

LoLo Annual Colloquium 2017 – a showcase of our research

Thursday 9 November 2017, The Building Centre,
Vincent Suite and Lower Ground Floor Foyer

Programme 13:00 – 19:30

- 13.00 *Registration – tea and coffee, light lunch available*
Vincent Suite, Lower Ground Floor
- 14.00 **Opening address**
Professor Robert Lowe, Director, LoLo CDT
(Director, UCL Energy Institute, UCL)
- 14.15 **LoLo highlights from the year**
Professor Kevin Lomas, Director, LoLo CDT
(Professor of Building Simulation, Loughborough University)
- 14.30-15.00 **Final year student presentations**
- 14.30 George Bennett UCL Energy Institute
Gas boilers & beyond: Dynamics of heating systems, understanding domestic heating system dynamics to improve performance of gas boilers and inform future heating system legislation and development.
- 14.40 Tom Neeld UCL Energy Institute
Collaborating with Industry during the PhD (provisional title)
- 14.50 *Coffee, networking*
- 15.20-15.40 **Final year student presentations**
- 15.20 Steven Watson, Loughborough University
Increased electricity demand from heat pumps, taking user behaviour into account
- 15.30 Moira Nicolson UCL Energy Institute
Domestic consumer adoption of demand-side response; Using behavioural science to increase adoption of time of use tariffs
- 15.40-17.00 **Poster Session** Vincent Suite and Lower Ground Floor Foyer
List of projects below
- 17.00 **Closing Remarks** Vincent Suite, Lower Ground Floor
Professor Robert Lowe, Director, LoLo CDT

17.10 *End of main conference*

17.20-18.20

Keynote

Vincent Suite, Lower Ground Floor

Prof. Nick EYRE - *Jackson Senior Research Fellow and Professor of Energy and Climate Policy- Oxford University - UKRED Champion (UK Centre for Research in Energy Demand)*

Energy Demand: What are the challenges now?

Mitigating climate change to deliver the goals of the Paris Agreement and UK carbon budgets requires an energy transformation by mid-century. Despite falling costs, renewable electricity generation options are not a panacea. Most international studies show that global reductions in energy intensity will need to reach 3% annually, perhaps more in service economies like the UK. This will involve going well past the traditional energy efficiency agenda, of incremental and cost effective improvements at modest cost, to include options that are not currently attractive to private investors.

The new challenge is also wider than demand reduction. Variable and inflexible electricity generation will put a premium on the flexibility of energy demand. This requires either that user practices are changed or that they are decoupled from the timing of energy supply. Published UK low-carbon scenarios rely heavily on increased electrification of heat and transport, and there are promising signs in transport, at least for light vehicles. However, electrification of space heating looks challenging even at the scale of some individual buildings. At the system level, large scale electrification implies either that major electricity system assets are unused in summer, or that inter-seasonal energy storage is deployed. All of these challenges raise new research questions: for technology, business models, social change and governance

18.20

Winners of the Poster Competition

Vincent Suite, Lower Ground Floor

Professor Kevin Lomas and Professor Robert Lowe Director, LoLo CDT

18.30 – 19.30

Drinks reception

Ground Floor, Main Gallery

Poster Session

Name	Project Poster title
Charalampos Angelopoulos	Design and control of mixed-mode cooling and ventilation in low energy residential buildings
Kostas Chasapis	Modelling of Integrated Community Energy Systems (ICES)
Jessica Few	Measurement of Ventilation in an Occupied Case Study Dwelling
Duncan Grassie	Impact of data availability and model complexity on prediction of energy consumption in Camden schools
Matej Gustin	Forecasting summer overheating in dwellings with Time Series Analysis
Clare Hanmer	Flexibility in morning home heating times
Frances Hollick	Developing new methods to estimate whole building heat loss
Lisa Iszatt	Hygrothermal characterisation of brick walls and the impacts of internal wall insulation
Suneina Jangra	Investigating the in-situ thermal performance of loft insulation in cold-pitched roofs
Seb Junemann	Understanding overheating and poor indoor air quality impacts associated with UK energy efficiency retrofit
David Kenington	How can energy efficiency be improved in independent retail? The tale of the Butcher, the Fishmonger and the Cycle-shop.
Harry Kennard	Experienced temperature, fuel poverty and health
Matthew Li	Seasonal Variation in Electricity Demand: Analysis of Data from 58 English Homes
Anthony Marsh	Overheating in Student Accommodation
Murat Mustafa	Natural Ventilation, Mechanical Ventilation and Heat Recovery in Non-Domestic Passivhaus Building in the UK Climate Context
Giorgos Petrou	Does indoor overheating risk prediction depend on the choice of Building Simulation Software?
Ben Roberts	The effect of occupant behaviour on overheating
Zareen Sethna	Understanding the uptake of energy efficiency measures in the private rented sector
Salman Siddiqui	Management of Thermal Energy Storage in District Heating Networks
Zack Wang	Heat pumps in the UK's district heating: individual, district level, both or neither?
Stephen Watson	Increased Electricity Demand from Heat Pumps, taking User Behaviour into account
Catherine Willan	What can we learn about the origins of the performance gap from the processes and communications around energy targets in a construction team?
Daniel Wright	Occupant adaptive responses to overheating in bungalows and new build dwellings