

DRAFT

## 30th Workshop on Crystalline Silicon Solar Cells & Modules: Materials and Processes

30 July - 2 August 2023  
Beaver Run at Breckenridge

### SUNDAY, 30 JULY

8:00 - 9:00 am	REGISTRATION & CONTINENTAL BREAKFAST
<b>WELCOME</b>	
9:00 - 9:30 am	Workshop welcome: TBD
<b>SESSION 1</b>	
	<b><i>Characterization of Solar Cells, Modules, and Arrays</i></b>
	Chair:
9:30 - 10:00	Thorsten Trupke (UNSW, Australia): "Daylight PL Evaluation of Solar Arrays"
10:00 - 10:30	Andreas Fell, (Fraunhofer ISE) "Marrying Artificial Intelligence and Physics for Fast and Deep Interpretation of Solar Cell Characterization"
10:30 - 11:00	BREAK
11:00 - 11:30	T.Nishihara, Spring-8, (Japan)"Investigation of problems in crystalline silicon heterojunction solar cells by HAXPES"(tentative)
11:30 - 12:00	TBD
<b>Noon - 1:30 pm LUNCH BUFFET</b>	
<b>SESSION 2</b>	
	<b><i>The Potential for Perovskite on Silicon Solar Cells</i></b>
	Chair: TBD
1:30 - 2:00	Stefaan De Wolff, KAIST (Saudi Arabia), "Field Testing of Perovskite Solar Cells In A Hot Climate"
2:00 - 2:30	Dr. Nikos Kopidakis, NREL (USA) "Accurate measurement of the performance of perovskite-silicon tandems: experience from a PV calibration laboratory"
2:30 - 3:00	R. Kaneko and A. Wakamiya (Kyoto University) "Highly reliable perovskite solar cells"(tentative)
3:00 - 3:30	BREAK
<b>SESSION 3</b>	
	<b><i>Advanced metalization technologies</i></b>
	Chair: TBD
3:30 - 3:50	Melbs LeMieux, Electroniks (USA) "Metal complex Inks for PV"
3:50-4:10	Thad Truffel, Bert Thin Films (USA) "Screen print metallization using Cu-based pastes"
4:10-4:30	TBD or discussion on metalization needs for large-volume manufacture
<b>6:00 - 8:00 pm WELCOME RECEPTION with DINNER BUFFET</b>	

# DRAFT

## MONDAY, 31 JULY

7:00 - 8:00 am: CONTINENTAL BREAKFAST

**SESSION 4**      ***SCALING SI PRODUCTION TOWARDS TW/YEAR SCALE***  
Chair: TBD

8:00 - 8:30 am: Peter Fath, "Vertically-integrated silicon module manufacturing"

8:30 - 9:00: Yifeng Chen, "Technology Evolution of the PV Industry"

9:00 - 9:30: Benjamin Lee, Q-Cells, "Manufacturing for Si PV: the present and the future"

9:30 - 10:00: Break

10:00 - 10:30: P. Basore: "The Silicon PV supply chain in the US"

10:30 - 11:00: Michael Woodhouse, "Implications of the IRA on US Manufacturing"

**SESSION 5**      ***DISCUSSION: MANUFACTURING: SCALE, SUPPLY CHAIN, AND TRADE***

11:00 - Noon: Moderator: TBD

Noon - 1:30 pm: LUNCH BUFFET

### AFTERNOON BREAK FOR SIDE MEETINGS

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

# DRAFT

## TUESDAY, 1 AUGUST

7:00 - 8:00 am	CONTINENTAL BREAKFAST
<b>SESSION 6</b>	<b><i>HIGH-EFFICIENCY CELL DEVELOPMENT</i></b> Chair: TBD
8:00 - 8:30	Dr. Xu Xixiang, Longi (China) "The Development of Very-High-Efficiency HJT Cells"
8:30 - 9:00	Di Kang, ANU, (Australia): "" <i>Degradation of Poly Si Contacts</i> ""
9:00 - 9:30	Franz Josef Haug, EPFL, (Switzerland), "Passivating contacts on silicon solar cells"
9:30 - 10:00	TBD
10:00 - 10:30	BREAK
<b>SESSION 7</b>	<b><i>INDUSTRIAL PRODUCTION CELLS: Pros and Cons of HJT and Polysilicon Solar Cells</i></b> Chair: TBD
10:30 - 11:00	Dan Macdonald, ANU, (Australia) "Towards silicon solar cells in mass production with efficiencies above 26% - poly-silicon or amorphous silicon contacts?"
11:00 - 12:00	Discussion with panel: Silicon Solar Cells through 2030: HJT vs Poly, n- vs p-type silicon
Noon - 1:30 pm	LUNCH BUFFET
1:30 - 2:00	TBD
<b>SESSION 8</b>	<b><i>TBD</i></b> Moderator: TBD
2:00 - 3:00	Moderator: TBD
3:00 - 3:30	BREAK
<b>SESSION 9</b>	<b><i>TBD</i></b> Chair: TBD
3:30 - 4:30	Panel: TBD
<b>7:00 - 9:00 pm</b>	<b>POSTER SESSION &amp; RECEPTION</b>

# DRAFT

## WEDNESDAY, 2 AUGUST

7:00 - 8:00 am	CONTINENTAL BREAKFAST
<b>SESSION 10</b>	<b><i>EQUIPMENT MANUFACTURING: EQUIPMENT DRIVES THE PROCESS DEVELOPMENT</i></b> Chair: TBD
8:00 - 8:30	Helge Haverkamp, Centrotherm (Germany) "PECVD Technology in c-Si production"
8:30 - 9:00	Todd Barnum, Linden, (USA) "Advances in Ingot Growth"
<b>SESSION 11</b>	<b><i>Innovative Silicon Module Concepts and Implementations and Recycling</i></b> Chair: tbd
9:00 - 9:30	N. Yamada (Japan) "Effects of solar cell fabrication process on flexibility of crystalline Si wafers for vehicle application"(tentative)
9:30 - 10:00	B. Habersberger, DOW (USA) "Encapsulant technologies: Overview and technical factors for materials selection in PV modules "
10:00 - 10:30	<i>BREAK</i>
<b>SESSION 12</b>	<b><i>DISCUSSION &amp; WORKSHOP: tbd</i></b>
10:30 - 11:00	Moderator: tbd
11:30 - Noon	<b><i>SILICON WORKSHOP WRAP-UP</i></b>

THANK YOU FOR YOUR PARTICIPATION...SEE YOU NEXT YEAR!!!