



Bill Leithead

*Professor of Systems and Control
Electronic and Electrical Engineering,
University of Strathclyde*

Prof. Bill Leithead joined Strathclyde University in Glasgow, Scotland, as a lecturer in the Industrial Control Centre, now the Wind Energy and Control Centre, in the Department of Electronic and Electrical Engineering in 1986 and became its Director in 1999. He has been conducting research into Wind Energy since 1988 and today his research group has 8 academic staff and more than 60 PhD students and post-graduate researchers. He is, also, the Director of the EPSRC Centre for Doctoral Training in Wind Energy Systems which recruits 14-16 students each year. Prof. Leithead's research interests include modelling & simulation and dynamic analysis & control of wind energy systems. In recent years his focus has been on the development of strategies, techniques and tools to achieve fully flexible operation of large offshore wind farms. He is also involved in turbine conceptual design and novel concepts.

UTD WIND DISTINGUISHED SEMINAR SERIES

THE UNIVERSITY OF TEXAS AT DALLAS

What will future wind turbines look like?

The wind turbine concept that everybody has become very familiar with consists of a tower, a nacelle, which contains the power conversion system, and a rotor, which rotates about a horizontal axis turbine. There have been several innovations over the last 40 years, the introduction of pitch control in about 1985, variable speed operation in about 1995 and direct drive in about 2005. One of the most remarkable and visible aspect of wind turbine innovation has been the rapid increase in size from 100kW in 2015 to 10MW today. Is it inevitable that this variable speed pitch regulated wind turbine concept will continue on the same evolutionary path, merely getting larger and larger, or is there room for radical new concepts that are better suited to the offshore environment? The motivation, underlying ideas and potential benefits of these radical re-thinking of wind turbines will be described.

December 9, 2021
10:00 AM CT

HELD VIRTUALLY

[ONLINE via Microsoft Teams](#)