

CHAMPS 2017 and IEA-Annex 68 General Meeting

The 14th International Forum and Workshop on Combined Heat, Air, Moisture and Pollutant Simulations (CHAMPS)

Tuesday 12 September 2017

University Of Nottingham, Nottingham, UK

HOSTS

Institute for Environmental Design and Engineering (IEDE), University College London (UCL), UK

Centre for Virtual Environments, Interaction & Visualisation, University College London (UCL), UK

University Of Nottingham, UK

ORGANISERS AND CO-ORGANISERS

Syracuse University, U.S.A.

Technical University of Denmark, Denmark

TU Dresden, Germany

University Of Nottingham, UK

University College London (UCL), UK

AIMS AND SCOPE

CHAMPS 2017 will focus on major challenges facing the combined heat, air, moisture and pollutant simulations for the design and operation of sustainable buildings, highlight the most recent progresses, and identify opportunities for further collaboration in CHAMPS research, development and applications. Topics will include:

1. **Whole building IEQ and energy performance:** Modeling and simulation of combined heat, air, moisture, and pollutant transport processes in and around buildings, monitoring and intelligent controls;
2. **Sustainable and healthy buildings:** Interaction and interdependencies between IEQ and energy efficiency measures, effectiveness of source reduction, ventilation and air cleaning strategies;
3. **Climate, community and site planning:** Climate change effects on IEQ, urban and community planning, micro-urban climate and site impacts;
4. **Building envelope performance:** hygrothermal performance of buildings in different climates, leakage and moisture control, envelope-integrated ventilation and energy storage systems, energy and durability;
5. **Micro-environment around occupants:** demand-based personal environmental control,

- occupant behaviour and impacts on IEQ and energy efficiency;
6. **Design studio:** Methods and tools for coordinated and integrated urban and building systems design, building information modeling (BIM), CHAMPS simulation framework, software, and optimisation techniques, common databases of materials, assemblies, building topologies, climates, and real-world versus design performances.
 7. **Case studies:** Applications of CHAMPS for building systems design and model-based predictive controls.

IEA-Annex 68 General Meeting will provide an overview of IEA-Annex 68 aim and objectives and the progress made to date in each subtask of the project:

1. Defining the metrics
2. Pollutant loads in residential buildings
3. Modeling - review, gap analysis and categorisation
4. Strategies for design and control of buildings
5. Field measurements and case studies

CHAIRS

Prof. Carsten Rode, Technical University of Denmark, Denmark
Prof. Jensen Zhang, Syracuse University, U.S.A.
Prof. John Grunewald, TU Dresden, Germany
Prof. Mike Davies, University College London, UK.

CONFERENCE STAFF

Daisy Voake, d.voake@ucl.ac.uk
Esfand Burman, esfand.burman@ucl.ac.uk

VENUE

Sustainable Research Building C10, Department of Architecture and Built Environment
The University Of Nottingham, University Park, Nottingham, NG7 2RD, UK.

(Building 17 on the enclosed map of the University Park Campus)

REGISTRATION

Please complete the registration form included at the end of this document and email to Dr Esfand Burman (esfand.burman@ucl.ac.uk) by the 3rd of September 2017. (You may alternatively register online via the provided link).

PROGRAMME

CHAMPS 2017& IEA-Annex 68 General Meeting: Tuesday 12 September 2017	
8:00-8:30	Registration
8:30-10:00	<p>IEA-Annex 68 General Meeting (Chair: Professor Jensen Zhang)</p> <p>8:30-8:45: Welcome and introduction, Professor Mike Davies, UCL Institute for Environmental Design and Engineering</p> <p>8:45-9:30: Overview of IEA-Annex 68 and progress to date, Professor Carsten Rode, Technical University of Denmark (DTU)</p> <p>9:30-10:00 Model Validation Data from the NIST Netzero Energy House, Dr Andrew Persily, National Institute of Standards and Technology, USA</p>
10:00-10:20	Coffee Break and Networking
10:20-12:20	<p>CHAMPS Session 1 (Chair: Professor Carsten Rode)</p> <p>10:20-10:50: An overview of current state and future challenges in CHAMPS development, Professor Jensen Zhang, Syracuse University</p> <p>10:50-11:20: IBPSA-England presentation (tbc), Professor Malcolm Cook, Loughborough University</p> <p>11:20-11:50: The CRI-network model approaches to the analysis of hygrothermal and air quality of indoor panorama, Li Wang, University of Tokyo</p> <p>11:50-12:20: Using MatLab, SimuLink and Comsol as CHAMPS platform, Dr Jos van Schijndel, Eindhoven University of Technology</p>
12:20-13:00	Lunch
13:00-15:00	<p>CHAMPS Session 2 (Chair: Professor John Grunewald)</p> <p>13:00-13:30: Coupled CONTAM/EnergyPlus Modeling of the NIST Netzero Energy House, Dr Andrew Persily, NIST</p> <p>13:30-14:00: Coupled heat, moisture, and pollutant transport modelling in EnergyPlus, Dr Jonathon Taylor, University College London (UCL)</p> <p>14:00-14:30: Recent advances in TUD-IBK's simulation software Development, Dr Andreas Nicolai, TU Dresden</p> <p>14:30-15:00: Development of the TUD's Campus Energy Model, Dipl.-Ing. Dirk Weiss, TU Dresden</p>
15:00-15:30	Coffee Break and Networking
15:30-17:00	<p>CHAMPS Session 3 (Chair: Professor Mike Davies)</p> <p>15:30-16:00: Status of airflow modelling in hygrothermal simulation of the building envelope, Professor Carsten Rode, Technical University of Denmark (DTU)</p> <p>16:00-16:30: Hygrothermal material characterization, Professor John Grunewald, TU Dresden</p> <p>16:30-17:00: Hygrothermal performance of innovative green materials, Dr Menghao Qin, Technical University of Denmark (DTU)</p>

Registration Form

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Simulations (CHAMPS)

University Of Nottingham, Nottingham, UK

12 September 2017

Name:

e-mail:

Telephone:

Affiliation:

Attendance	Date	Y/N
CHAMPS 2017 and IEA-Annex 68 General Meeting	12 September	
Dietary requirements (please specify):		
Other information		
Invitation letter needed for UK visa?		
Name of accompany person(s) who need invitation letter for UK visa		
Date of arrival		
Date of departure		

(Registration for the event is open to the public on a first come first served basis as limited number of seats are available. A £30 Registration fee will be charged to cover the cost of refreshments.)