Biofuel Nations

Brazilian, U.S. chemists forge stronger ties to advance biomass conversion to fuels and chemicals

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Scientists and policymakers from Brazil and the U.S.—the world leaders in biofuel research and development—participated in a historic symposium in Águas de Lindóia, Brazil, on May 30–31 to create sustainable research collaborations for improving biomass conversion into fuels and value-added chemicals and materials. A report from the meeting is expected to take shape during the next few months and will be used to inform funding agencies and policymakers in both countries on future needs in biofuels R&D.

Vieira (from left), Buchanan, and Mangrich discuss potential avenues for joint Brazil-U.S. biofuels research.

The joint symposium, attended by 50 Brazilian and U.S. stakeholders, is a "wonderful opportunity," commented Brazilian Chemical Society (SBQ) President Antonio S. Mangrich of the Federal University of Paraná, who welcomed the participants. "We are here not only to discuss research results but predominantly to propose questions," Mangrich said. "Questions are more important than answers right now in shaping the future of science and technology development of biofuels."

The Brazilian-U.S. effort is a partnership between SBQ, the American Chemical Society, and the Brazilian Agricultural Research Corp. Bradley D. Miller of ACS's Office of International...
Activities worked with SBQ's immediate past-president Paulo C. Vieira of the Federal University of São Carlos to organize the venture. Miller received an NSF Discovery Corps Fellowship to support the partnership.

Miller and Vieira put together a contingent of U.S. and Brazilian scientists that toured biofuel research labs and production sites in the state of São Paulo during the week leading up to the meeting (visit C&EN Online, www.cen-online.org, to view a blog highlighting the tour). The tour provided U.S. scientists an opportunity to observe Brazil's biofuels infrastructure.

Brazil and the U.S. each have a five-year plan for advancing biomass conversion into fuels and chemicals, Miller pointed out. The emphasis for the SBQ-ACS effort is "on identifying where there are gaps in knowledge and where we complement each other," Miller said. "We need a common road map for where and how the U.S. and Brazil can collaborate in bioconversion chemistry."

In March, after two meetings between Brazilian President Luiz Inácio Lula da Silva and U.S. President George W. Bush, the two countries signed a memorandum of understanding for establishing an energy partnership to encourage bioethanol and biodiesel use throughout North and South America. That agreement "is a perfect entrée into the type of bilateral science and technology cooperation that will come out of this symposium," Gale A. Buchanan, USDA's undersecretary for research, education, and economics, told C&EN.

During a plenary lecture, Buchanan, an agronomist, commented on the importance of chemistry in driving paradigm shifts in agriculture. Chemical fertilizers, mechanization, pesticides, and biotechnology "have all had lasting impacts on society," Buchanan said. The new paradigm of biobased products "will be more dramatic and have a greater impact on the people of this world than any of the other changes in agriculture during the past 150 years," he added. "The collaboration between our two great agricultural nations will be a benefit to everyone."