PURDUE UNIVERSITY Discovery Park

Birck Nanotechnology Center
Discovery Park Engagement
Energy Center

SOLAR SEMINAR SERIES

SPRING 2013 PHOTOVOLTAIC SEMINAR SERIES

KURT R. MIKESKA

Birck Rm. 2001

April 4, Thurs., 3:30 p.m.

Crystalline Silicon Solar Cell Metallization

Crystalline silicon solar cell technology has advanced by improvements to all aspects of cell design including metallization. Improvements to metal contacts have been synergistic with other cell improvements such as passivation, lightly doped emitters, and boron doped emitters. Recent improvements in metallization contacts have allowed the solar cell industry to move from highly doped emitters (HDE), designed to enable sufficiently low contact resistance, to lightly doped emitters (LDE), which have much lower recombination velocities, lower saturation current and improved cell efficiency. We will discuss both accepted theories and new insights into silver-silicon contact mechanisms, which combined have led to recent improvements in cell design and performance.

Brief Bio

Kurt R. Mikeska received his Ph.D. in Materials Science and Engineering from Rutgers University, College of Engineering and is currently a Senior Research Associate at DuPont in the Central Research and Development Department, Experimental Station, Wilmington DE. His expertise is in solid state inorganic synthesis, and he has worked in the area of crystalline silicon photovoltaics for the past ten years developing contact metallizations and investigating metal-semiconductor interface contact mechanisms. He has over 25 granted patents and 40 publications.

Refreshments & Networking Opportunities

Seminar Series Dates April 4, 11, 18

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