



Building Broader Collaboration and Stability in Bioenergy and Bioproducts Programs at Auburn University

Issue:

Auburn University launched its Center for Bioenergy and Bioproducts (CBB) in 2007 as one of two university initiatives to build broad-based faculty participation in programs addressing issues in renewable energy and water resources. Initially, CBB functioned well under a natural resource institute that was created under the central administration. Over time, however, this administrative construct was not able to provide sufficient financial support for staffing and operations, and most importantly, a mechanism was needed to reach out to a broader group of disciplines for collaborative research, education, and outreach programs.

What has been done:

We worked to evaluate the previous administrative relationships for university centers and institutes related to energy, environment, and sustainability topics. Out of this collaborative evaluation effort, we suggested an alternate university structure for management and operation of environment-related centers and institutes and our Center for Bioenergy and Bioproducts. Based on the recommendations of this collaborative effort, Auburn formed a university-wide Council for Energy, Environment, and Economics research, education, and outreach. This university Council brings together a cross section of faculty and administrators from across the university to share funding opportunities and assemble multidisciplinary teams to address new programmatic opportunities at the nexus of energy, environment, and economic issues. Also through this effort, CBB was restructured so that it is hosted by one academic department for accounting and personnel reasons, but reports to the Alabama Agricultural Experiment Station (AAES). Under the AAES, the Center has direct involvement with faculty in four colleges or schools as well as collaborative relationships with faculty in numerous other colleges at Auburn. A new financial support mechanism was developed for CBB to allow the funding of support staff and a basic level of infrastructure and programmatic support. Subsequently, additional support staff have been hired for the Center, and new shared laboratory facilities have been acquired and made available to collaborating faculty. More broad-based discussions on research and education collaboration have developed among a wider circle of faculty disciplines made possible by the Council on Energy, Environment, and Economics. In this Council, Dr. Taylor currently serves as the technical area leader for Energy topics, and as such, helps facilitate university-wide collaborative efforts for developing team-based, interdisciplinary extramural proposals.

Impacts/New Partnerships:

The new level of financial stability has allowed the Center for Bioenergy and Bioproducts to hire additional support staff to provide operational support for substantial bench-, pilot-, and field-scale research platforms. This operational support, which is provided by research engineers and engineering technicians, allows faculty and graduate students across the university to have access to an extensive portfolio of state-of-the-art biomass processing and biofuel conversion reactors. The new shared laboratory spaces, which are managed and supported by CBB, are fostering increased collaboration among multiple disciplines and they are allowing a stronger footing for competing for external funds.

The new operating structure, personnel, facilities, and collaborative atmosphere among energy researchers at Auburn have allowed CBB to develop new partners within Auburn, with other institutions, and with biofuel industry. Within Auburn University, new relationships have been developed with academic disciplines that have not been traditional biofuel researchers as well as with units such as the campus Sustainability Office. The collaborative relationships with other regional universities and biofuel industry partners have fostered the development of several new research avenues and they have been instrumental in helping obtain significant levels of extramural funding. Additional collaborative relationships have developed with international universities that are allowing student interns and graduate students from Brazil and China to conduct biofuel research at Auburn.

Outcome of Project (societal impact/ measure of increased quality of life)

The reorganized CBB and the new university Council for Energy, Environment, and Economics are both allowing university faculty and staff to continue to expand programs in biofuels and biobased product development. New extramurally funded projects are being led, increasingly, by young faculty who have been able to take advantage of the collaborative environment and shared-use laboratories developed by the CBB and its senior faculty. These programs also are fostering undergraduate research (funded by NSF and USDA) to train scientists and engineers in biofuel and biorefining issues and technology, as well as science and professionalism issues. The professional development of students and young faculty with expertise in renewable energy will have great benefits for society through the development of new technologies that will catalyze economic development and reduce greenhouse gas emissions. Finally, partnerships that allow us to work with industry and solve biorefining problems leverage the public investment in research and education to ultimately spur the commercial production of renewable biofuels, which will in turn revitalize rural economies.

How has your project been aided by your FSLI experience?

These efforts have benefited from many of the FSLI educational experiences. Example topics include strategic planning, leading and managing change, and understanding and motivating employees.

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