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Center for Environmental  
& Applied Fluid Mechanics

**Center for Environmental and Applied Fluid Mechanics  
(CEAFM)**  
**SPECIAL Joint Seminar with**  
**Environment, Energy, Sustainability and Health Institute  
(E<sup>2</sup>SHI)**

Date: **Wednesday, October 19, 2011**  
Time: 4:00 p.m. – 5:15 p.m.  
Location: Levering Hall, Sherwood Room # 113  
Speaker: **Martin Greiner** (University of Aarhus)  
Title: ***"A 100% renewable power system in Europe."***

**Abstract**

The design of a 100% renewable power system for future Europe depends on the weather. The weather determines how much wind and solar power generation is best for Europe, how much and what kinds of storage, balancing and power transmission are needed, and how much fossil and nuclear power generation is still required during the transitional phase. Simple spatiotemporal modeling, solid time-series analysis and the physics of complex networks provide quantitative answers to these important questions.

**Bio**

Martin Greiner, Professor of System Engineering at the Aarhus School of Engineering (ASE) and the Department of Mathematical Sciences with the Aarhus University in Denmark, will discuss the role of mathematics and engineering to design a weather-driven renewal energy system in Europe.