



International Council of Academies of
Engineering and Technological Sciences



Canadian Academy of Engineering /
L'Académie canadienne du génie

CAETS 2009 CALGARY
18th CAETS Convocation to be held in Calgary, Alberta, Canada from July 13 to 17, 2009

Location: The Westin Calgary
320 4th Avenue S.W.; Phone: (403)-266-1611

CONFERENCE REGISTRATION WEBSITE

<http://www.peopleware.net/index.cfm?siteId=158&eventDisp=CAETS>

HOTEL RESERVATION WEBSITE

<http://www.starwoodmeeting.com/StarGroupsWeb/booking/reservation?id=0810168315&key=E F8B0>

CONVOCATION PROGRAM

“Our Heritage of Natural Resources – Management and Sustainability”

JULY 12, SUNDAY

15:00 – 17:30 CAETS Business Meeting (Executive Committee) ** *Aberhart, 2nd Floor*

JULY 13, MONDAY

14:00 – 16:00 CAETS Business Meeting (Board of Directors) ** *Eau Claire (North & South), Lower Level*

**These functions are only for the CAETS Executive Committee and the CAETS Board of Directors.

14:00 – 18:00 Registration *Foyer, Conference Level*

18:00 – 20:00 Welcome Reception *Bonavista, Conference Level*

JULY 14, TUESDAY

8:30 – 9:30 *Opening Ceremony and Keynote Address*
Britannia/Belaire, Conference Level

Keynote address: Hon. Peter Lougheed, Partner, Bennett Jones LLP; former Premier of Alberta

15:05 – 17:25 **Meeting Energy Demand While Responding to Climate Change: (Panel)**

Moderator: Michal Moore, Senior Fellow, ISEEE

(Each presentation in the panel is 20 minutes; at the end of all the presentations, there is a 15-minute Q&A which includes all panellists)

- “Stationary energy technology for climate change” – John Burgess, Australian Academy of Technological Sciences and Engineering (Australia)
- “Energy from gas hydrates: opportunities and challenges” – John R. Grace, Professor and Canada Research Chair in Energy Processes, University of British Columbia (Canada)
- “Regulatory instruments for deployment of clean energy technologies” – Ignacio J. Pérez-Arriaga, Royal Academy of Engineering (Spain)
- “Volatile fatty acid platform for the biofuel production in the post-fossil fuel era” – Ho Nam Chang, Professor, KAIST (Korea)
- “Education of new experts for nuclear power generation” – Petr Zuna, Engineering Academy of the Czech Republic (Czech Republic)
- “Towards a sustainable energy future” – Robert L. Evans, Clean Energy Research Centre, University of British Columbia (Canada)

EVENING Free Evening

JULY 15, WEDNESDAY

8:30 – 12:00

Session 3 Forests

Britannia/Belaire

Co-Chairs: Jim Farrell, Canadian Forest Service, and Markku Karlsson, UPM-Kymmene Corporation

(Each presentation in this session is 20 minutes, with each presentation followed by a five-minute Q&A)

- “Canada’s commitment to sustainable forest management” – Jim Farrell, Assistant Deputy Minister, Canadian Forest Service, Department of Natural Resources Canada (Canada)
- “Lignocellulosic biorefinery for transportation fuels, chemicals and biomaterials” – Adriaan van Heiningen, J. Larcom Ober Chair in Chemical Engineering, University of Maine (USA)
- “New and innovative uses of renewable forest products” – Markku Karlsson, Senior Vice President, Technology, UPM-Kymmene Corporation (Finland)
- “The shift in technology drives in the global forest products industry” – Bengt Nippe Hylander, Technical Director, ÅF Engineering AB, and IVA (Sweden)

10:10 – 10:20 Refreshment Break

10:20 – 12:00

- “Forests monitoring for sustainability:” V.K. Dadhwal, Dean, Indian Institute of Remote Sensing (India)
- “The forestry revolution in Uruguay” – Lucio Cáceres, Vice-President, National Academy of Engineers (Uruguay)

- “Forestry in Spain: sustainable management and protection” – José A Pardos, Spanish Royal Academy of Engineering; presented by Pere Brunet, Spanish Royal Academy of Engineering (Spain)
- “Integrated management of natural resources: meeting the demands of complex systems” – Jim Fyles, Sustainable Forest Management Network Centre of Excellence and McGill University (Canada)

12:00 – 13:30 Council of Canadian Academies Lunch **Mayfair**
 Luncheon address: “Overview of work by the Council of Canadian Academies on the management and sustainability of natural resources” – Peter Nicholson, Inaugural President and CEO, Council of Canadian Academies

13:30 – 16:45 **Session 4 – Water Management** **Britannia/Belaire**

13:30 – 15:10 **Water Management Challenges and Opportunities**
 Co-Chairs: Kim Sturgess, Alberta WaterSMART and Howard Wheeler, Royal Academy of Engineering
 (Each presentation in this session is 20 minutes, with each presentation followed by a five-minute Q&A)

- “Water management for a changing climate: challenges and opportunities” – Howard S. Wheeler, Royal Academy of Engineering (UK)
- “Water: Alberta’s economic and social challenge” – P. Kim Sturgess, CEO and Founder, Alberta WaterSMART (Canada)
- “Water resources in Uruguay: main features and challenges towards their sustainable use” – Raúl Prando and Adriana Gambogi, Uruguayan Academy of Engineering (Uruguay)
- “Planning and management of South Africa’s limited water resources for sustainability” – Michael Shand and Robert Pullen, South African Academy of Engineering (South Africa)

15:10 – 15:30 Refreshment Break

15:30 – 16:45

- “Security of Western water supplies under a changing climate” – David Sauchyn, Prairie Adaptation Research Collaborative, University of Regina (Canada)
- “Managing water resources: a comprehensive approach” – Alexander J.B. Zehnder, Scientific Director, Alberta Water Research Institute (Canada)
- “The use of saline water at Devon’s SAGD oil sands project” – Will Yakymyshyn, Vice President, Thermal Heavy Oil, Devon Canada Corporation (Canada)

18:30 – 21:00 p.m. Symposium Dinner **Mayfair**
 Dinner speaker: “The Canadian Rockies in under one hour” – illustrated talk by Alberta naturalist and author Ben Gadd

JULY 16, THURSDAY

8:30 – 10:10 **Session 5 – Mining and Minerals** **Britannia/Belaire**

Co-Chairs: Ron Nolan, Vice-Chair, Council of Canadian Academies, and R.J. Batterham, Australian Academy of Technological Sciences and Engineering
(Each presentation in this session is 20 minutes, with each presentation followed by a five-minute Q&A)

- “Sustainability in the minerals industry – a global perspective:” R.J. Batterham, President, Australian Academy of Technological Sciences and Engineering; Group Chief Scientist, Rio Tinto (Australia)
- “Mining and minerals: Canadian sustainability perspective” – Ron Nolan, Vice-Chair, Council of Canadian Academies; former Chairman and CEO, Hatch (Canada)
- “Metal price outlook, 2009 and 2010: is the bull market for commodities returning?/Nunavut, Canada’s new frontier for mineral exploration – Patricia Mohr, Vice-President, Economics, and Commodity Market Specialist, The Scotiabank Group (Canada)
- “Mining as a catalyst for development in under-developed regions: an African perspective” – Roelf Sandenbergh, Dean, Faculty of Engineering and the Built Environment, University of Pretoria (South Africa)
- “The infrastructure crisis: a trillion-dollar challenge” – Nemkumar Banthia, Professor and Canada Research Chair in Infrastructure Rehabilitation and Sustainability, Department of Civil Engineering, The University of British Columbia; and Axel Meisen, Chair of Foresight, Alberta Research Council (Canada)

10:35 – 11:00 Refreshment Break

11:00 – 12:00 **Closing Session Views for the Statement to the World**
Britannia/Belaire

12:00 – 13:00 Lunch *Mayfair*

13:00 – 17:00 **Technical Tour** *University of Calgary*

All registered participants are welcome on this tour of eight cutting-edge laboratories at the University of Calgary’s Schulich School of Engineering, ranked among the top engineering schools in Canada. The tour encompasses research in chemical and petroleum engineering, geomatics engineering, mechanical engineering and environmental engineering. Dean Elizabeth Cannon will also present an overview of the Schulich School.

18:00 – 20:00 CAETS Dinner* *Britannia/Belaire*
Dinner address: “The nuclear option: a contract between science and society” – Elizabeth Dowdeswell, Consultant; former president and CEO, Nuclear Waste Management Association; former executive director, United Nations Environmental Programme

*This function is only for CAETS member academy delegates and guests

JULY 17, FRIDAY

8:30 – 16:30 CAETS Council Meeting** *Eau Claire (North & South)*

12:00 – 13:30 CAETS Council Lunch** **City of Calgary Water Centre**
Luncheon presentation: “The City of Calgary plans and reporting for a sustainable community” –
Wolf Keller, Director of Water Resources, City of Calgary

**These functions are only for CAETS member academy delegates

JULY 18, SATURDAY *Post-Conference Technical and Cultural Tour*

8:00 – 19:00 Tour of wind farm, run-of-river power-generating facility, Head-Smashed-In, and
the Oldman Dam **Southwest Alberta**

All registered participants are welcome on this tour to southwest Alberta, where the prairie grasslands meet the front range of the Rocky Mountains. The tour includes Canadian Hydro Developers Inc.’s wind farm and a run-of-river power-generating facility, a spectacular “buffalo jump” many thousands of years old that is a UNESCO World Heritage Site and an ‘insider’s look’ at a large earthen irrigation dam.

NOTE: There is a charge of \$30 per participant to cover the costs of transportation and lunch.

Post-Conference Tourist Visits

Participants should arrange these visits on their own. More information on these tourist attractions is available on the Conference Registration website and on the Hotel Reservation website (at the top of this program).

- Royal Tyrrell Museum of Palaeontology (Drumheller, southeast Alberta)
<http://www.tyrrellmuseum.com/>
- Banff, Columbia Icefields and Lake Louise (Rocky Mountains west of Calgary)
<http://www.banff.ca/home.htm>
<http://www.banffalberta.ca/>
<http://www.lakelouise.com/>
<http://www.exploreroackies.com/columbia-icefield/>
- Waterton Lakes National Park (southwest Alberta)
http://www.pc.gc.ca/pn-np/ab/Waterton/index_e.asp