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## WORKSHOP on

# NANOPHOTONICS FOR SOLAR ENERGY

Chairs: Prof. Dr. Christiane Becker (HZB), Dr. Sven Burger (ZIB), Dr. Klaus Jäger (HZB)

In the **Second European Workshop Nanophotonics for Solar Energy** we review recent developments and reflect on the current role of nanophotonics for solar cells. We would like to discuss strategies for maximising the impact of nanophotonics on future developments in solar energy technology. The workshop is organized by the Berlin Joint Lab for Optical Simulations for Energy Research (BerOSE) and the Helmholtz Innovation Lab HySPRINT. We encourage the participants to not only present their latest results but also to address problems and open questions – this might help to identify possible topics for collaboration. Further, the workshop will be a platform for exchange between industry and academia.

**17 October 2018**

WISTA  
Rudower Chaussee 17  
12489 Berlin, Germany

Part of Photonic Days Berlin Brandenburg  
Organized by Joint Lab BerOSE<sup>1</sup> and HySPRINT<sup>2</sup>  
THE WORKSHOP WILL BE HELD IN ENGLISH

1) <http://www.zib.de/institute/joint-lab-optics>

2) [https://www.helmholtz-berlin.de/projects/hysprint/index\\_en.html](https://www.helmholtz-berlin.de/projects/hysprint/index_en.html)

## Program, 17 October 2018

<b>09:30 - 10:00</b>	<b>Registration // exhibition// coffee</b>
10:00 - 10:10	Welcome and introduction Prof. Dr. Christiane Becker, Helmholtz-Zentrum Berlin für Materialien und Energie / HySPRINT, Germany
10:10 - 10:30	Solar cells with record efficiencies enabled by nanophotonic light trapping Benedikt Bläsi, Fraunhofer ISE, Germany
10:30 - 10:50	Si nanotexturing for c-Si solar cell applications Rasit Turan, Middle East Technical University, Turkey
10:50 - 11:10	Mie resonators as efficient backside light trapping structures for crystalline silicon solar cells Alexander Sprafke., MLU Halle, Germany
11:10 - 11:30	Ultra-efficient solar cells: solar concentration vs. photon recycling Eugene A. Katz, Ben Gurion University of the Negev, Israel
<b>11:30 - 12:00</b>	<b>Coffee break and exhibition</b>
12:00 - 12:20	Monolithic silicon nanophotonic resonators with inverted taper Sebastian Schmitt, Helmholtz-Zentrum Berlin für Materialien und Energie, Germany
12:20 - 12:40	Advanced horticatching for accurate modelling of A/UIPV systems Olindo Isabella, TU Delft
12:40 - 13:00	Light management for silicon-perovskite tandem solar cells (working title) Ulrich Paetzold, Karlsruhe Institute of Technology, Germany
13:00 - 13:20	Photonic mode engineering in heterogeneous structures for the control of light absorption and wavelength conversion, Christian Seassal, Ecole Centrale de Lyon, France
<b>13:20 - 14:20</b>	<b>Lunch and exhibition</b>
14:20 - 14:40	Optical metasurfaces for advanced PV design Albert Polman, AMOLF, the Netherlands
14:40 - 15:00	Modelling, simulation and optimization of nanostructures for solar cells Martin Hammerschmidt, JCMwave GmbH, Germany
15:00 - 15:20	Light management with hexagonal periodic nanotextures Klaus Jäger, Helmholtz-Zentrum Berlin für Materialien und Energie / BerOSE, Germany
15:20 - 15:40	Efficient Light Collection via Dielectric Nanoparticles in Ultrathin Cu(In,Ga)Se <sub>2</sub> Solar Cells and Modules Martina Schmid, Universität Duisburg-Essen, Germany
<b>15:40 - 16:20</b>	<b>Coffee break and exhibition</b>
16:20 - 16:40	Optical effects of nano- and micro-scale textures in bifacial silicon heterojunction solar cells investigated by coupled modelling approach Janez Krč, University of Ljubljana, Slovenia
16:40 - 17:00	Polymeric light harvesting coatings for photovoltaics Guillaume Gomard, Karlsruhe Institute of Technology, Germany
17:00 - 17:20	Integrating nano-pyramids into crystalline-silicon solar cells: a mega-challenge Valerie Depauw, imec, Belgium
17:20 - 17:40	Photonic interlayers for perovskite/silicon tandem solar cells Karsten Bittkau, Forschungszentrum Jülich, Germany
17:40 - 18:00	Final discussion and wrap up
<b>18:00</b>	<b>Photonic Days Evening Reception at WISTA</b>

## Workshop Registration

### NANOPHOTONICS FOR SOLAR ENERGY

**Wednesday, 17 October 2018**  
**WISTA Rudower Chaussee 17**  
**12489 Berlin, Germany**

**Please register before 12 October 2018 with OpTecBB.**

There is no registration/participation fee.

Online registration: [http://optecbb.de/lang/de/anmeldung\\_20181017\\_nano\\_photonics.php](http://optecbb.de/lang/de/anmeldung_20181017_nano_photonics.php)

Or mail to OpTecBB e.V., Hr. Reschke: [optecbb@optecbb.de](mailto:optecbb@optecbb.de), Fax: +49-30-6392-1729

Name, first name:

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Title:

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Institution/company:

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Address:

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Tel./fax:

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E-mail:

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By registering you consent to the following:

- all personal data collected via this registration form will, in accordance with the current rules concerning the protection of personal data, be saved, processed and used for the sole purpose of organising the event and for legitimate business interests with regard to providing advice and support.
- during the event, visual images of you may be taken, processed and used in the context of public relations work (print and online media) and for documentation purposes.
- The transmitted data concerning title, first name, surname and company/institution may be made available to all event participants in the form of a printed list of participants.