wayne)

Workshop Three will explore ways in which computerized data acquisition systems can be used to encourage problem posing and problem solving by students in biology laboratories. The features of two data acquisition systems, MacScope and MacLab will be demonstrated. When used in conjunction with classical experiments and open-ended, student driven experiments, students rapidly progress to the point where they are doing science rather than simply completing mundane exercises with predictable results.

(4) Ray Russo, IUPUI (Indiana University - Purdue University - Indianapolis)

Workshop Four will feature A Trip to a Rocky Tidal Shore. This module is centered on a field trip investigatory experience at a northwestern U.S. marine biology field station. While this module has not been submitted to the BioQUEST Library, Ray has submitted an earlier software package, A Trip to a Forest which is currently being considered for field testing.

(5) Ethel Stanley, Millikin University and Benjamin Jones, Beloit College

Workshop Five will feature Biota as it might
be used in a botanist's classroom. Biota is a simulation based module that is useful to explore population dynamics.

(6) Terry Derting, Murray State University

Workshop Six will feature several BioQUEST modules on physiology such as the Isolated Heart Lab, Cardiovascular Construction Kit, and Axon. Terry will focus on one of these as an introduction and then will have participants explore one of these simulations.

3:00 - 4:00PM Six simultaneous mini-workshops:

(7) Patti Soderberg, Beloit College and the University of Wisconsin - Madison and Ben Jones, Beloit College

Workshop Seven will feature the Pedigree Construction Kit, a forthcoming BioQUEST module which has been designed to be conducive to exploring issues in genetic counseling.

(8) John R. Jungck, Beloit College

Workshop Eight will feature SequenceIt!, a module on sequencing proteins.

(9) Marc Roy, Beloit College and Richard S. Manalis, IUIPUI

REPEAT OF Workshop Three will feature a new module on Real-Time Data Acquisition, employing MacScope and MacLab for physiological experiments.

(10) Ray Russo, IUIPUI

REPEAT OF Workshop Four will feature A Trip to a Rocky Tidal Shore. This module is centered on a field trip investigatory experience at a northwestern U.S. marine biology field station.

(11) Ethel Stanley, Millikin University

Workshop Eleven will feature Environmental Decision Making as might be used in ecologist classrooms. Environmental Decision Making is a simulation based module that has four ecosystems: pond life with fishing, forest with logging, grasslands, and "pickle jars."

(12) Terry Derting, Murray State University

Workshop twelve will focus on Terry's plans to develop a module on field labs and how they can be made into more open-ended investigations.

4:00-4:30PM General session on impact of the use of these BioQUEST materials on biology teaching and curriculum.

You may register for the workshops when you complete your AMCBT registration forms.

The BioQUEST Library is a compendium of computer-based tools, simulations, and texts to support research-like investigations in your biology classroom. These resources, authored by more than 30 bio-science educators across the country, have been designed for use in cooperative learning environments that emphasize the scientific processes of problem-posing, problem-solving, and peer persuasion. The core of the Library is the BioQUEST Collection, a set of peer-reviewed, field-tested modules addressing issues in evolution, genetics, ecology, molecular biology, and physiology. Nine modules are currently included in the Collection. Six additional modules are included in the Library as Collection Candidates.

For information on The BioQUEST Library: Academic Software Development Group Computer Science Center University of Maryland College Park, MD 20742 301-405-7600 asdg@umdd.umd.edu

To receive BioQUEST Notes 3(2) contact: BioQUEST Beloit College 700 College Street Beloit, WI 53511 608-363-4723 BioQUEST@beloit.edu

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