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SUSTAINABILITY AND THE SEMINAR SERIES

AGENDA

Introductions

Maïke Luiken, Ph.D., Chair, IEEE London Section,
Dean, Applied Research, Business Development & Innovation,
Sustainability Development, Lambton College

Keynote: **Dr. Michael Fowler**

Assistant Professor in the Department of Chemical Engineering at the
University of Waterloo

HYDROGEN ECONOMY – ALTERNATIVE FUEL OF THE FUTURE SUSTAINABLE ENERGY SYSTEM

Questions and Answers and General Discussion

Date: **Wednesday, May 21st, 2008**
Time: **5:30 p.m. – 6:30 p.m.**
Location: **Lambton College - 1457 London Road, Sarnia, Ontario, N7S 6K4**
Room: **N105**
Cost: **Free**

Next Seminar Planned, to be confirmed for June 19th @ 5:00

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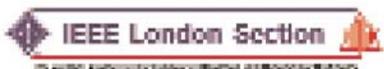
HYDROGEN ECONOMY – ALTERNATIVE FUEL OF THE FUTURE SUSTAINABLE ENERGY SYSTEM

Hydrogen energy systems are being developed to replace fossil fuels-based systems for transportation and stationary applications. The ‘Hydrogen Economy’ is a concept where hydrogen is generated from CO₂ free energy sources, which then can be used in a variety of transportation and portable applications to generate emission free clean power. Clean production and distribution methods must be designed to maximize the advantages to the consumer presented by these systems. This presentation will discuss the future of alternative fuels, and how hydrogen and fuel cell technology will contribute to both transportation energy, as well as facilitating the integration of renewable power sources such as wind and solar. Nuclear power is presently the largest contributor to Ontario’s power generation grid, and will continue to provide a clean source of power and hydrogen for Ontario in the long term, and can be used with hydrogen to facilitate the integration of various energy sources. The presentation will examine how clean energy sources can most effectively be used in the production of the hydrogen. Key to the implementation of the ‘hydrogen economy’ is the development of fuel cell technology. Dr. Fowler’s research interests also include the development of hydrogen energy systems based on fuel cell technology. Dr. Fowler will present the benefits and limitations of the hydrogen economy in the future sustainable energy system for Ontario, as well as an introduction of fuel cell technology as a key enabling technology for the future energy system.

BIOGRAPHY

Dr. Michael Fowler received his B.Eng. in Fuels and Materials Engineering from Royal Military College of Canada (RMC) in 1986, MAsc in Engineering Chemistry from Queen’s University in 1988. Following a career as Military Engineer in the Canadian Forces (including participating in a number of ‘Spill Management’ courses with Lambton College) and working as an Environmental Management Consultant he completed a PhD at RMC in 2003. Dr. Michael Fowler is currently an Assistant Professor in the Department of Chemical Engineering at the University of Waterloo with a research interest fuel cell system design and reliability, fuel cell materials durability and green power systems. He lives in the Waterloo region where his second job is as a chauffeur for his two daughters.

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