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PRESENTED BY THE WATERLOO INSTITUTE FOR SUSTAINABLE ENERGY

Tuesday August 16, 2016
10:30 – 11:30 am
CPH 4333

WIND TURBINE AERODYNAMICS & SOLAR CAR COOLING SYSTEMS

Dr. Kobra Gharali, Assistant Professor of Mechanical Engineering, University of Tehran, Iran

Dynamic stall is a phenomenon which occurs in wind turbines causing significant energy waste. In more extreme incidences it has also been known to lead to wind turbine failure. The first part of this lecture will discuss how to deal with various environmental factors that can cause yaw loads and irregular wake structure leading to dynamic stall aerodynamic forces.

The second part of the lecture will move on to focus on an introduction to two solar applications. I will also touch upon the subjects of solar cooling systems and their applications in my work for the MAPNA Group in Iran and other solar competitions such as Ghazal III.

Biography

Kobra Gharali obtained her Ph.D. from the University of Waterloo in 2013. Her research expertise include: aerodynamics of wind turbines, computational fluid dynamics, and experimental laser based techniques including: Particle Image Velocimetry and Laser Doppler Anemometry. She was a visiting student at Johns Hopkins University in 2013. After graduation, she continued her research with the wind energy group at the University of Waterloo as postdoctoral scholar.

Dr. Gharali Joined the University of Tehran in Iran last year as an Assistant Professor.

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