



Heliostat Consortium Seminar Series

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



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Host: Dr. Rebecca Mitchell

Title: Transferring
Photovoltaic lessons
learned to Concentrating
Solar Power

When: October 19th
1-2 PM MDT

Zoom:
[https://nrel.zoomgov.com/
j/1616408947](https://nrel.zoomgov.com/j/1616408947)

Abstract:

In the last two decades the photovoltaics (PV) industry has transitioned from infancy to a maturing industry (with expected growing pains) . While PV and concentrating solar thermal power (CSP) are unique technologies they also share many overlaps that CSP can benefit from reflecting on PV's growth as well as current state. This presentation will provide a brief reflection of lessons learned in PV but will also summarize relevant PV state-of-the-art topics such as: soiling research, reliability and standards development, irradiance modeling and validation, and methods applied by independent engineers (IEs) to assess and forecast long-term plant performance.

Bio:

Since 2008 Dr. Matthew Muller has been a research engineer within the PV Performance and Reliability group. The focus of his work has covered topics such as PV soiling, PV surface coating durability, PV and concentrating PV (CPV) module and system performance, thermal modeling, spectral performance modeling, methods for on-sun CPV cell temperature evaluation, solar trackers, IEC standards development, test design, prototyping and design of instrumentation, data acquisition systems, programming and data analysis. He led the IEC effort to publish the technical specification, TC 62727, the design qualification standard, IEC 62817 (both covering solar trackers) and IEC 62670-3, standardizing performance measurements and power rating procedures for CPV devices. Currently he is co-leading the Heliostat Consortium subtask on components and controls where he is applying his years of experience with solar trackers to help reduce the cost of heliostats to achieve the DOE goal of \$50/m².