

UBC Seminars Explore Engineering and Sustainability

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Increasingly, engineers are compelled to consider sustainability in everything we do. In general, sustainability is aimed at supporting decisions affecting our future that acknowledge both local and global biophysical limits. However, the practical application of sustainability varies from discipline to discipline and even between practitioners.

In an attempt to stimulate open and practical discussions about the linkage between engineering and sustainability, in September 2005 a series of three seminars was held at the University of BC using fuel cell technology, green buildings and stormwater infrastructure as practical case studies to illuminate these linkages.

Each seminar featured a senior level practising or research engineer who discussed the engineering aspects of the respective green technologies, followed by commentary from two panelists with expertise in areas such as public policy, economics, architecture and business. A question and discussion period involving the audience capped each seminar.

Organized and conducted by volunteers with the support of UBC's Faculty of Applied Science, the seminars were primarily intended to enhance the learning experience for undergraduate engineering students, although faculty and working professionals were strongly encouraged to participate. Attendance was voluntary and attracted approximately 270 participants for the three seminars:

Green Buildings (September 22) — Blair McCarry PEng of Keen Engineering Ltd (now part of Stantec) highlighted the Centre for Interactive Research on Sustainability (www.sdri.ubc.ca/cirs) as a case study. Martin Nielsen PEng, engineer and architect with Busby Perkins + Will Architects, and Rob Bennett, a proj-



Highlighted as a practical case study at the recent UBC Engineering and Sustainability seminar series, the Centre for Interactive Research on Sustainability (CIRS) is intended as a living laboratory to research and assess current and future sustainable building systems and technologies.

ect manager with the City of Vancouver's Sustainability Office, served as panelists. Important themes that emerged were the increasing need for rigorous engineering, collaborative design processes, sound business arrangements and appropriate municipal policies to make green buildings a success.

Stormwater Infrastructure (September 29) — Jeff Rice PEng and Glen Shkurhan PEng of Urban Systems Ltd presented the engineering opportunities and challenges of designing sustainable stormwater systems. Panelists were Ed von Euw PEng, Senior Water Resources Engineer with the GVRD and Lambert Chu PEng, Deputy Director of Engineering for the City of Burnaby. Seminar discussions highlighted critical engineering design and cost issues, how integrated stormwater management processes are evolving in the Lower Mainland, and the role of politics and public support in decisions to build green.

Fuel Cells (November 15) — Dr David Wilkinson PEng, a researcher with the National Research Council and faculty member of UBC Chemical Engineering, provided an overview of fuel cell technology. Panelists were Dr Hadi Dowlatabadi,

a physicist and integrated studies faculty member with UBC's Institute for Resources, Environment and Sustainability; and Brian Cook, a fuel cell business and education consultant. The seminar helped illustrate that fuel cells have the potential to address issues of climate change and air pollution but face enormous challenges — such as fuel cell cost and sources of hydrogen — before their potential can be realized.

Further resources in the form of slides, reports, videotaped talks and an online discussion forum are all available online until February 2006 at www.webct.ubc.ca by using the login "susteng" and password "engineer1" to access the material.

The seminar series was considered a success in complementing existing efforts to integrate concepts of sustainability into UBC's engineering curriculum. Based on the positive response, a new and improved version is planned for September 2006. ■

The Engineering and Sustainability seminar series was organized by Eric Mazzi PEng and Conor Reynolds PEng, both PhD students in UBC Resource Management and Environmental Studies, and Susan Nesbit PEng PhD, faculty member of UBC Civil Engineering.