



## **AGENDA**

### **US-China Workshop on the Climate-Energy Nexus**

**TUESDAY, NOVEMBER 10, 2009**

- 8:30am Bus from hotel to Oak Ridge National Laboratory
- 9:00am Badging and tour of ORNL
- 12:00 Bus to Great Smoky Mountains National Park  
Box lunches on bus
- 1:00-5:00pm Tour of Great Smoky Mountains National Park and shopping in Pigeon Forge
- 6:00pm Dinner at the Dixie Stampede in Pigeon Forge
- 8:30pm Bus loads for return to Doubletree Hotel in Oak Ridge

## WEDNESDAY, NOVEMBER 11, 2009

7:00am Bus loads at Doubletree Hotel for travel to Oak Ridge National Laboratory (for non-local guests)  
7:45am Continental Breakfast in Lobby

8:15-10:45 **Plenary Sessions** in JICS Auditorium, Bldg. 5100 (Moderator: **Gary Saylor**, UT/ORNL)  
8:15 Opening address by Conference Chairs **Gary Saylor** (UT/ORNL) and **Randy Gentry** (UT)  
8:30 Welcome to ORNL by **Thom Mason**, Laboratory Director  
8:45 Remarks by **Jianing Cai**, Counselor for Science and Technology, China Embassy  
9:00 Guest Introductions and Conference Objectives by **Jie Zhuang** (UT)

**Keynote Addresses on Climate and Ecosystem** (Moderators: **Gary Saylor** and **Randy Gentry**)

9:10 *Achieving International Agreement and Climate Protection by Coordinated Mitigation of Short- and Long-Lived Greenhouse Gases* by **Michael MacCracken**, Climate Institute  
9:55 *Ecosystem Degradation and Restoration Study in China* by **Zhiyun Ouyang**, CAS

10:40-11:10 **Coffee Break and Group Picture** (in Lobby)

11:10-12:00 **Concurrent Sessions**

Session 1: <b>Climate Change</b> (Bldg. 5100, JICS Auditorium)	Session 2: <b>Ecosystem Management</b> (Bldg. 5700, Room A104)
Moderators: <b>James Hack</b> (ORNL) and <b>Randy Gentry</b> (UT)	Moderators: <b>Quan-Jiu Wang</b> (CAS) and <b>Jeffrey Volenec</b> (Purdue University)
11:10 <i>Global Climate Modeling and Prediction</i> by <b>David Bader</b> , ORNL	11:10 <i>Spatio-temporary Variability of Carbon Cycles of China's Grasslands</i> by <b>Sheng-Gong Li</b> , CAS
11:35 <i>Greenhouse Gas Emission and Terrestrial Carbon Sequestration in China</i> by <b>Yao Huang</b> , CAS	11:35 <i>Ecosystem Modeling in the Context of Climate and Energy</i> by <b>Anthony King</b> , ORNL

12:00-1:10pm **Lunch** (in Lobby)

**NOTE:** Following lunch, regular conference concurrent sessions continue. There will also be a special meeting, Agenda for Huaibei's Clean Development, which will be held in Room 130 from 2:00p-5:00p. See below for details.

1:10-2:45 **Concurrent Sessions**

Session 1: <b>Climate Change</b> (Bldg. 5100, JICS Auditorium)	Session 2: <b>Ecosystem Management</b> (Bldg. 5700, Room A104)
Moderators: <b>Mac Post</b> (ORNL) and <b>Guofan Shao</b> (Purdue University)	Moderators: <b>Stan Wullschleger</b> (ORNL) and <b>Zhiyun Ouyang</b> (CAS)
1:10 <i>Impact of Climate Change on Renewable Energy</i> by <b>Dan Bilello</b> , National Renewable Energy Lab	1:10 <i>Urban Ecological Restoration and Ecopolis Development in China</i> by <b>Ru-Song Wang</b> , CAS
1:35 <i>A Scalable and Extensible Earth System Model for Climate Change Science</i> by <b>John Drake</b> , ORNL	1:35 <i>The Land Use-Climate Change-Energy Nexus</i> by <b>Virginia Dale</b> , ORNL
2:00 <i>Omics: Potential New Tools for Understanding Global Climate Change Impacts</i> by <b>Paul Brown</b> , Purdue University	2:00 <i>Implications of Climate Change and Energy on the Conservation of Biodiversity</i> by <b>John Bickham</b> , Purdue University
2:25 <i>A Framework for Managing Climate Change</i> by <b>William Fulkerson</b> , UT	2:25 <i>Modeling Climate Change Impacts on Terrestrial Carbon Cycle in East Asia during the Last Century</i> by <b>Philippe Ciais</b> , LSCE, France

- 2:50-3:10      **Coffee Break** (in Lobby)
- 3:10-5:40      **Plenary Sessions** (JICS Auditorium): (Moderators: *Yao Huang* (CAS) and *John Drake* (ORNL))
- 3:10-3:40      **Summary of Concurrent Sessions by *Mac Post*** (ORNL) and *Stan Wullschleger* (ORNL) - 15 minutes each
- 3:40-5:40      **Group Discussions**
1. Implications of Climate Change in China and in the US
2. Potential Areas and Prospects for China-US Collaboration
- 6:00             Bus loads for return to American Museum of Science & Energy/Doubletree Hotel (for non-local guests)
- 6:30pm         **Reception** at the American Museum of Science & Energy  
300 South Tulane Avenue, Oak Ridge, Tennessee (phone: 865-576-3200)

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- 2:00-5:00p     Special Meeting: **Agenda for Huaibei's Clean Development** (Bldg. 5700, Room A106)  
Conveners: *Lee Shugart* (UT) and *Ru-Song Wang* (CAS)
- 2:00     Introduction
- 2:10     *Tennessee's Bioenergy Program* by *Samuel Jackson*, UT
- 2:35     *Master Plan for Huaibei's Bioenergy Development* by *Lee Shugart*, UT
- 3:00     Panel Discussion
- 4:30     Summary
- 5:00     Huaibei delegation leaves for airport

## THURSDAY, NOVEMBER 12, 2009

7:00am Bus loads at Doubletree Hotel for travel to Oak Ridge National Laboratory (for non-local guests)  
7:45am Continental Breakfast in Lobby

8:15-8:30 **Summary of Day 1** (JICS Auditorium, Bldg. 5100)—**Randy Gentry**, UT

8:30-10:00 **Keynote Addresses on Clean Energy and Energy Technology** (JICS Auditorium, Bldg. 5100)  
Moderators: **Jay Gore** (Purdue University) and **Brian Davison** (ORNL)

8:30 *Technologies and Policies for the Transition to a Sustainable Energy System in China* by **Xi-Liang Zhang**, Tsinghua University

9:15 *Energy Challenge and Technology R&D for Mitigation of CO<sub>2</sub> Emission* by **Carl Bauer**, National Energy Technology Laboratory

10:00-10:20 **Coffee Break**

10:20-12:00 **Concurrent Sessions**

Session 1: <b>Bioenergy Impacts</b> (JICS Auditorium, Bldg. 5100) Moderators: <b>Alan Hecht</b> (USEPA) and <b>Fu Zhao</b> (Purdue)	Session 2: <b>Energy Technology</b> (Bldg. 5700, Rm A104) Moderators: <b>Tony Palumbo</b> (ORNL) and <b>Qiang He</b> (UT)
10:20 <i>The Integrated Biorefinery: New Perspectives for Existing Biomass Industries</i> by <b>Tim Rials</b> , UT	10:20 <i>Center for Direct Catalytic Conversion of Biomass to Biofuels</i> by <b>Mahdi Abu-Omar</b> , Purdue University
10:45 <i>Challenges during Biofuel Deployment</i> by <b>Brian Davison</b> , ORNL	10:45 <i>Catalytic Conversion of Biomass-derived Carbohydrates to G-valerolactone without Using an External H<sub>2</sub> Supply</i> by <b>Yao Fu</b> , USTC
11:10 <i>Ecosystem Services of Existing and Candidate Bioenergy Cropping Systems: Critical Research Questions</i> by <b>Sylvie Brouder</b> and <b>Jeff Volenec</b> , Purdue	11:10 <i>Catalytic Conversion and Upgrading of Algae-based Biomass Components</i> by <b>Chang-Wei Hu</b> , Sichuan University
11:35 <i>Trajectory and Policy of Biofuel Development in China</i> by <b>Shi-Yan Chang</b> , Tsinghua University	11:35 <i>DOE's BioEnergy Science Center</i> by <b>Martin Keller</b> , ORNL

12:00-1:00pm **Lunch** (in Lobby)

1:00-2:15 **Concurrent Sessions**

Session 1: <b>Bioenergy Impacts</b> (JICS Auditorium, Bldg. 5100) (Moderators: <b>Sylvie Brouder</b> (Purdue) and <b>Jack Parker</b> (UT))	Session 2: <b>Energy Technology</b> (Bldg. 5700, Rm A104) (Moderators: <b>John Sanseverino</b> (UT) and <b>Yao Fu</b> (USTC))
1:00 <i>Impact of Biofuel Production on Hydrology and Water Quality in Midwest USA</i> by <b>Indrajeet Chaubey</b> , Purdue University	1:00 <i>Hydrogen Production from Cu Water</i> by <b>Han-Qing Yu, Guo-Ping Sheng</b> , USTC
1:25 <i>Evaluating the Economic and Environmental Impacts on the Agricultural Sector as a Result of the Push toward Renewable Fuels</i> by <b>Daniel De La Torre Ugarte</b> , UT	1:25 <i>Selective Biomass Pyrolysis and Catalytic Bio-oil Upgrading</i> by <b>Ying Zhang</b> , USTC
1:50 <i>Aquatic Ecosystem Responses to Land Use Changes Associated with Biofuel Crop Production</i> by <b>Reuben Goforth</b> , Purdue University	1:50 <i>Aspen Plus Process Simulation of Flexible Feedstock Thermochemical Ethanol Production</i> by <b>Fu Zhao</b> , Purdue University

- 2:15-2:35      **Coffee Break** (in Lobby)
- 2:35-4:05      **Plenary Sessions** (JICS Auditorium, Bldg. 5100):  
(Moderators: **Keith Kline** (ORNL) and **Xi-Liang Zhang** (Tsinghua University))
- 2:35-3:05      **Summary of Concurrent Sessions** by **Alan Hecht** (USEPA) and **Tony Palumbo**  
(ORNL) - 15 minutes each
- 3:05-4:05      **Group Discussions**  
1. An Open Cycle of Energy, Environment, and Economy for China and the US  
2. China-US Clean Energy Partnership: Uncertainty and Alternatives
- 4:30              Bus loads for Downtown Knoxville (for non-local guests)
- 5:30pm          Board the Tennessee Riverboat for dinner (Volunteer Landing, 300 Neyland Drive, Knoxville)
- 6:00pm          Sailing time for Tennessee Riverboat
- 9:00pm          Bus loads for return to Doubletree Hotel in Oak Ridge (for non-local guests)

## FRIDAY, NOVEMBER 13, 2009

7:00am Bus loads at Doubletree Hotel for travel to Oak Ridge National Laboratory (for non-local guests)

7:45am Continental Breakfast

8:15-12:00 **Concurrent Sessions**

Session 1: <b>Ecological Observation and Modeling: From Data to Knowledge</b> (JICS Auditorium, Bldg. 5100) Moderators: <b>Paul Hanson</b> (ORNL) and <b>Sheng-Gong Li</b> (CAS)	Session 2: <b>Climate Change Mitigation: Strategy and Technology</b> (Bldg. 5700, Room A102) Moderators: <b>John Drake</b> (ORNL) and <b>Larry Nies</b> (Purdue)
8:15 <i>Study on Carbon flux/storage in Terrestrial Ecosystems in China and its Impact Mechanism Based on Network Observation</i> by <b>Gui-Rui Yu</b> , CAS	8:15 <i>China's Efforts for Energy Efficiency in Industry</i> by <b>Yan-Jia Wang</b> , Tsinghua University
8:40 <i>Roles of Forests in Offsetting CO<sub>2</sub> Emissions: China vs. US</i> by <b>Guo-Fan Shao</b> , Purdue University	8:40 <i>Urban Climate Change: A Comprehensive Ecological Analysis of the Thermo-effects of Major Chinese Cities</i> by <b>Jin-Lou Huang</b> , CAS
9:05 <i>Coupled Climate-biogeochemistry Modeling: Carbon, Nutrients, and Land Cover Change</i> by <b>Peter Thornton</b> , ORNL	9:05 <i>Carbon Market and CDM in China</i> by <b>Sheng Zhou</b> , Tsinghua University
9:30 <i>Molecular-isotope Approaches to Track Soil Organic Matter Dynamics</i> by <b>Tim Filley</b> , Purdue University	9:30 <i>Analysis of Embodied Energy and CO<sub>2</sub> Emissions in China's International Trade</i> by <b>Alun Gu</b> , Tsinghua University
9:55 <b>Coffee Break</b> in Lobby	9:55 <b>Coffee Break</b> in Lobby
10:15 <i>Landscape Changes and Vegetation Restoration on the Loess Plateau, China</i> by <b>Jun Fan</b> , CAS	10:15 <i>Toward Consolidated Bioprocessing for Bioethanol Production: Genomics Driven Optimization of Cellulolytic Co-cultures</i> by <b>Qiang He</b> , UT
10:40 <i>Carbon Flux Associated with Management and Disturbance of Alpine Meadow on Tibetan Plateau</i> by <b>Xin-Quan Zhao</b> , CAS	10:40 <i>Estimating Bioenergy Feedstock Costs from the Field to the Biorefinery</i> by <b>Erin Wilkerson</b> , ORNL, and <b>Christopher Wright</b> , INL
11:05 Group Discussion	11:30 Group Discussion

12:00-1:00pm **Lunch** (in Lobby)

1:00-5:30 **Plenary** Sessions (JICS Auditorium, Bldg. 5100)

- 1:00-2:15: **Summary of Day 2** by **Gary Saylor** (UT/ORNL)  
**Summary of Concurrent Sessions** by **Paul Hanson** (ORNL) and **John Drake** (ORNL) - 15 minutes each
- 2:15-3:05 **Addresses on International Collaboration**
- 2:15 *Environmental Sustainability: A Theme of China-US Collaboration* by **Alan Hecht**, USEPA
- 2:40 *Springer: A Venue for Publishing US-China Joint Research* by **Melinda Paul**, Springer
- 3:05-3:30 **Coffee Break** (in Lobby)

- 3:30-5:00      **Group Discussion on Research Collaboration and Student Education**  
(Moderators: *John Bickham (Purdue)* and *Randy Gentry (UT)*)
- 5:00            **Announcements**
- 5:10            **Concluding Remarks (*Gary Saylor* and *Randy Gentry*)**
- 5:30            **Workshop Ends**
- Bus loads for return to Doubletree Hotel (for non-local guests)
- 6:30            Dinner at Doubletree Hotel

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## SATURDAY, NOVEMBER 14, 2009

- Breakfast on your own
- 9:00AM        Bus loads at the **Hilton Knoxville hotel** (501 W. Church Street, Knoxville) for tour of Bioethanol Plant in Vonore and adjacent switchgrass field. Will return to the Hilton Knoxville around Noon-1:00pm