CEE691/EE693K Seminar in Renewable Energy and Island Sustainability (REIS)

LEED Design for Buildings and Communities with an Emphasis on Energy Conservation

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Location: Holmes Hall 244, Date: Thursday, November 19, 2009, Time: 4:30 – 5:30 pm

About the speaker: Melek Yalcintas received her Ph.D. in mechanical engineering from Lehigh University, Pennsylvania. She served for three years on the Mechanical Engineering faculty of the University of Hawaii at Manoa. Later, she pursued career in building industry as a consulting engineer. In 2004, she started her own firm, AMEL Technologies, Inc. Her company offers research and consulting services in mechanical engineering, mostly in energy, sustainable design and HVAC design. Her recent consulting projects include LEED sustainable design, Heating, Ventilating and Air Conditioning (HVAC) design, energy benchmarking, energy feasibility analysis and computer simulation for buildings. Dr. Yalcintas’s current energy related research projects include sustainable methods for cooling tower water treatment, utilization of certain waste materials in LEED certified buildings, advanced methods for building energy use estimation.

Abstract

LEED rating system has been transforming building industry construction and maintenance methods. Many Federal and State government agencies and local municipalities mandate a LEED certification level for new construction. Existing buildings have been following the LEEDs for better work and living environments. LEED targets to reduce environment and nature disturbance, reduce energy and water usage, recycle and reuse building/materials, and maintain indoor environment quality. Renewable energy applications have been expanding in parallel to LEED. In this context, while we push the boundaries of renewable energy technology, it is vital that we also work to reduce our energy usage. The most sensible way to do this is to increase energy efficiency. In this presentation we discuss LEED concept, provide an example for LEED process for Existing Buildings, and share case studies that demonstrate the role of energy conservation in sustainability.