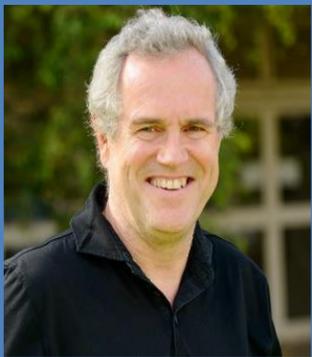




BIG energy seminar series

Addressing global energy challenges in scale and complexity.



Energy Systems Modelling The Good the bad and the Ugly

Mark O'Malley is Chief Scientist, Energy Systems Integration and Senior Research Fellow at the National Renewable Energy Laboratory, USA

Date: Monday, April 30 at 2pm

Location: [SEEC S228](#)

Abstract:

The Energy System is transforming, based in large part on the introduction of renewable energy integration into the electricity grid. However, this is only a start of the transition as we strive towards sustainability. The other sectors, transport, heat/cooling are not as amenable to renewable energy technologies and electrification of these is an emerging trend. Sustainability however does not only mean reduction in greenhouse gases from the energy sector but should include e.g. clean water which probably needs energy. The energy system needs to exist in harmony within a social and cultural context. Therefore, we need to look holistically at the design and operation of the energy system in a broader sustainable world. The consequences for energy systems modelling can be significant. Some examples will be given to highlight some points and some future directions will be proposed.

Bio:

Mark O'Malley is Chief Scientist, Energy Systems Integration and Senior Research Fellow at the National Renewable Energy Laboratory, USA. He is on sabbatical from University College Dublin where he holds the Chair of Electrical Engineering. He was the founding director of the International Institute for Energy Systems Integration which evolved into the Energy Systems Integration Group where he chairs the Research and Education Working Group. In 2017 he was the James M. Flaherty Visiting Professor at McGill University, Montreal, Canada. He is a foreign member of the US National Academy of Engineers, member of the Royal Irish Academy and a Fellow of the Institute of Electrical and Electronic Engineers and has received two Fulbright Fellowships. Mark is recognized as a world authority on Energy Systems Integration and Grid Integration of Renewable Energy.

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