

Building Simulation 2009

University of Strathclyde,
Glasgow
27th – 30th July

Proceedings of the 11th International
Building Performance Simulation
Association Conference

Editors:

Paul A. Strachan

Nick J. Kelly

Michaël Kummert



**11th International
Building Performance
Simulation Association
Conference and Exhibition**

www.bs2009.org.uk

This conference is jointly organised by Energy
Systems Research Unit, University of Strathclyde
and Sust.

Editors:
Paul A. Strachan
Nick J. Kelly
Michaël Kummert

ISBN: 978-0-947649-40-1

TESTING AND VALIDATION OF SIMULATION TOOLS OF HVAC MECHANICAL EQUIPMENT INCLUDING THEIR CONTROL STRATEGIES PART I: DESCRIPTION OF THE VALIDATION TEST CASES 2059
Clemens Felsmann; Jean Lebrun; Vincent Lemort; Aad Wijnsman

Policy, code compliance and stock modelling

THE ENERGY PERFORMANCE BUILDING AND EPBD: A ROUND ROBIN TEST 2064
Kristian Fabbri; Lamberto Tronchin

ADOPTION OF DYNAMIC SIMULATION FOR AN ENERGY PERFORMANCE RATING TOOL FOR KOREAN RESIDENTIAL BUILDINGS: EDEM-SAMSUNG 2070
Sabeeta Ghauri; Jon Hand; Cameron Johnstone; Jaemin Kim;
Georgios Kokogiannakis; Paul Tuohy; Kyung-hun Woo

PRELIMINARY APPLICATION OF A METHODOLOGY FOR RISK ASSESSMENT OF THERMAL FAILURES IN BUILDINGS SUBJECT TO CLIMATE CHANGE 2077
P. de Wilde; W. Tian

EFFICIENCY OF SOLAR RADIATION ON HEATING ENERGY CONSERVATION OF RESIDENTIAL BUILDINGS 2085
Seiji Nakano; Akihito Ozaki; Toshiyuki Watanabe

THE DYNAMIC MODEL OF THE INFLUENCE OF ENERGY PRICE CHANGES ON ENERGY SAVING INVESTMENTS IN BUILDINGS 2092
Dalibor Vytlačil

INVESTIGATING CO₂ EMISSION REDUCTIONS IN EXISTING URBAN HOUSING USING A COMMUNITY DOMESTIC ENERGY MODEL 2098
Steven K. Firth

ACCURACY OF THE PORTUGUESE EPBD IMPLEMENTED THERMAL PERFORMANCE CALCULATION PROCEDURES - RCCTE 2106
Pedro Silva

A NEW GEOGRAPHICAL INFORMATION SYSTEM-BASED APPROACH TO MAP AND REDUCE ENERGY-RELATED CO₂ EMISSIONS FROM UK DWELLINGS 2114
Rajat Gupta

DEVELOPMENT OF RIBA SUB-PROCESS TO ASSIST REDUCTION OF BUILDING LIFE CYCLE IMPACT: INTEGRATION OF RIBA WORKSTAGE WITH EU EIA LEGISLATION AND ISO14040 2122
Eugene Loh; Nashwan Dawood; John Dean

Human aspects of indoor environment

UTILIZATION OF THERMAL MASS IN THE TORONTO NET ZERO ENERGY HOUSE FOR THERMAL COMFORT AND ENERGY SAVINGS 2131
Omar Siddiqui; Alan Fung

RESEARCH ON INDOOR ENVIRONMENT FOR THE TERMINAL 1 OF CHENGDU SHUANGLIU INTERNATIONAL AIRPORT 2138
Jiying Liu; Nanyang Yu; Bo Lei; Xiangyang Rong; Ling Yang