



Heliostat Consortium Seminar Series

Brought to you by the Resource, Training, and Education (RTE) topic area



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Host: Dr. Rebecca Mitchell,
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Title: Calibration and
Characterization Systems in
Solar Concentration Plants:
Field Expertise, Conclusions,
and Lessons Learned.

When: October 18th 9-10
AM MDT

Zoom:
<https://nrel.zoomgov.com/j/1603628227>

Abstract:

To ensure the efficient operation of a concentration solar plant, it is essential that all heliostats are correctly aligned and focused. Calibration and characterization systems ensure that each heliostat is accurately positioned and optimally reflects sunlight, allowing to maximize the energy production, maintaining the solar field efficiency, and enabling precise control and proactive maintenance of the heliostats that make up the solar energy capture system. This seminar provides a comprehensive overview of the importance of calibration and characterization systems in the O&M of solar concentration plants, drawing from the practical knowledge and experiences of Tewel in developing, implementing, and commissioning these systems for heliostats in tower based CSP plants. It will be explored the significance of integrating these systems in terms of comprehending the optical behavior of the heliostats, analyze the current state-of-the-art practices, discuss the pros and cons, and offer insights into Tewel's specialized expertise in this field.

Bios:

Adriana is Mechanical Engineer (Simón Bolívar University, Venezuela) and holds a PhD in Mechanical Engineering Sciences (Pontificia Universidad Católica of Chile) with more than 7 years of experience in solar energy as Researcher and Project Manager, with advanced knowledge in the modeling of PV, CSP and hybrid plants, energy storage systems, solar resource assessment, energy economics, being involved in conceptual studies, feasibility analyses, and conceptual engineering of solar power plants. Currently she leads R&D and commercial projects in Tewel Engineering, having led the commissioning and development of the Heliostats Calibration System (HCS) at Cerro Dominador's solar thermal power plant (Atacama Chile).

Marco is Mechanical Engineer (Politécnica University of Madrid) and holds an MBA in Business Management by the ESADE Business & Law School. Marco has more than 14 years of experience managing teams and divisions in the field of renewable energy, particularly in Concentrated Solar Power, Automotive and Rail sectors around the world. Marco Antonio was previously TERMOPOWER's CEO and has worked in other many companies as R&D Project Manager and Value Analyst. He has cooperated in various Projects: Tonopah Solar (2012-2014), Planta Termosolar Moron de la Frontera (2011-2012) and HITECO (2009-2010), as he is an expert in concentrated solar technologies including parabolic trough collectors (HCE & Frames), central tower systems (solar field and receiver), stirling dishes, and Fresnel reflectors.