

Next Generation cost effective phase change
materials for increased energy efficiency in
renewable energy systems in buildings
TU0802
(NeCoE-PCM)

Workgroup 4
Annual Training School – 2010

Location: Chania (Crete, Greece)

Dates: 10-12 May 2010

Host: Technical University of Crete – Prof. Theocharis Tsoutsos

Agenda:

Programme

Day 1 – Monday 10 May	
08:30 – 09:00	Registrations
09:00 – 09:30	Opening Session <ul style="list-style-type: none">▪ European project (NeCoE-PCM)▪ Solar and Low Energy Buildings <i>Presenter: Prof Theocharis Tsoutsos</i>
Session 1 _ Fundamentals, Theory & Characterisation	
09:30 - 11:00	<ul style="list-style-type: none">▪ What is Thermal Energy Storage▪ Materials for Thermal Energy Storage<ul style="list-style-type: none">○ Introduction of applications for PCM. <i>Presenter: Prof Luisa F. Cabeza</i>
11:00 – 11:30	Break
11:30 – 13:00	<ul style="list-style-type: none">▪ Structure of PCM▪ Materials Processing <i>Presenters: Dr Mila Hadjieva & Dr Inés Fernández</i>
13:00 – 14:00	Lunch
14:00 - 16:00	<ul style="list-style-type: none">▪ Testing – characterization – mechanical, thermal, etc▪ Problems, sub-cooling, nucleation, encapsulation, emulsions <i>Presenters: Prof Luisa F. Cabeza</i>
16:00 – 17:00	<ul style="list-style-type: none">▪ Feedback session – Round table discussion Chaired by Prof Luisa F Cabeza
End of session 1	

Day 2 – Tuesday 11 May

Session 2 Applications in buildings

09:00 - 10:30	<ul style="list-style-type: none">▪ Theory of experimental analysis<ul style="list-style-type: none">○ Instrumentation, errors, replication, repeatability. <p style="text-align: right;"><i>Presenter: Dr Philip Griffiths</i></p>
10:30 – 11:00	Break
11:00 – 12:00	<ul style="list-style-type: none">▪ From laboratory to macro experiments <p style="text-align: right;"><i>Presenter: Mr Ahmad Hasan, Dublin Institute of Technology</i></p>
13:00 - 14:00	<ul style="list-style-type: none">▪ PCM in Building Systems <p style="text-align: right;"><i>Presenter: Dr Cristian Solé, University of Lleida</i></p>
13:00 – 14:00	Lunch
14:00 - 15:00	<ul style="list-style-type: none">▪ Cool materials for the Built environment <p style="text-align: right;"><i>Presenter: Dr D. Kolokotsa, Technical University of Crete</i></p>
15:00 - 16:00	<ul style="list-style-type: none">▪ PCMs for Architects and Building Manufacturers <p style="text-align: right;"><i>Presenter: Prof. Nikos Papamanolis, Technical University of Crete</i></p>
16:00 - 17:00	<ul style="list-style-type: none">▪ Feedback session – Round table <p style="text-align: right;"><i>Chaired by : Prof Theocharis Tsoutsos</i></p>

End of session 2

Day 3 – Wednesday 12 May

Session 3 – Design issues

09:00 - 10:30 ■ Modelling of PCMs – material.

Presenters: Prof. Elena Palomo & Prof. Piotr Furmański

10:30 – 11:00 **Break**

11:00 – 13:00 ■ Modelling of PCM in Building Envelopes

Presenters: Dr Maciej Jaworski & Prof. Philip Griffiths

13:00 – 14:00 **Break**

14:00 - 15:00 ■ Modelling of PCM in Building Systems.

Presenters: Dr Mick McKeever & Prof. Philip Griffiths

15:00 - 16:00 ■ Integration of PCM into building models.

- *Design issues, commercial tools, e.g. TRNSYS, ESPr, Colsim, PCM-Express*

Presenter: Dr Albert Castell Casol

16:00 - 17:00 ■ Feedback session – Round table

Chaired by : Prof. Piotr Furmański

17:00 - 17:30 ■ Closing remarks - Prof Tsoutsos, Prof. Cabeza & Prof. Furmański

End of session 3

Participants:

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The trainers were:

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Assistants and trainers of the 1st Training School