

Workshops

Please read the Refund and Cancellation Policy. Workshops are ticketed events; tickets may be purchased while registering and will be included in the registration packet. If you participate in a Workshop(s) before acquiring your registration packet, bring your registration confirmation notice so that you have a record of your purchased ticket. Workshops will be held in the Convention Center and at University of Southern Alabama campus (transportation will be provided). Buses will leave from the Lobby of the Convention Center at the time specified on your ticket.

W1 Producing, Publishing, and Sharing Curriculum Materials in the Plant Sciences.....\$25.00

8 am - 10 am

Presenter: Michael W. Clayton, Department of Botany, University of Wisconsin - Madison, Madison, WI 53706 608-262-2333, clayton@wisc.edu

Target Audience: Teachers all levels
Enrollment Limit: 30

Producing course-specific curriculum materials allows educators to better focus on specific learning objectives. This is particularly important for the teaching laboratory where students can become distracted by non essential procedures and awkward formatting. Using multimedia, the production of quality teaching materials, such as lab manuals and web-based lessons, is easily in the grasp of any dedicated teacher. In this workshop, we will share and discuss some of the curriculum materials we have developed at the University of Wisconsin with an emphasis on the learning objectives underlying the creation of these materials, and the methods used in their development. The materials demonstrated, may be used and modified by the participants after the workshop. These, and other resources useful for the development of customized course materials, are available through the University of Wisconsin -Madison. Our materials may be freely sampled via the web page at <http://botit.botany.wisc.edu/>. Rights of distribution are granted through the purchase of our CD, Multimedia Toolkit for Educators in the Life Sciences. Proceeds from the sale of CDs are returned to the university to support undergraduate education. We hope this workshop will encourage others to follow our lead in producing and distributing materials aimed towards educators who desire to author their own curriculum content.

W2 Plant Biologists Reaching Out: Planning and Delivering Teacher Workshops.....\$50.00

8 am - 12 pm

Presenters: D. Timothy Gerber, University of Wisconsin - La Crosse, La Crosse, Wisconsin 54601, gerber.dani@uwlax.edu

David W. Kramer, Ohio State University at Mansfield, Mansfield, Ohio 44906, kramer.8@osu.edu

Target Audience: K-12 Teachers
Enrollment Limit: 20

The Botanical Society's report *Botany for the Next Millennium* (BSA, 1995) charges each of us to elevate the importance of effective teaching in our own institutions. But it doesn't stop there! It goes on to say, "Equally vital are activities that communicate the excitement of plant biology to students and teachers involved in K-12 education and to the general public." Many plant biologists in universities have limited experience in working with teachers at other levels of education. Those who want to accept this challenge soon discover there is much to know about outreach to pre-service and in-service teachers. The organizers of this workshop have delivered successful workshops for teacher professional development and want to share what they have learned. But this workshop's goal is to move beyond "show and tell." Participants will begin planning their own teacher workshops. Planning in this setting will allow you to ask critical questions relating to goals, content, hands-on activities, effective use of technology, curriculum integration, recruiting, funding, follow-up, and other elements.

W3 Getting to the Roots of Plant Evolution: Genomics and the Reconstruction Tree of Life....FREE

8 am - 12 pm

Presenter: Brent Mishler, University and Jepson Herbaria, University of California, Berkeley, Berkeley, CA 94720-2465, bmishler@socrates.Berkeley.edu

Target Audience: High School Teachers & Faculty and Graduate Students
Enrollment Limit: 25

Phylogenetic analyses using molecular and morphological data have yielded stunning results about the tree of life and how all organisms on earth are related to each other. The use of phylogenetic methods to understand evolutionary history has become a common theme throughout science. Understanding the concepts and basic methodology of these relatively new techniques is an important component of science education at the high school and undergraduate college levels.



This workshop will provide an introduction to phylogenetic methods using examples from the green plants. Using material that is easily accessible nationwide, we will conduct a hands on demonstration of a classroom exercise appropriate for grades 9 - 12 and introductory biology classes at the university level. Using a simple phylogenetic analysis with morphological and genomic data, we will explore the evolutionary relationships of land plants. Results will be used to discuss adaptation to life on land, radiation of the angiosperms, molecular evolution, and the new classification of green plants.

This workshop will provide a foundation for students to (1) conduct a scientific investigation by collecting, categorizing, and analyzing data, (2) read and analyze data summarized in a cladogram, and (3) understand basic evolutionary concepts such as adaptation, diversification, symbiosis, and convergent evolution.

Sponsored by the National Science Foundation (Grant DEB-0090227), The Deep Gene Research Coordination Group exists to integrate green plant phylogenetics and genomics.

The group is exploring ways in which comparative phylogenetic studies can inform functional genomic studies, and knowledge of plant genomes can inform the understanding of phylogenetic relationships. For more information, please visit our web site (<http://ucjeps.herb.berkeley.edu/bryolab/deepgene/>).

W4 Tips on Writing NSF-CCLI Proposals.....\$10.00

8 am - 12 pm

Presenter: Katherine Denniston, National Science Foundation, Division of Undergraduate Education (DUE), 4201 Wilson Boulevard, Suite 840, Arlington, Virginia 22230, 703-292-4620, kdennist@nsf.gov

Target Audience: Undergraduate/Graduate
Enrollment Limit: 50

This session will highlight NSF Division of Undergraduate Education Course, Curriculum, and Laboratory Improvement (CCLI) program. We will begin with an overview of the four tracks of the CCLI program: Educational Materials Development (EMD), Adaptation and Implementation (A&I), National Dissemination (ND), and Assessment of Student Achievement (ASA). We will discuss the key characteristics of a competitive proposal, using examples of funded botany projects. We will also consider the proposal submission/review/award process, as well as the "Seven Top Ways to Blow a Proposal." Our intent is to help you take your idea and turn it into the most competitive proposal possible. Attendees will participate in a simulated panel review using an actual funded proposal in order to get a deeper understanding of the review process. We will discuss how the review process should impact proposal development in order to maximize the competitiveness of a submitted proposal.



W5 Using Lucid Software for Making Interactive Keys..... \$140.00

8 am - 5 pm

Presenters: Neil Snow and Jeffrey Brasher, Department of Biological Sciences, University of Northern Colorado Greeley, CO 80639, neil.snow@unco.edu

Geoff Norton, Centre for Pest Information and Technology Transfer, University of Queensland St. Lucia, QLD Australia

Target Audience: Undergraduate/Graduate
Enrollment Limit: 20

This workshop will provide in-depth coverage of Lucid software for writing and disseminating interactive keys. It will include instruction on the use of Lucid Builder, Lucid Player, key design and implementation, and discuss platform requirements and installation. Each participant will need to bring a pc laptop. Workshop participants will be able to purchase Lucid at a reduced rate.



W6 Implementing A Cooperative Group Learning Environment in Hands-On Biology Labs for Nonmajors: Lessons from the Trenches...\$27.00

1 pm - 5 pm

Presenter: Staria Vanderpool, Department of Biological Sciences, Arkansas State University, State University, AR 72467 svand@astate.edu

Target Audience: Undergraduate/Graduate
Enrollment Limit: 24

A hands-on workshop for people who may be considering modification of lab experiences for nonmajors biology lab

from a traditional confirmatory/demonstration model to an investigational model. During the past three years our department has been involved in a transition to problem-based investigational labs for the nonmajor biology lab. Our typical annual student enrollment in the lab is 1500 students so there are significant logistical problems involved in developing, staffing, and managing this laboratory environment. Solutions to some of these problems include using a cooperative learning method, multi-week labs, and concentration on the process of scientific investigation. Student response has been increasingly positive as we have resolved implementation problems. Assessment of the effectiveness of the change indicates significant increase in the student's overall interest in science, understanding of the use of science reasoning, and the role of science in non-science careers thus validating the role of laboratory sciences as part of the general education component of the undergraduate degree program.

W7 Conservation Status & Management of Bog Communities in the Southeastern US\$25.00

1 pm - 5 pm

Presenters: Lawrence R. Stritch and Levester Pendergrass USFWS/NCTC, Route 1 Box 166, Shepherdstown, WV 25401, 304-876-7466, lstritch@fs.fed.us

Target Audience: Undergraduate/Graduate
Enrollment Limit: 50

The purpose of this workshop is to raise awareness of bog communities in the southeastern, U.S. This workshop proposes to have an introductory speaker to introduce the topic. A speaker will follow this from TNC that will discuss the classification of bog communities in the southeast and their conservation status. The remainder of the workshop will address various management concerns such as fire ecology, woody encroachment, invasive species, water management, etc. Management experts will address these management topics. The workshop will conclude with a panel of the management presenters available for questions from the participants.

Workshops

W8 Teaching through Inquiry.....\$15.00

1 pm - 3 pm

Presenter: Gordon Uno, Department of Botany and Microbiology, University of Oklahoma, Norman, OK
73019-6131, guno@ou.edu

Target Audience: High School Teachers & Graduate Students/Undergraduate Faculty
Enrollment Limit: 50

Inquiry, which has been recognized as the method to drive science education reform, helps students discover and

construct an understanding of scientific concepts on their own under the guidance of the instructor. This workshop will introduce participants to different kinds of inquiry and the general techniques of inquiry instruction using a variety of short, hands-on activities and information about the Introductory Botany course at the University of Oklahoma, which is taught using this method. In addition, participants will learn how to develop “discovery” activities on their own and how to make traditional laboratories more inquiry-oriented. We will also address the most common problems in teaching biology today, with suggestions and examples of how to deal with or overcome these problems. This workshop will introduce participants to a new biology education initiative from the American Institute of Biological Sciences (AIBS); ideas for the initiative will be solicited.