



**Calling all Graduate Students!  
Presentation Competition on Chemistry of  
Biorenewable Materials and Fuels**



**Best presentations  
will be recognized at the March 2007 ACS National Meeting and  
presenters have a chance to join leaders in the field  
for a 10-day study trip to top biorenewable labs in Brazil!**

Graduate students are invited to submit contributions (posters, preprints, or slides) for presentations at the ACS National Meeting in Chicago, March 26-29, 2007, on topics addressing the chemistry of biorenewable materials and fuels, particularly those relating to crop-based and natural product biomass conversions for biofuel and biomaterials, standards and metrology, storage and transportation, and byproducts.

The top submitted contributions will be designated “Best of Biorenewables Student Presentations” at the ACS meeting. Students will receive a certificate to acknowledge their accomplishments. Top contributions will be selected by an advisory group of prominent U.S. and Brazilian chemists working in the fields of biorenewable materials and fuels.

The author of the best student presentation in Chicago will be invited to participate in a May/June 2007 visit to top research labs in Brazil and a joint presidential symposium at the annual meeting of the Brazilian Chemical Society. Brazil is recognized as a world leader in developing biorenewable materials and fuels. Travel, accommodations and local expenses in Brazil will be provided by the American Chemical Society, through a grant from the U.S. National Science Foundation Discovery Corps Fellowship program.

Winning presentation content also will be considered for presentation in web-audio seminars for U.S. and Brazilian audiences.

Contributions are invited pertaining to chemical sciences research related to the following five areas:

**Crop-based Feedstocks**

Crops containing high amounts of sugars and starches, such as sugar cane, corn, and wheat, can serve as biomass feedstocks. These feedstocks can be thermochemically and biochemically converted to biofuel, biomaterials and chemicals. Contributions are invited that explore how to enhance yields or product selectivities by manipulating the properties of crops or process conditions.

**Natural Product Feedstocks**

Most current technologies allow for the production of ethanol from grain-based feedstocks, but new technologies are being developed to allow for the production of biofuel, biomaterials and

chemicals from non-food plants, which contain cellulose. Contributions are invited that explore how to expand the range of feedstocks (including wood, switch grass, agricultural residues, and municipal and industrial waste) that can be used to produce biofuels, biomaterials and chemicals.

### **Storage and Transportation**

Feedstocks for biofuel and biomaterial production are generally confined to a specific geographic region, like the Midwestern states of the United States or the center-south region of Brazil. Contributions are invited that explore the development of methods for the storage and transportation of biofuels and biorefined products, a key aspect of production and distribution.

### **Standards and Measurement**

The use of biofuels is relatively new, and as such not many well-defined standards or methods for measurement are available. It will be increasingly important to identify the properties of biofuels that determine fuel combustion quality and to develop regulation standards. Some of the important properties of biofuels include viscosity, density, energy density, sulfur content, oxidation stability, and flash point, for example. Contributions are invited that explore the development of analytical methods for easy and accurate measurement of the physical properties of biofuels.

### **By-products**

The production of liquid fuels from biomass often results in unwanted byproducts. For example, the breakdown of cellulose results in lignin, and biodiesel production generates glycerol. Contributions are invited that explore how to utilize these byproducts, either in the production of biofuels or in some other capacity.

### **How to be considered**

1. By their published deadlines, and through an ACS Technical Division relevant to your interest and background in chemistry, submit your abstract through ACS OASYS at <http://oasys.acs.org/acs/233nm/oasys.htm>
2. Once you receive notification that your contributions has been selected for presentation at the ACS National Meeting in Chicago, send an email to Dr. Bradley Miller at [b\\_miller@acs.org](mailto:b_miller@acs.org) indicating the assigned number of your paper.
3. Send a pdf version of your accepted contribution (poster, preprint, or slides) to Dr. Miller at the email above.