

CHAMPS 2016 & IEA-Annex 68 Expert Meeting

September 8 - 10, 2016

The 13th International Forum and Workshop on Combined Heat, Air, Moisture and Pollutant Simulations (CHAMPS)

CHAMPS 2016 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:** hydrothermal 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 behavior 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 optimization 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.

The 2nd Expert Meeting of the International Energy Agency Annex 68 Project Indoor Air Quality Design and Control in Low Energy Residential Buildings (IEA-Annex 68)

IEA – ANNEX 68 EXPERT MEETING will share the progress made to dates in each subtask of the project, and discuss the work plan for the next steps. The meeting will include general sessions and separate working group sessions for all subtasks including:

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

SCHEDULE

Thursday, September 8, 2016

8:00 am - 8:30 am	Registration	Lobby
8:30 am – 10:00 am	<p>CHAMPS Session 1 (Chair: Dr. Jensen Zhang)</p> <ol style="list-style-type: none"> Welcome and Introductions, Dr. Edward Bogucz, Executive Director, Syracuse COE, Syracuse University Microclimate simulations for walkable cities, Dr. Tarek Rakha, Syracuse University Recent advances in modeling city ventilation, Dr. Yuguo Li, University of Hong Kong Building performance modeling and simulations - the need and approach for quality control, Dr. John Grunewald, Dresden University of Technology Whole Building Energy and Environmental Systems simulation - from HAM to CHAMPS, Dr. Carsten Rode, Danish Technical University 	Room 203
10:00 am – 10:20 am	Coffee Break and Networking	TBD
10:20 am – 12:00 pm	<p>CHAMPS Session 2 (Chair: Dr. John Grunewald)</p> <ol style="list-style-type: none"> Modeling and illustration of building and urban energy flows, Dr. Bess Krietemeyer, Syracuse University Coupled effects of temperature, humidity and pollution control on energy and IAQ performance of buildings, Dr. Menghao Qin, Nanjing University Indoor Environment Quality investigated by CFD, Dr. Karel Frana, Technical University of Liberec Recent Advances in Co-simulation of High Performance Building Models and the Modelica Green Building Lib, Dr. Andreas Nicolai, Dresden University of Technology Modeling the microenvironment around occupants – the role of semi-open spaces, Meng Kong, Syracuse University 	Room 203
12:00 pm – 01:00 pm	Lunch	TBD
01:00 pm – 03:00 pm	<p>CHAMPS Session 3 (Chair: Dr. Shinsuke Kato)</p> <ol style="list-style-type: none"> Contribution ratio of indoor climate (CRI) approach to integrated energy and IAQ modeling– A high-speed simulation way of quasi-equilibrium state for periodic and spatial prediction of IEQ, Li Wang, Dr. Shinsuke Kato, University of Tokyo Recent advances in CONTAM development and applications, Stuart Dols, NIST Recent advances in EnergyPlus and applications, Dr. Lixing Gu, FSEC State of the art in zonal modeling for room air distribution: dos and don't, Dr. Marc Abadie, University de La Rochelle Building Energy Performance Simulation in Practice: Data Flow Organization between GUI, Data Interface, Solver and Results Visualization, Dr. Dirk Weiss, Dresden University of Technology Modeling and Field Measurements for Assessing the Performance of Green Roofs, Dr. Cliff Davidson, Syracuse University 	Room 203

SCHEDULE

03:00 pm – 03:30 pm	Coffee Break and Networking	TBD
03:30 pm – 05:30 pm	Annex 68 General Session 1 (Chair: Dr. Carsten Rode)	Room 203
05:30 pm – 07:30 pm	Welcome Reception	TBD
Friday, September 9, 2016		
8:30 am – 10:00 am	Annex 68 General Session 1 (Chair: Dr. Carsten Rode)	Room 203
10:00 am – 10:30 am	Coffee Break and Networking	TBD
10:30 am – 12:00 pm	Annex 68 General Session 2 (Chair: Dr. Carsten Rode)	Room 203
12:00 pm – 01:00 pm	Lunch	TBD
01:00 pm – 03:00 pm	Annex 68 Subtask Parallel Session 1	TBD
03:00 pm – 03:30 pm	Coffee Break and Networking	TBD
03:30 pm – 05:00 pm	Annex 68 Subtask Parallel Session 2	TBD
05:00 pm – 06:00 pm	Subtask Leaders Meeting	Room 203
Saturday, September 10, 2016		
08:30 am – 12:00 pm	Annex 68 Expert Meeting (working session)	Room 203

In Collaboration with



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ARCHITECTURE**

Organizers

Syracuse University
Tsinghua University
Danish Technical University
Florida Solar Energy Center

Nanjing University
Technical University of Dresden
The University of Tokyo
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