

# Nano Seminar Series

Monday, Nov. 19, 2018 10:30 – 11:30 am 1018 DOW



## High Efficiency c-Si Solar Cells With Ultrathin SiO<sub>x</sub> Tunneling Passivation and Polycrystalline-Si Contact

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**Abstract:** This presentation will give a review of the c-Si solar cell technology development including various cell structures of Al-BSF, PERC, HIT, IBC and TOPCon. In recent years, PERC has gradually replaced the conventional Al-BSF in mass production. With high demanding of further reducing the cost and improving the cell efficiency, new cell structures become the key topics for the PV community. HIT solar cell has been proposed to be the post-PERC technology in the main stream of solar module manufacturing, but the high Capex has delayed the acceptance of HIT in PV module manufacturing. An alternate technology, named TOPCon, has attracted a great attention in the last five year. It has many common features with PERC cell, and reached record efficiency of 25.7%. Therefore, the TOPCon cell structure is expected to be integrated into the current PERC lines with limited investment. The focus of the presentation will be on TOPCon solar cells, including the cell structure, fabrication process, pros-cons, and perspective in manufacturing.

**Biography:** Dr. Baojie Yan is a professor and senior scientist in Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Science. He earned his PhD in Nankai University, China, 1989. He has worked in several PV companies, including United Solar Ovonic LLC in Michigan. He was the Advanced Technology Director in United Solar and led the group to achieve several world records in thin film silicon solar cells and modules. Currently, he is leading a group to work on high efficiency c-Si TOPCon solar cells and collaborates with several PV companies for transferring the TOPCon technology into PV module mass production.



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