



Strathclyde TIC building. Level 9.

FRIDAY 30 November

Registration & Welcome 08.30-09.00

Opening Keynote 09.00-09.30 Dr. Don McLean CEO IES Ltd.

Paper

Session 1 (09.30 - 10.20) Stakeholder Engagement in Energy Design

Chair: Dr Nick Kelly, University of Strathclyde.

26 REGIONAL MODELLING OF DOMESTIC ENERGY CONSUMPTION USING STAKEHOLDER GENERATED VISIONS AS SCENARIOS

Simon Lannon, Heledd Iorwerth, Malcolm Eames, Miriam Hunt

27 A KNOWLEDGE AND COMMUNICATION PLATFORM INTEGRATING A BUILT ENVIRONMENT TOOL TO FOSTER COMMUNITY DIALOGUE ON THE TRANSITION TO A LOW CARBON ENERGY SYSTEM

Giulia Barbano, Mike Oates

Session 2 (10.20-11.30) Urban Microclimate

Chair: Dr Paul Tuohy, University of Strathclyde.

33 TOWARDS PERFORMANCE BASED VALIDATION OF THE U.S. CLIMATIC ZONING BASED ON THE ASHRAE STANDARD 90.1-2013

A. Walsh, D. Cóstola, and L.C.Labaki

13 PREDICTING LOCAL WIND PRESSURE COEFFICIENTS FOR OBSTRUCTED BUILDINGS USING MACHINE LEARNING TECHNIQUES

Ioanna Vrachimis, Daniel Costola

3 URBAN CLIMATE – IMPACT ON ENERGY CONSUMPTION AND THERMAL COMFORT OF BUILDINGS

Urs Grossenbacher

COFFEE

Session 3 (11.50-12.40) Generating Data for Urban Energy Modelling

Chair: Dr Simon Lannon, University of Cardiff

4 A PROBABILISTIC APPROACH TO ALLOCATE MISSING BUILDING PARAMETERS WITHIN DISTRICT ENERGY SIMULATIONS

Ina De Jaeger, Jesus Lago, Dirk Saelens

24 COMMUNITY-SCALE HOUSEHOLD ACTIVITY MODELLING USING TIME USE DATA

Yohei Yamaguchi, Yuka Kambayashi, Takeshi Okada, Ayako Taniguchi-Matsuoka, Yoshiyuki Shimoda

11 COMMUNITY SCALE DYNAMIC BUILDING SIMULATIONS USING PROBABILISTIC BEHAVIOURAL PATTERNS

Peter McCallum David Jenkins Andrew Peacock

LUNCH & IES Demonstration Event

Session 4 (13.10-14.20) Design and Optimisation

Dr Daniel Costola, University of Strathclyde.

8 INNOVATIVE DESIGN TOOLS FOR REFURBISHING OF BUILDINGS AT BUILDING AND DISTRICT LEVEL

Dimitrios Ntimos, Nick Purshouse

22 A NEW APPROACH PROPOSED TO EVALUATE THE COST OPTIMAL AND NEARLY ZERO ENERGY LEVELS OF BUILDINGS AND DISTRICT ENERGY SYSTEMS TOGETHER IN SETTLEMENTS

Ece Kalaycioglu, Ayse Zerrin Yilmaz

Session 5 (14.20-15.30) Stock Modelling Tools and Techniques

Chair Dr Steven Firth, Loughborough University.

32 DEVELOPING HIGH-RESOLUTION BOTTOM-UP BUILDING STOCK MODELS USING AERIAL IMAGES AND DYNAMIC SIMULATION

J. Byres, I. Vrachimis, D.Cóstola

31 BUILDING ARCHETYPES IN URBAN ENERGY MODELS. A COMPARATIVE CASE STUDY BETWEEN DETERMINISTIC AND STATISTICAL METHODS IN ANDORRA

María Paula Guillaumet, Patricia Borges, Martí Rosas-Casals, Oriol Travesset-Baro

29 OPEN SCIENCE BUILDING STOCK MODELLING: AN EXAMPLE USING GBXML, OPENBUILDING AND ENERGYPLUS

Steven K Firth, Bianca Howard, Jonathan A Wright

COFFEE

Session 6 (15.50-17.00) Flexibility and Responsive Demand

Chair: Dr Dave Jenkins, Heriot Watt University.

28 REVIEW OF TECHNIQUES TO ENABLE COMMUNITY-SCALE DEMAND RESPONSE STRATEGY DESIGN

Rami El Geneidy, Bianca Howard

25 SOURCES OF ENERGY FLEXIBILITY IN DISTRICT HEATING NETWORKS: BUILDING THERMAL INERTIA VERSUS THERMAL ENERGY STORAGE IN THE NETWORK PIPES

Annelies Vandermeulen, Glenn Reyniers, Bram van der Heijde, Dirk Vanhoudt, Robbe Salenbien, Dirk Saelens, Lieve Helsen

30 MODELLING THE ABILITY OF UK HOUSING TO PROVIDE RESPONSIVE DEMAND UNDER DIFFERENT HEATING OPERATING STRATEGIES

John Allison, Andrew Cowie, Graeme Flett, Jon Hand, Graeme Hawker, Nick Kelly

Closing Keynote (17.00-17.30) Prof. Joe Clarke, IBPSA Fellow.

19.15 Conference Dinner - Citation, 40 Wilson St. Glasgow