

# Agenda

<b>SUNDAY, 4 August</b>	
8:00-9:00 AM	<i>Registration &amp; Breakfast</i>
<b>WELCOME</b>	
	<i>Welcome to the 29th Workshop on Crystalline Silicon Solar Cells &amp; Modules</i>
9:00-9:15 AM	Bhushan Sopori (Consultant)
<b>SESSION 1</b>	<b>Passivated Contacts: High Temperature</b> Chair: Giso Hahn
9:15-10:00 AM	<i>Review of passivated contacts on silicon solar cells</i> Martin Hermle (Fraunhofer ISE, Germany)
10:00-10:30 AM	<i>State of the art, low-cost, 23.5% efficient monopoly cell process and platform</i> Shubham Duttagupta (SERIS, Singapore)
10:30-11:00 AM	<i>BREAK</i>
11:00-11:30 AM	<i>Engineering the passivating contacts for high efficiency c-Si silicon solar cells</i> Gizem Nogay (CSEM, Switzerland)
11:30-Noon	<i>Optimization and characterization of POLO solar cells</i> Christina Holleman (ISFH, Germany)
Noon-1:30 PM	<i>LUNCH BUFFET</i>
<b>SESSION 2</b>	<b>Passivated Contacts: Low Temperature</b> Chair: Paul Stradins
1:30-2:00 PM	<i>Dopant-free passivated contacts for silicon solar cells</i> Yimao Wan (Risen Energy, China/ANU, Australia)
2:00-2:30 PM	<i>Silicon-based tandems</i> Chaomin Zhang (Arizona State University, USA)
2:30-3:00 PM	<i>BREAK</i>
3:00-4:00 PM	<b>DISCUSSION: Key issues limiting adoption of passivated contacts</b> Moderator: Denis De Ceuster
6:00-8:00 PM	<i>WELCOME RECEPTION and BUFFET</i>

## MONDAY, 5 August

7:30-8:30 AM *Breakfast*

### SESSION 3 **Cell and Module Production**

Chair: Eric Schneller

8:30-9:00 AM *Adventures in high-efficiency silicon solar cell startups: concept to pilot production*

*Denis De Ceuster* (DDC Consulting, USA)

9:00-9:30 AM *Manufacturing n-type crystalline Si solar cells*

*Qi Wang* (Jinko Solar, China)

9:30-10:00 AM DISCUSSION: What is driving the adoption of new cell technologies?

Moderator: Ron Sinton

10:00-10:30 AM *BREAK*

### SESSION 4 **New PV Applications, Utility Scale PV, and Beyond**

Chair: Peter Hacke

10:30-11:00 AM *Solar cells for cars*

Masafumi Yamaguchi (Toyota Technical Institute, Japan)

11:00-11:30 AM *Challenges and opportunities in widespread bifacial PV adoption*

*Itai Suez* (Silfab, Canada)

11:30-Noon DISCUSSION: New market opportunities for PV

Moderator: Yoshio Oshita

Noon-1:30 PM *LUNCH BUFFET*

*Afternoon Break for Side Meetings*

7:00-9:00 PM *POSTER SESSION & RECEPTION*

## TUESDAY, 6 August

7:30-8:30 AM *Breakfast*

### SESSION 5

#### Materials

Chair: Bhushan Sopori

8:30-9:00 AM

*Overview of progress on cast-mono materials and cells*

*Pheng Phang (Australian National University, Australia)*

9:00-9:30 AM

*Applications of data science techniques to crystalline silicon research for solar cells*

*Kentaro Kutsukake (Riken, Japan)*

9:30-10:00 AM

DISCUSSION: Possibilities for cost and quality improvements in silicon wafers

Moderator: Qi Wang

10:00-10:30 AM *BREAK*

### SESSION 6

#### Detailed Modeling of Characterization of Specific Defects

Chair: Steve Johnston

10:30-11:00 AM

*Review and challenges on potential induced degradation at the rear side of bifacial solar cells*

*Kai Sporleder (Fraunhofer CSP, Germany)*

11:00-11:30 AM

*Multiscale modeling of defects in Si and their impact of solar cell performance*

*Scott Dunham (University of Washington, USA)*

11:30-Noon

*Kelvin probe force microscopy study of silicon solar cell degradation*

*Chuanxiao Xiao (NREL, USA)*

Noon-1:30 PM *LUNCH BUFFET*

### SESSION 7

#### Characterization and Reliability

Chair: Harrison Wilterdink

1:30-2:00 PM

*Progress in the characterisation of silicon wafers and solar cells*

*Ziv Hameiri (UNSW, Australia)*

2:00-2:30 PM

*Mechanical Durability: What we know about cell cracks and how to deal with them*

*Eric Schneller (University of Central Florida, USA)*

2:30-3:00 PM

*Current topics in Si PV degradation*

*Dirk Jordan (NREL, USA)*

3:00-3:30 PM *BREAK*

3:30-4:30 PM

DISCUSSION: Prioritization of issues in reliability

Moderator: Itai Suez

7:00-9:00 PM *POSTER SESSION & RECEPTION*

WEDNESDAY, 7 August	
7:30-8:30 AM	<i>Breakfast</i>
<b>SESSION 8</b>	<b>Latest on H in Silicon</b> Chair: Shubham Duttagupta
8:30 -9:00 AM	<i>H in (m)c-Si and interaction with defects</i>  <i>Giso Hahn (University of Konstanz, Germany)</i>
9:00-10:00 AM	<i>Defect engineering for silicon heterojunction solar cells</i>  <i>Brett Hallam (UNSW, Australia)</i>
10:00-10:30 AM	<i>Insights into degradation phenomena gained from modeling hydrogen dynamics in c-Si</i>  <i>Wolfram Kwapil (Fraunhofer ISE, Germany)</i>
10:30-11:00 AM	<i>BREAK</i>
11:00-Noon	DISCUSSION: H in Silicon and Workshop Wrap-up  Moderator: Ziv Hameiri

*Thank you for your participation... See you next year!!!*