

## **61i Chemical and Paper Engineering and Technology Workshops for K-12 and Community College Educators**

*Steve R. Duke and R. Dale Smith*

Faculty and industry partners from the Auburn University Chemical Engineering and the Alabama Southern Community College Process Technology programs have developed and delivered workshops for community college and high school educators that give positive face-to-face experiences with the products, processes, and people of the chemical and paper industries.

At the completion of these workshops and institutes, participants should be able to (1) describe key processes in chemical and forest products processing, (2) demonstrate science and physics principles related to pulp and paper technology, (3) develop ways to incorporate chemical and paper concepts and learning materials into the classroom, and (4) provide information about career opportunities in the chemical and paper industries.

Key elements of the workshops include small-scale “take-home” laboratories, hands-on chemical process pilot plant experiments, chemical and paper manufacturing facility visits, small group activities, presentations from industry representatives, discussions with engineering and technology faculty, and social/cultural activities. At the Alabama Southern Thomasville campus, participants get hands-on experience with chemical and paper processes in ASCC's world-class Pulp and Chemical Technology Laboratories and at the Auburn University campus participants get hands-on experience in the Chemical Engineering research and education laboratories.

Five-day, three-day, and one-day versions of the workshop have been offered. Educators can obtain CEU credit for participation. The week-long Faculty Development Institute is aimed at community college educators and it is a collaboration between the National Network for Pulp and Paper Technology Training, (npt)<sup>2</sup>, and the Center for the Advancement of Process Technology, (CAPT). The one-day and three-day workshops are aimed at K-12 educators and they are a collaboration between the Auburn Center for Paper and Bioresource Engineering, Alabama Southern, and the Alabama Forestry Association. The workshops and faculty summer institutes are supported by the National Science Foundation Advanced Technology Education Program.

Workshops have been offered several times at the Auburn University and Alabama Southern Community College campuses. We will discuss the “export” of these workshops and institutes to partner colleges in Maine, Wisconsin, and the Pacific Northwest. A review of the workshop activities, best practices, and assessments will be presented. The interaction with educators is shown to be effective for guiding students toward degree programs and careers in technology and engineering.