



SFERA II
Training course for CSP professionals

Central receivers: Operation of heliostat fields

Announcement and call for applications

- Location:** Font Romeu Odeillo - CNRS
- Date:** **June 13 - 17, 2016**
- Target group:** The course is designed for engineers, researchers and representatives from European CSP industry and companies who want to be trained on real CSP hardware.
- Course Language:** English
- Trainers:** Scientists and Specialists from CNRS
- Objective:** This course focuses on **central receiver plants**. The training consists of both theoretical and practical modules covering the following topics:
- **Central receivers: overview, strengths and issues:**
 - Typical thermodynamic processes for electricity and material production
 - Receiver technologies: materials, surface and volumetric geometries
 - Storage strategies and benefits
 - Optimisation: possibilities during design and operation
 - **Heliostat field design and operation:**
 - Heliostat field design optimisation techniques
 - Heliostat field organisation: communication and energy topologies
 - Practical test case: wireless field (Tower Thémis Targassonne)
 - Practical test case: wired field (Solar Furnace Odeillo)
 - Maintenance experience of heliostat fields: optical, mechanical and electrical aspects
 - **Characterisation of heliostat fields:**
 - Optical quality determination techniques review: Photogrammetry, deflectometry
 - Power distribution and aiming characterisation techniques
 - Practical test cases: fixed and moving target imaging, data processing
- Application Deadline:** The registration deadline is **May 8, 2016** on a first come, first serve basis. Class size is limited to 15 participants. Eligible candidates will be informed until May 13, 2016. The maximum number of participants from one company is two.
- Fees:** No course fee is applicable. Accommodation and travel costs shall be covered by the participant. We suggest booking in one of the following hotels in Font-Romeu-Odeillo-Via: Grand Tetras Hotel (40 min. walking distance) or Hotel l'Oustalet (10 min. walking distance).
- Contact:** For further information, please contact: Anja Kruschinski (DLR)
Tel.: +34 950278884, email: anja.kruschinski@dlr.de

To apply, please fill out the **application form** and send it to: anja.kruschinski@dlr.de



Course Program

Monday, 13 June

- o Welcome dinner with participants and trainers

Tuesday, 14 June

Morning:

- o Presentation of SFERA II programme DLR / M. Prouteau
- o Transnational Access to PROMES facilities M. Prouteau
- o Introduction to Central Receiver Systems A. Ferrière

Afternoon:

- o Heliostat field optimisation techniques C. Caliot
- o Review of solar receiver technologies C. Caliot
- o Visit of Odeillo's facilities E. Guillot

Wednesday, 15 June

Morning at Themis solar tower site:

A. Ferrière / scientists CNRS

- o Visit of the facility
- o Demonstration of heliostat field operation
- o Heliostat and facility maintenance overview
- o Experience sharing

Afternoon at Odeillo big solar furnace:

E. Guillot / scientists CNRS

- o Demonstration of heliostat field operation
- o Heliostat and facility maintenance overview
- o Experience sharing

Thursday, 16 June

Morning:

- o Concentrated solar optic raytracing C. Caliot
- o Optic quality techniques overview M. Coquand

Afternoon:

- o Concentrated flux techniques E. Guillot / A. Ferrière

Friday, 17 June

- o Goodbye coffee at the big solar furnace E. Guillot
- o Discussion and close up

