

ORGANIZED BY:



Department of Biosystems
and Agricultural Engineering

<http://www.egr.msu.edu/age/>



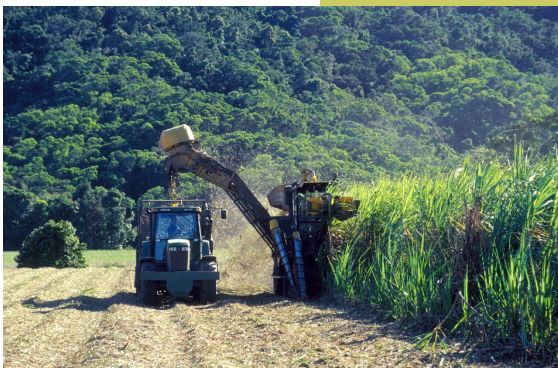
<http://www.greatlakesbioenergy.org/>



WorldTAP

**World Technology Access
Program (WorldTAP)**

<http://worldtap.msu.edu/>



**For More Information,
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**APPLICATION DEADLINE:
AUGUST 15, 2012**



Registration Fee: \$250 (Non-Refundable)
Course Fee*: \$3,250

Course Fee includes instruction fee, meals,
lodging, information packages, and local
travel.

*Course Fee non-refundable after August 30, 2012

Please make check payable to:
Michigan State University

An
International
Short Course
on
Biofuels and
Bioenergy

September 16–21, 2012



**MICHIGAN STATE
UNIVERSITY**

Biofuels and Bioenergy: An International Short Course

Course Description

Globally, biofuels and bioenergy research and development is gaining increasing attention as



energy costs are rising. There is interest worldwide to look for alternative sources of energy using bio-based renewable resources and reduce dependence on fossil fuels. In this context, there is a renewed focus on production and commercialization of biofuels that are environmentally friendly, economically viable, and socially acceptable. Michigan State University (MSU) is actively involved in this arena. MSU has a diverse array of departments, faculty, and projects covering all areas of bioenergy production, from feedstocks to the end product, including expertise in licensing, marketing and commercialization and links with the private sector. Using this faculty resource base, as well as U.S. and international experts, MSU offers this

annual one-week short course. This short course will provide meaningful exposure to topics related to science, technology and policy associated with biofuels, and address the economic, social, ethical, environmental and technological issues associated with the use and management of biofuels and bioenergy. Participants will receive background information and publications, as well as hands-on training on these subjects.

Course Components

The course material is covered in five sessions, along with special sessions and field trips.

Session 1: Feedstock Development

- Feedstock/biomass production and processing
- Supply chain logistics and economics

Session 2: Conversion Technologies: *Biochemical*

- Fermentation and pretreatment

Biological

- Anaerobic digestion
- Biorefinery
- Standards for Biodiesel (manufacturers and B20)

Thermochemical

Session 3: Systems Integration/Life Cycle Analysis

Session 4: Environment and Sustainability Research

- Agronomic issues
- Environmental Concerns and Sustainability

Session 5: Roadmap to Project Development

Special Sessions:

- Global Policy Issues
- Ethics and Biofuels
- Biofuels in Developing Countries

Field trips:

- Michigan Biotechnology Institute (MBI; scale-up and derisking facility)
- Anaerobic Digester Research and Education Center (ADREC) and pilot-scale biorefinery
- Pilot biodiesel plant
- Non-profit Renewable Energy Research Organization
- MSU Power Plant
- Biomass Gasification Plant
- Kellogg Biological Station
- Ethanol Plant

