

LightWorks Lecture Series

Co-sponsored by IEEE Electron Devices Society
Summit on Photovoltaics Performance and Reliability
Tuesday, September 17, 2013



Dr. Sarah Kurtz

Reliability Group Manager, Principal Scientist
National Renewable Energy Lab (NREL)

Talk: "Defining a Technical Basis for Confidence in PV Investments"

We would like to predict how long a module will last as a function of the climate and the system design and to be able to quantify our confidence in that prediction. Today, we have an excellent set of qualification tests that detect most issues and the knowledge of how to achieve excellent reliability, but there is room for improvement. This talk will propose additional tests with supporting evidence of how these predict better durability in the field. A path to a comprehensive rating system and, ultimately, to service life predictions will be described.



Mr. David Wilt

Tech Advisor, Space Vehicles Directorate
Air Force Research Laboratory,
Kirtland Air Force Base, NM

Talk: "Reliability of Space Photovoltaics"

Nearly every spacecraft is powered by photovoltaics. Given the huge expense in building and launching satellites, plus the virtual inability to repair spacecraft on-orbit, high reliability power subsystems are particularly critical. This presentation will discuss the sources of challenges to space photovoltaic reliability, the implications of power system failure, industry practices employed to address and assure reliability and finally a discussion of recent spacecraft photovoltaic anomalies.



Dr. Mani G. TamizhMani

Director, Photovoltaic
Reliability Laboratory
Arizona State University

Talk: "Reliability and Durability of PV Modules:
Lessons Learned in Hot-Dry Climates"

With low module price (\$0.5/watt) and long lifetime (>20 years), the grid parity goal can be achieved. The current module price is as low as \$0.70/watt, and is expected to reach \$0.50/watt in the next few years. However, the lifetime of more than 94% of the installed modules which have been installed only in the last five years is yet to be demonstrated. The lessons learned on the reliability and durability issues of older power plants would be greatly useful for the lifetime prediction of newer power plants. This talk will present the lessons learned on the degradation rates, soiling losses and failure modes of older (12-18 years) PV power plants installed in hot-dry climatic conditions.

AGENDA ON REVERSE SIDE

Join us September 17 for a series of talks on Photovoltaics Performance and Reliability

Questions: (480) 965-9572 Rebecca.Davis@asu.edu

This event is co-sponsored by ASU LightWorks and the IEEE Electron Device Society.

Tuesday, September 17 from 8:00 am to 2:30 pm
ASU Tempe Campus, Memorial Union Turquoise Room 202

Continental breakfast and lunch included. Time allotted for networking following the Q&A and closing remarks.
This event is free of charge. **Seating is limited.**

RSVP at www.asulightworks.com

AGENDA

8:00-9:00	Registration and Breakfast
9:00-9:15	Introduction
9:15-10:00	Dr. Sarah Kurtz: "Defining a Technical Basis for Confidence in PV Investments"
10:00-10:10	Break
10:10-10:45	Mr. David Wilt: "Reliability of Space Photovoltaics"
10:45-11:00	Break
11:00-11:45	Dr. Mani: "Reliability and Durability of PV Modules: Lessons Learned in Hot-Dry Climates"
11:45-12:00	Break
12:00-1:15	Lunch Buffet
1:15-1:45	Q&A and Closing Remarks
1:45-2:30	Networking

How can we improve photovoltaic performance and reliability?