



## Measurement Tools and Standardization Aspects for Concentrating Solar Technology

### Time Schedule\*

**Wednesday, May 15<sup>th</sup> 2013**

**09:00 Introduction Basics of measurement technologies**

Emmanuel Guillot, *CNRS*

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**10:30 Coffee Break**

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**11:00 Principles of radiation and heat flux measurements and radiometry**

Jesús Ballestrín, *CIEMAT*

**11:45 High temperature measurements by thermography - methods and application**

Jesús Ballestrín, *CIEMAT*

**12:30 Measuring optical and thermal properties of high temperature absorber**

Thomas Fend / Johannes Pernpeintner, *DLR*

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**13:15 Lunch**

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**14:30 Calibration and analysis of heliostats**

Rafael Monterreal, *CIEMAT*

**15:15 Evaluation of relevant reflector properties**

Aránzazu Fernández-García, *CIEMAT*

**15:45 Reflector Soiling and cleaning methods**

Fabian Wolfertstetter, *DLR*

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**16:30 Coffee Break**

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**17:00 Measurement technology & data acquisition systems used under laboratory conditions and in real power plants (relevant software/hardware)**

Jan-Peter Säck, *DLR*

**17:45 Measurement methods in storage systems (molten salt, packed bed, ...)**

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**19:00 Medieval Dinner**

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## Measurement Tools and Standardization Aspects for Concentrating Solar Technology

### Time Schedule\*

Thursday, May 16<sup>th</sup> 2013

**09:00 Solar resource measurements and satellite data; Sun shape analysis and atmospheric influences**  
Norbert Geuder, *CSP Services*

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**10:30 Coffee Break**

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**11:00 Overview on Norms and Standards for Solar Energy Technology, Relevant for CSP Development and Implementation**  
Eckhard Lüpfert, *DLR*

**11:45 Modeling and standardization of solar-thermal power plants**  
Tobias Hirsch, *DLR*

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**12:30 Lunch**

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**14:00 Specification of reflectors based on guidelines and standards**  
Aránzazu Fernández-García, *CIEMAT*

**14:45 Specifications for parabolic trough receivers and quality management**  
Thomas Kuckelkorn, *SCHOTT*

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**15:30 Coffee Break**

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**16:00 Life-time analysis / accelerated aging tests**  
Florian Sutter, *DLR*

**16:45 Acceptance Test of Solar Collector Fields – Models, Measurement, Evaluation, Uncertainty**  
Eckhard Lüpfert, *DLR*

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**19:00 Dinner**

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\*exact title of talks not all confirmed yet, slight time changes are possible