SFERA III
Free training course for CSP professionals on
Optimization of CST plant output by optical and thermal characterization and
target-oriented O&M

Announcement and call for applications

Location: Plataforma Solar de Almería (PSA), 04200 Tabernas, Spain
Date: 25th – 29th April 2022
Target group: Engineers, researchers and representatives from European CSP industry and companies who want to be trained on real CSP/CST hardware
Course Language: English
Trainers: Scientists and Specialists from DLR and CIEMAT
Objective: The course will include theoretical and practical modules covering the following topics:

- **Airborne qualification**: optical and thermal measurement and characterization of parabolic trough collectors with the use of UAV (drones). Techno-economic assessment of the improvements from these qualification methods.
- **Meteorology**: solar resource measurement and nowcasting. Mirror soiling measurement, cleaning optimization, techno-economic evaluation.
- **Component aging**: measurement and accelerated aging of main CSP components.
- **Testing, Research & Innovation infrastructure**: get an overview of the testing, measurement and development capabilities of the international research centers, mainly CIEMAT’s “Plataforma Solar de Almería”.
- **Knowledge-Transfer and Networking**: share information and experience not only between trainers and participants, but also between international industrial participants.

Application: The registration deadline is January 31st 2022 on a first come, first serve basis. Class size is limited to 15 participants. Eligible candidates will be informed until February 15th, 2022. The maximum number of participants per company is two. Standard health and safety measures defined by DLR and CIEMAT for visitors and meetings will apply (details to be given prior to the meeting depending on latest development of the covid-19 pandemic). These will include vaccination, recovery or test certificate, social distance, face mask and disinfection of hands and surfaces.

Fees: No course fee is applicable. Accommodation and travel costs shall be covered by the participant. Lunch is offered at the PSA visitors center for an average price of 9,90 €. The transport to the PSA is free.

Contact: For further information about the course, please contact:
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Participation: To apply, please fill out the application form found under this SFERA-III event page and send it to: anja.kruschinski@dlr.de

SFERA III: Solar Facilities for the European Research Area
The EU-funded research project - SFERA III - aims to boost scientific collaboration among the leading European research institutions in solar concentrating systems, offering European research and industry access to the best research and test infrastructures and creating a virtual European laboratory. Grant agreement 823802, funded under H2020-INFRAIA-2018-1.
### Monday, 25/04/22
- Welcome tapas in Almeria with participants and trainers (20.30h) all

### Tuesday, 26/04/22
- Welcome at the Plataforma Solar de Almeria CIEMAT
- SFERA-3 project introduction and course overview DLR
- Visit of the facilities at the Plataforma Solar de Almeria CIEMAT, DLR

**Lunch**
- Visit of the facilities at the Plataforma Solar de Almeria CIEMAT, DLR

### Wednesday, 27/04/22
- Optical quality and measurement techniques DLR
- Collector efficiency and yield analysis based on airborne measurement DLR

**Lunch**
- Thermal measurement techniques DLR
- Airborne Infrared measurement DLR
- Clamp-On Measurements and Evaluation by Dynamic Performance Model DLR

### Thursday, 28/04/22
- Solar resource measurement and nowcasting DLR
- Mirror soiling measurement and cleaning techno-economic optimization DLR

**Lunch**
- Use of nowcasting system to optimize the yield in parabolic trough plants DLR
- Component aging measurement, lab-testing DLR

### Friday, 29/04/22
- Heliostat Calibration and flux density measurement CIEMAT + DLR
- Compilation of training results all
- Experience sharing industrial focus Participants
- Feedback, Certificate, Closing and Farewell (~13h) all