Ocean Thermal Energy Conversion (OTEC)

Dr. Gérard Nihous

Associate Professor
University of Hawaii
Department of Ocean and Resources Engineering

Location: Holmes Hall 244, Date: Thursday, September 9, 2010, Time: 4:30 – 5:30 pm

About the speaker: Professor Gérard Nihous graduated from the École Centrale in Paris in 1979 and received his Ph.D. from the University of California at Berkeley in 1983. His doctorate thesis in ocean engineering dealt with wave power extraction. After moving to Hawaii in 1987, he got involved in research on Ocean Thermal Energy Conversion (OTEC) for more than a decade. He then taught a graduate course on renewable energy at Hiroshima University in 1996 and 1997. He also worked extensively on the ocean sequestration of carbon dioxide until 2002 before joining the University of Hawaii in 2003, primarily to do research on methane hydrates at the Hawaii Natural Energy Institute (HNEI). He has been with the Department of Ocean and Resources Engineering since 2009, where the focus of his activities is, once again, the promotion and development of marine renewable energy.

Abstract

The concept of Ocean Thermal Energy Conversion (OTEC) is briefly reviewed. Although the ocean thermal resource is abundant, widespread and steady, no commercial OTEC system has been deployed to date. With increasing concerns about global warming, energy security and fossil-fuel depletion, this state of affairs is likely to change. As a tropical marine renewable technology, OTEC is particularly well-suited for the State of Hawaii. The most compelling advantage of OTEC is a potential to supply continuous (baseload) electrical power.