

UNIVERSITY OF CENTRAL FLORIDA & THE SCHOOL OF EECS

present the Spring 2009

EECS Seminar Series



Prof. William Gerard Hurley

Professor of Electrical Engineering & Director of the Power Electronics Research Centre, National University of Ireland, Galway

“Development of a Battery Charger for Emergency Power Supplies for Pitch Control Systems for Off Shore Wind Turbines”

Wednesday, April 8, 2009 • 1:00 p.m. • Harris Center (HEC) 101

The presentation will describe the design of the new emergency power supply for a 5 MW wind turbine in the North Sea. Over recent years researchers of the POWER ELECTRONICS RESEARCH CENTRE of the National University of Ireland, Galway developed a novel battery charging and monitoring principles with engineers from CONVERTEC LIMITED in Ireland. The newly developed charging algorithm has been validated and implemented into battery backup systems for pitch control in wind turbines. The new developments play a distinct role in improving the safe and reliable operation of the propeller pitch control on wind turbines. The overall availability and reliability of wind farms have been dramatically increased.

The underlying basic mechanical and electrical principles for the development of the back up power supply for the pitch control for a wind turbine will be presented.

PROF. WILLIAM GERARD HURLEY

William Gerard Hurley was born in Cork, Ireland. He received the B.E. degree with 1st class honors in Electrical Engineering from the National University of Ireland, Cork in 1974, the M.S. degree in Electrical Engineering from the Massachusetts Institute of Technology, Cambridge MA, in 1976 and the PhD degree at the National University of Ireland, Galway in 1988.

He worked for Honeywell Controls in Canada as a Product Engineer from 1977 to 1979. He worked as a Development Engineer in transmission lines at Ontario Hydro from 1979 to 1983. He lectured in electronic engineering at the University of Limerick, Ireland from 1983 to 1991 and is currently professor of Electrical Engineering at the National University of Ireland, Galway. He is the Director of the Power Electronics Research Center there. He served on the faculty at the Massachusetts Institute of Technology as a Visiting Professor of Electrical Engineering in 1997/1998. Prof. Hurley has given invited presentations in Mexico, Japan, Singapore, Spain, Czech Republic, Hong Kong, China and USA.

Research interests include high frequency magnetics, power quality, and renewable energy systems. He received a Best Paper Prize for the IEEE Transactions on Power Electronics in 2000. Prof. Hurley is a Fellow of the IEEE and of the Institution of Engineers of Ireland and a member of Sigma Xi. He has served as a member of the Administrative Committee of the Power Electronics Society of the IEEE and was General Chair of the Power Electronics Specialists Conference in 2000.