

Optical Society of America Ann Arbor Local Section

PUBLIC MEETING NOTICE

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Wednesday, 13 February 2013, 8:00 pm

Location: EECS Room 1005

Electrical Engineering & Computer Science Building
North Campus, University of Michigan
Ann Arbor, MI 48109

Thin Film Silicon Solar Cells

Dr. Yang Li

Rigaku Innovative Technologies Inc, Auburn Hills, MI

Abstract: Photovoltaic industry is one of the fastest growing industries for the past decade and could be the most important one in the energy field in the future. The key requirements for success for this technology are (i) low cost, (ii) high stable efficiency, (iii) abundant raw materials supplies, and (iv) environmentally friendly. Silicon base thin film solar cells are one of the promising technologies could fulfill these requirements. Moreover, thin film Si solar cells also have the advantages in temperature coefficient, proven long term stability and easy installations. Companies from US, Europe and Asia have made tremendous progress on improving all aspects from the individual cell and panel performances to MW scale manufacturing technologies. In particular, United Solar Ovonic (uni-solar) had done more than two decades of R&D in all these areas. In this talk, I would like to introduce some of the basic materials properties, thin film growth mechanism, cell design philosophies based on the experiences and works done at Uni-Solar. Several industrial production systems and their achievement are also highlighted.

Bio-sketch: Yang Li is currently a coating scientist at Rigaku Innovated Technologies. He was a senior research scientist at United Solar Ovonic as one of the key technologist for developing the next generation of large area VHF PECVD technology for $\mu\text{-Si:H}$ production. He is also teaching AET 5510 "introduction to photovoltaic" at Wayne State University (WSU). He graduated from Nankai university, China in physics major and obtain a Ph.D. in electrical engineering at WSU in 1994. After a year and half postdoctoral experience at GM R&D center on metal hydride thin film electrodes and PEM fuel cells, he joined Energy Conversion Devices (ECD) and worked on metal-hydride battery, solid hydrogen storages and system integrations. In the last 6 years at ECD, he focused on the research and development of silicon based thin film solar cells in materials properties, characterizations and industrial scale production systems.

Map to seminar site: www.umich.edu/~newsinfo/umnc.html (or see AA OSA website). Free parking after 6 pm east of the Lurie Engineering Building (at intersection of Beal & Bonisteel). All attendees are invited to join the AA OSA officers for dinner with the speaker at Paesano's Restaurant, 3411 Washtenaw Avenue (near US-23) in Ann Arbor at 6:00 pm, prior to the seminar. A map to the restaurant location can be found online at the link <http://www.paesanosannarbor.com/contact/>

Next AA OSA Section Event:
INDUSTRIAL SNAPSHOT NIGHT
Tuesday, February 26, 2013

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