



During the past five years, the Biomass & Bioenergy Research Group (BBRG) at the University of British Columbia has conducted extensive research on wood pellet production, storage, handling, life cycle analysis, and characterization of new generation of torrefied pellets. A Collaborative Research and Development program between UBC, Wood Pellet Association of Canada (WPAC) and Natural Sciences & Engineering Research Council of Canada (NSERC) has funded this project. The British Columbia Ministry of Forest, Natural Resources Canada, Agriculture & Agri-Food Canada, FPInnovations, Oak Ridge National Laboratory (U.S. Department of Energy), and several private sector partners have also contributed to the development of feedstock engineering research at UBC. The BBRG is organizing a 2-day Workshop at the University of British Columbia during May 17-18, 2011 to share the latest research and development on wood pellets. In addition to members of the BBRG, key members of the industry are invited to present the state of technology of wood pellet processing, handling, and market trends.

Topics to be covered

- ❖ Uses and applications of biomass pellets – international and domestic (current regional consumers)
- ❖ Unit operations for pellets production – sorting, grinding, drying, densification, and cooling
- ❖ Integration of process equipment and the supporting systems for a sustainable operation
- ❖ Physical and chemical properties of biomass and measurements; characteristics that are desirable and undesirable for pellet production
- ❖ Emissions from pellets and pellet production operation
- ❖ Techno-economical and life cycle analysis
- ❖ Pellet logistics – feedstock resource transportation, and storage
- ❖ Process control, optimization and instrumentation
- ❖ Operability and maintainability considerations of pellet mills.
- ❖ Calculations – energy and mass balances for pellet production
- ❖ Solid biofuel classification, certification and testing standards under development around the world (CEN, ISO, ASTM, ASABE, DIN etc.)
- ❖ Safety issues related to pellet handling and storage
- ❖ Differences between pellets, pucks and bricks - can feedstock characteristics determine which to produce?
- ❖ Torrefied wood pellets – what are they, current state of commercial production, how do they compare to conventional pellets?
- ❖ Challenges in manufacturing pellets/pucks/bricks from roadside residues that remain after sawlog recovery (i.e. tops, branches and long-butts) and contain varying proportions of white wood, bark, foliage and contaminants (sand, gravel)

Workshop fee

The workshop fee is \$250 per individual attendee. The fee includes two lunches, refreshments, and course material.

For members of the Wood Pellet Association of Canada (WPAC), the attendance is free of charge for one person from each pellet producing member company, including Fibreco. This offer is in recognition of financial and in-kind contributions the WPAC and Fibreco have made to BBRG program during the past five years.

Poster and table top exhibits

Space for posters and table top exhibits is available free of charge. Registrations from individuals attending the exhibits are expected.

Workshop Location

Room 202
Chemical and Biological Engineering Department
2360- East Mall Vancouver BC – V6T 1Z3
University of British Columbia

Housing

A number of accommodation opportunities are available on the campus of the University of British Columbia. For more information and reservation please contact directly the following

Conferences & Accommodation at UBC
5961 Student Union Boulevard
Vancouver, BC V6T 2C9
(604) 822-1000
<http://www.ubconferences.com/>

Organizing Committee and contacts

Technical Program: Ladan Naimi, ladanj@chbe.ubc.ca, 604-827-3413
Registration: Fahimeh Yazdanpanah, fyazdanpanah@chbe.ubc.ca, 604-827-4286
Communications: Zahra Tooyserkani, ztooyserkani@chbe.ubc.ca, 604-827-3413
Posters & Table Top Exhibits: Xiao He, xhe@chbe.ubc.ca, 6048273178
Housing: Wendi Guo, wguo@chbe.ubc.ca, 604-827-4286

www.biomass.ubc.ca

Biomass Pelletization Workshop Program

Day 1: May 17, 2011		
8:00-8:50	Biomass pellets - markets and trends	Georgia Biomass
9:00-9:50	Chemical and physical properties of biomass and measurements	Dr. Lau, Xiao He, Ehsan Oveisi aklau@chbe.ubc.ca
10:00-10:50	Biomass characteristics to make durable pellets	Dr. Sokhansanj, Bahman Ghiasi shahabs@chbe.ubc.ca
11:00-11:50	Science of biomass size reduction and measurements	Dr. Sokhansanj, Ladan Naimi shahabs@chbe.ubc.ca
12:00-1:00	Lunch (served) - Clean Energy Research Center	Dr. David Wilkinson dwilkinson@chbe.ubc.ca
1:00-1:50	Hurdles to overcome for producing torrefied pellets	Dr. Tony Bi, Jianghong Peng xbi@chbe.ubc.ca
2:00-2:50	Steam explosion to make pellets for ethanol production	Dr. Saddler, Dr. Chandra, Zahra Tooyserkani, jack.saddler@ubc.ca
3:00-3:50	Off-gassing and self-heating of stored biomass and pellets	Dr. Jim Lim, Wendi Guo cjl原因@chbe.ubc.ca
4:00-4:50	Wood pellet storage instrumentation, monitoring, and controls	OPI systems Inc. Dave Crompton
Day 2, May 18, 2011		
8:00-8:50	Challenges in raw material sourcing, harvest and quality – whole tree harvest	Tony Sauder, RFP Tony.Sauder@fpinnovations.ca
9:00-9:50	Techno economic evaluations of pelletization	Dr. Sowlati, Mahdi Mobini Taraneh.sowlati@ubc.ca
10:00-10:50	Logistics modeling and analysis	Dr. Sokhansanj, Mahmoud Ebadian shahabs@chbe.ubc.ca
11:00-11:50	Life cycle analysis of pellet production and transport	Dr. Tony Bi, Siduo Zhang xbi@chbe.ubc.ca
12:00-1:00	Lunch (served) - BC Bioenergy Network	Dr. Scott Stanners Scott.Stanners@bcbioenergy.ca
1:00-1:50	Energy and mass balance for torrefied pellet production	Dr. Tony Boyd tboyd@noram-eng.com
2:00-2:50	Other forms of densified solid biomass: logs and briquettes	Wayne Winkler, P.Eng. w.winkler@briquettingsystems.com
3:00-3:50	Quality certification and standards for solid biofuels	Staffan Melin drc@dccnet.com
4:00 – 4:50	Process integration for maximum productivity	Bijan Shams, P.Eng. bijan.shams@cogentind.ca



Registration Form

First Name:

Last Name

Organization

Address

Phone:

E-mail

REGISTRATION FEES:

Registration Fee: 250.00 CDN \$
GST 12%: 30.00 CDN \$
Total: 280.00 CDN \$

PAYMENT

Cheque mailed to 2360- East Mall- Vancouver BC V6T 1Z3
Attention: Fahimeh Yazdanpanah

Please email a copy of the completed registration form to
fyazdanpanah@chbe.ubc.ca

Registration Policies:

- 1- Please note the deadline for registration is April 1, 2011. But as space is limited we may stop registration before the deadline if the maximum capacity is reached.
- 2- Please pay registration fee (\$280 per person) by issuing a bank cheque in Canadian dollar.
- 3- Please make cheque payable to "The University of British Columbia". In the memo section please write Clean Energy Center.
- 4- Confirmation of your registration will be emailed to you. The original receipt will be issued to the registrant at the Workshop site.
- 5- There will not be any refund.