



Welcome to the 39th IEEE Photovoltaic Specialists Conference, the pre-eminent global technical conference in photovoltaics that is sponsored by the world's largest professional association for the advancement of photovoltaic technology. This year's meeting is anticipated to host nearly a 900 presentations spanning ten topical technical focus areas that range across fundamentals, characterization, new concepts, all of the major commercial and next generation technologies, space and terrestrial applications, policy and finance developments that can drive the velocity of market penetration, and our newest area devoted to the science of PV reliability.

Sunday, June 16th marked the traditional beginning of the PVSC, which is jam-packed with workshops and educational tutorials taught by the brightest PV experts from academia, national labs, and industry. The PVSC participants were actively registering at the Tampa Convention and Exhibition Center, the home of this year's conference and exhibits, and getting settled in their hotel accommodations.

In the Sunday morning session, Dr. Christiana Honsberg gave an introductory tutorial on photovoltaic devices and principles, with emphasis on PV device physics, operation, fabrication, and characterization. Dr. Tim Anderson and Dr. Steven Hegedus, both experts in thin-film solar cell technology, gave an update on the history and current status of Thin Film Solar Cells research and technology. Attendees learned about the challenges and opportunities that reside within CdTe, CuInSe₂-based, and amorphous Si-based technologies. Dr. Robert Balog gave a detailed course in "Power Electronics Balance-of-Systems Requirements for Non-Planar Photovoltaic Systems". Dr. Ned Edkins-Daukes described recent advances in High Efficiency Multi-Junction Cell Technology, which have attained 44% efficiency under concentrated sunlight and over 30% efficiency in commercial products for space applications. Michael Coddington, Black Lundstrom, Dr. Ravel Ammerman, and Robert Broderick shared their perspectives on the challenges and opportunities related to distributed generation integration. Given that renewable energy resources are widely distributed and intermittent in nature; different approaches need to be adopted in order to overcome current interconnection issues.

In the Sunday afternoon session, Dr. Muhammad Alam and Mike Fife described the how to manage the challenges that reside within PV reliability testing in their "An End-to-End (Device-Module-System) perspective on PV Reliability" tutorial. Product reliability is of the utmost importance for the solar industry to uphold for our customers, which makes this course a must-attend for anyone involved in commercializing PV technologies, and where accelerated testing and physics of failure methodologies are applied. Dr. Ron Sinton (Sinton Instruments) gave an overview of Silicon solar cell technology. Silicon cells, be they monocrystalline or polycrystalline, represent the largest portion (> 85%) of solar cells that are manufactured in the world today. This tutorial covered everything from the raw material refinement

process to solar cell production and testing. Geoff Klise, Jamie Johnson, and Sandy Adomatis gave the premier tutorial on “Developing the Market Value for Residential and Commercial PV Systems”. The economic benefits of PV are not well known and typically underestimated. Market valuation techniques, such as those discussed in this tutorial, are critical to understand and apply to ensure PV systems are valued properly. Dr. Nicoleta Sorloaica-Hickman presented on Novel Materials and Device Concepts for Photovoltaic Energy Conversion, highlighting the many exciting research efforts in developing novel materials and device architectures in photovoltaics. These new technologies and materials are actively being investigated for their potential to overcome the current limit of photovoltaic conversion efficiency and further reduce the cost of photovoltaic electricity generation.

The International Energy Agency (IEA) Photovoltaic Power Systems (PVPS) Task 13 Workshop: Lessons Learned from the Analytical Monitoring and Modeling of PV Systems also convened and discussed the importance of optimizing the performance of PV plants. The workshop focused on lessons learned from measuring performance in the field and best practices for monitoring and interpreting data offline and real-time.

For those of you not already planning to attend, tickets are still available at the registration desk for this year’s Conference Banquet, which will be held at the world famous Busch Gardens on Thursday evening.

That wraps up the first day of the 39th IEEE PVSC conference.

Test your PV knowledge and ENTER *PHOTOVOLTAICS INTERNATIONAL’S* ONLINE COMPETITION TODAY!

IEEE PVSC attendees have the chance to enter our online competition at www.solarmediastore.com/competition for fantastic prizes, including annual print subscriptions to *Photovoltaics International* and our production manual, *Manufacturing the Solar Future 2013*.

Photovoltaics International independently collects and disseminates news and in-depth technical information exclusively for PV manufacturers through its print edition and website, www.pv-tech.org. With over 12 years covering technical manufacturing for both the semiconductor and the photovoltaic industry, the publishers of *Photovoltaics International* use their editorial expertise to create a much-needed and worthwhile resource for PV manufacturers to help them implement technology that will achieve price and yield goals now and in the future.

