

Seminar PCMs4Buildings

PCMs: Thermophysical characterization and buildings' applications

DAY 1 - 14-06-2018

Panel I - Chairman: José J. Costa

- 9:15 Reception
- 9:30 **Opening session**
José J. Costa - University of Coimbra, Department of Mechanical Engineering, Portugal
Jorge Rocha - University of Coimbra, Department of Chemical Engineering, Portugal
- 9:40 **Systems with PCM-filled rectangular cavities for the storage of solar thermal energy for buildings - the case of the PCMs4Buildings project**
Nelson Soares - University of Coimbra, Department of Mechanical Engineering, Portugal
- 9:55 **Keynote: Pros and cons of different calorimetric methodologies applied to PCM in building applications**
Ana Lázaro | Mónica Delgado - University of Zaragoza, Department of Mechanical Engineering, Spain

10:30 Coffee-break (Poster session)

Panel II - Chairman: Pedro Simões

- 11:00 **Thermophysical characterization of commercial paraffin-based PCMs for low temperature thermal energy storage applications**
Luisa Durães - University of Coimbra, Department of Chemical Engineering, Portugal
- 11:20 **The importance of the thermophysical characterization of microencapsulated PCMs for the numerical analysis of the heat transfer with solid-liquid phase change**
José J. Costa - University of Coimbra, Department of Mechanical Engineering, Portugal
- 11:40 **Assessment of latent heat storage of PCM-mortars: a case study using a full-scale experimental test**
Sandra Simaria Lucas - University of Greenwich, United Kingdom
- 12:00 **Use of PCMs in polyurethane foam layers: from the individual layer to building solutions**
Romeu Vicente - University of Coimbra, Department of Civil Engineering, Portugal
- 12:20 **Flash Presentation I - Incorporation of phase change materials (PCM) in ceramics for building applications**
Hélio Jorge - CTCV, Technological Centre of Ceramics and Glass, Portugal

12:30 Lunch - FREE TIME

Panel III - Chairman: José J. Costa

- 14:00 **New solutions for building envelope: Building Integrated Photovoltaic Systems with integral thermal storage**
Laura Aelenei - National Laboratory of Energy and Geology (LNEG), Portugal
- 14:20 **Thermal regulation of photovoltaic modules using thermal energy storage units with PCMs**
Adélio Gaspar - University of Coimbra, Department of Mechanical Engineering, Portugal
- 14:40 **Developments in thermal energy storage, the case of the TESSe2b project**
Luís Coelho - Polytechnic Institute of Setúbal, Portugal
- 15:00 **Development of PCM thermal energy storage for active cooling of the indoor space**
Szabolcs Varga - University of Porto, Department of Mechanical Engineering, Portugal
- 15:20 **Flash Presentation II - Multi-functional ventilated BIPV façade concept coupled with PCM**
Jakub Curpek - Slovak University of Technology in Bratislava, Department of Building Construction, Slovakia

15:30 Coffee-break (Poster session)

- 16:30 **Social event - World Heritage Coimbra, University of Coimbra: visit to the Royal Palace and the 18th century Physics and Zoology Galleries**

18:30 Closing

DAY 2 - 15-06-2018

Panel III - Chairman: Luísa Durães

- 9:15 Reception
- 9:30 **Keynote: Measuring the thermal conductivity of PCMs - dos and don'ts**
Daniel Cederkrantz - Hot Disk AB, Sweden
- 10:10 **Properties of cement mortars with phase change materials (PCMs)**
José Luís B. Aguiar - University of Minho, Department of Civil Engineering, Portugal
- 10:30 **Coffee-break (Poster session)**
- 11:00 **Phase change materials for improving the thermal performance of LSF construction**
Paulo Santos - University of Coimbra, Department of Civil Engineering, Portugal
- 11:20 **Thermal performance of a window shutter with phase change materials**
Tiago Silva, University of Aveiro, Department of Mechanical Engineering, Portugal
- 11:40 **The SCORES project and the new compact hybrid storage technologies**
João Garcia - Polytechnic Institute of Setúbal, Portugal
- 12:00 **Flash Presentation III - A degradation model and the associated activation energy of organic phase change materials**
Daniela Silva - INEGI, Institute of Science and Innovation in Mechanical and Industrial Engineering, Portugal
- 12:10 **Flash Presentation IV - Beeswax as phase change material: chemical modification and mixtures with hydrogenated waste cooking oil and with paraffin**
João Baptista - University of Coimbra, Department of Chemical Engineering, Portugal

12:20 Lunch - FREE TIME

14:00 WORKSHOP - Thermophysical characterization of PCMs

1. Thermal analysis session

2. Hot Disk® session

Daniel Cederkrantz - Hot Disk AB, Sweden
Pedro Simões - University of Coimbra, Department of Chemical Engineering, Portugal
Telma Matias - University of Coimbra, Department of Chemical Engineering, Portugal

18:00 Closing

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