

Monday,
20th October 2014

Metallization Workshop

5th Workshop on Metallization of Crystalline Silicon Solar Cells 2014

9:00 - 9:10		Opening
9:10 - 10:40		Session I: Formation of screenprinted contacts Jooyoul Huh, Gunnar Schubert
	René Höning Oliver Eibl Sung-Bin Cho Oliver Eibl	Fraunhofer ISE Universität Tübingen Korea University Universität Tübingen
		Comprehensive study on the macroscopic and microscopic electrical behavior of screen printed silver contacts to phosphorus-doped emitters Combined microstructural and electrical characterization of metallization layers in industrial solar cells Effect of forming gas annealing on screen-printed Ag metallization of silicon solar cells Serial and contact resistance measurements between 80 K and room temperature for industrial solar cells
10:40 - 11:10		Coffee break
11:10 - 12:40		Session II: Optimisation of screenprinted contacts Marco Galliazo, Giso Hahn
	Tetsu Takahashi Bob Wind Helge Hannebauer Stefan Körner	Namics Corporation ECN ISFH IKTS
		New Metallization Concept for High Efficiency/Low Cost c-Si Photovoltaic Solar Cells New method to optimize metallization schemes for n-Pasha cells Optimized stencil print for low Ag paste consumption and high conversion efficiencies Basic study on the influence of glass composition and aluminum content on the Ag/Al paste contact formation to boron emitters
12:40 - 13:50		Lunch break
13:50 - 15:20		Session III: Ni/Cu plated contacts I Jonas Bartsch, Jörg Horzel
	Richard Russell Jonas Geissbühler Agata Lachowicz Zhongtian Li	IMEC STI PVLAB - EPFL Neuchâtel CSEM UNSW
		The Potential for Cu-free Ni Plated Contacts Enabled by Smart Wire Connection Technology Electrodeposited copper front metallization for silicon heterojunction solar cells: materials and processes Plating on Thin Conductive Oxides for Silicon Heterojunction Solar Cells Patterning for Plated Heterojunction Cells
15:20 - 15:50		Coffee break
15:50 - 17:20		Session IV: Contacts to p-type silicon Thomas Buck, Stefanie Riegel
	Susanne Fritz Katharina Dressler Christopher Kranz Mathias Kamp	Universität Konstanz Universität Konstanz ISFH Fraunhofer ISE
		Preservation of Si surface structure by AgAl contact spots – an explanatory model Void Characterization with Scanning Acoustic Microscopy and Computer Tomography Determination of the contact resistivity of screen-printed Al contacts formed by laser contact opening Electrochemical Contact Separation for PVD Aluminum Back Contact Solar Cells
17:20 - 18:30		Session V: Market Place Discussion
	Antonin Faes Guy Beaucaire Gisela Cimiotti Ran Chen Markus König Marco Galiazzo	CSEM Dow Corning Fraunhofer ISE UNSW Heraeus Precious Metals Applied Materials Italia
		SmartWire Solar Cell Interconnection Technology Ribbon bonding on busbar-less cells using Electrically Conductive Adhesives: Potential and challenges Design rules for solar cells with plated metallization Failure Modes Identified During Adhesion Testing of Metal Fingers on Silicon Solar Cells Screen Printing Ag Metallization Technology meet the challenges of today's c-Si Solar Cell Fine Line Double Printing and Advanced Process Control for Cell Manufacturing

From 18:45

Aperitiv & Dinner: "Il Boccone", Bodanstraße 20-22, 78462 Konstanz

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9:00 - 10:30			Session VI: From Cells to Modules Armand Bettinelli, Valentin Mihailetschi
	Kees Broek	ECN	MWT cells merit a sound contact to the conductive back sheet
	Pierre Papet	Roth & Rau Research AG	Silver usage reduction for monofacial and bifacial heterojunction solar cells
	Ines Dürr	Fraunhofer ISE	Metallization Material Qualification in terms of Damp Heat Induced Degradation (DHID)
	Evert Bende	ECN	The effect of reduced silver paste consumption on the cost per Wp for MWT-cell modules and H-pattern cell modules.
10:30 - 11:00			Coffee break
11:00 - 12:30			Session VII: Metallization Technology Aba Ebong, Ralf Preu
	Andreas Lorenz	Fraunhofer ISE	High Throughput Flexographic Printing for Front Side Metallization of Busbar-less Solar Cells
	Maximilian Pospischil	Fraunhofer ISE	Dispensing Technology on the Route to an Industrial Metallization Process
	Michael Zenou	Orbotech	Solar cell metallization by laser transfer of metal micro-droplets
	Misha Matusovsky	Utilight	Pattern Transfer Printing (PTP™) for c-Si PV solar cell metallization
12:30 - 13:30			Lunch break
13:30 - 15:00			Session VIII: Ni/Cu plated contacts II Pietro Altermatt, Richard Russell
	Jörg Horzel	Rena	Shifting the limits with Cu based Metallisation and Advanced Plating technology
	Achim Kraft	Fraunhofer ISE	Characterization of copper diffusion in silicon solar cells
	Shruti Jambaldinni	Fraunhofer ISE	Investigation of Salicide Process from Sputtered Nickel on Structured SiNx ARC Layers for Mono-crystalline Si Solar Cells
	Guy Beaucarne	Dow Corning	Non-contacting busbars for advanced cell structures using low temperature Cu paste
15:00 - 15:30			Closing
15:30 - 16:00			Coffee and Goodbye

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