



Advances in Solar Energy: Heliostat Systems Design, Implementation, and Operation II (OP319)

Conference Chairs: **Guangdong Zhu**, National Renewable Energy Lab. (United States); **Marc Röger**, German Aerospace Center (DLR) (Germany); **Zhifeng Wang**, Institute of Electrical Engineering, Chinese Academy of Sciences (China)

Conference Co-Chairs: **Ali M. Khounsary**, Illinois Institute of Technology (United States); **Rebecca Mitchell**, National Renewable Energy Lab. (United States)

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Heliostat-based concentrating solar power (CSP) systems typically employ a great number of large-aperture reflectors that intercept sunlight and reflect it onto a small receiver aperture at the top of a receiver tower. The absorbed high-temperature power is transported away and is used for electric power generation, chemicals, solar fuel production, or process heat. The commercial viability of heliostat-based CSP systems depends on the capital and operating costs. Significant improvements in their design and operation aimed at reducing these costs are essential for their widespread deployment. Despite their ability to dispatch continuous thermal energy using thermal storage, these reductions are necessary to successfully compete with other renewable energy sources undergoing rapid price decline.

With these in mind, this conference is organized to broadly address heliostat-based solar plants including architecture, component design, optics, metrology, optical performance, receiver types, thermal management, and plant control, operation, and maintenance. New and novel concepts in heliostat design, manufacturing and operation aimed at improved performance and reduced cost are particularly emphasized.

Presentations on the following and related topics are solicited:

- Current and forthcoming heliostat-based CSP plants
- Heliostat optics selection, design, and manufacturing
- Mirror mounting, alignment, and deployment
- Site selection, characterization, environmental impact
- Manufacturing and field deployment
- Field optimization, operation and maintenance, performance
- Standards and guidelines for design, operation, and maintenance
- Economic drivers and competitiveness of heliostat with other renewable sources
- Plant and components life cycle, degradation, mitigations
- New materials and plant/parts manufacturing
- Receiver design and performance

Present your research at SPIE Optics + Photonics

Below are abstract submission instructions, the accompanying submission agreement, conference presentation guidelines, and guidelines for publishing in the Proceedings of SPIE on the SPIE Digital Library. Submissions subject to chair approval.

Important dates

Abstracts due	7 February 2024
Registration opens	April 2024
Authors notified and program posts online	29 April 2024
Submission system opens for manuscripts and poster PDFs*	17 June 2024
Poster PDFs due for spie.org preview and publication	24 July 2024
Manuscripts due	31 July 2024
Advance upload deadline for oral presentation slides**	16 August 2024

*Contact author or speaker must register prior to uploading

**After this date slides must be uploaded onsite at Speaker Check-In

What you will need to submit

- Title
- Author(s) information
- Speaker biography (1000-character max including spaces)
- Abstract for technical review (200-300 words; text only)
- Summary of abstract for display in the program (50-150 words; text only)
- Keywords used in search for your paper (optional)
- Check the individual conference call for papers for additional requirements (i.e. extended abstract PDF upload for review or instructions for award competitions)

Note: Only original material should be submitted. Commercial papers, papers with no new research/development content, and papers with proprietary restrictions will not be accepted for presentation.

How to submit your abstract

- Visit the conference page: www.spie.org/op319call
- You may submit more than one abstract but submit each abstract only once
- Click the "Submit An Abstract" button on the conference page
- Sign in to your SPIE account or create an account if you do not already have one
- Follow the steps in the submission wizard until the submission process is completed

Submission agreement

All presenting authors, including keynote, invited, oral, and poster presenters, agree to the following conditions by submitting an abstract:

- Register and pay the author registration fee
- Oral presenters: recording and publication of your onsite presentation (slides synched with voice) for publication in the Proceedings of SPIE in the SPIE Digital Library
- Poster presenters: submit a poster PDF by the advertised due dates for publication in the Proceedings of SPIE in the SPIE Digital Library; poster PDFs may also be published and viewable in the spie.org program during and immediately after the event. Each poster must have a unique presenter; one person may not present more than one poster per session
- Email messaging for the conference series
- Submit a manuscript by the advertised due date for publication in the Proceedings of SPIE in the SPIE Digital Library
- Obtain funding for registration fees, travel, and accommodations
- Attend the meeting
- Present at the scheduled time

Review and program placement

- To ensure a high-quality conference, all submissions will be assessed by the conference chair/editor for technical merit and suitability of content
- Conference chairs/editors reserve the right to reject for presentation any paper that does not meet content or presentation expectations
- Final placement in an oral or poster session is subject to chair discretion

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- Only manuscripts, presentations, and posters presented at the conference and received according to publication guidelines and due dates will be published in the Proceedings of SPIE in the SPIE Digital Library
- Manuscripts, presentations, and posters will be officially published after the event in the SPIE Digital Library
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