



**BAPVC Spring Meeting
DuraMAT Workshop
May 22 - 23, 2017
Bechtel Conference Center, Stanford University**

MONDAY, MAY 22, 2017

BAPVC Session

8:00 Coffee and Networking

8:30 **Welcome**

John Benner, Executive Director BAPVC

Dana Olson, DOE PVMI Portfolio Manager DOE PV Manufacturing Initiative

8:45 BAPVC Update and Action, Ali Javey, BAPVC Co-Director, Berkeley

Session I: BAPVC Technology Showcase

9:00 Flexible Thin Single-Crystal Silicon Solar Cells and Processing, Yi Cui, Stanford

9:15 Cost Analysis of Tandem Solar Modules, Sarah Sofia and Tonio Buonassisi, MIT

9:30 11.2%-Efficient Monocrystalline MgCdTe Solar Cell with 1.7 eV Bandgap, Calli Campbell, ASU

9:45 Operational stability of halide perovskites, Andrea Bowring, Stanford

10:00 Advanced Contacts for High Efficiency Silicon Solar Cells, James Bullock, UC Berkeley

10:15 Break

Session II: Photovoltaic Modules and Application

10:45 BAPVC Module Reliability Research and Advanced Module Materials, Reinhold Dauskardt, Stanford

11:15 PV Cost Drivers and Approaches for Using Techno-Economic Analysis to Guide Research and Design, Kelsey Horowitz, NREL

12:00 **Luncheon**

BAPVC Industry Board Meeting – Oksenberg Room

DuraMAT Session

1:30 **Welcome**

Introduction to DuraMAT, Teresa Barnes, NREL

1:45 DOE's Vision of DuraMAT, Dana Olson, DOE

Invited Session I: PV Durability in the Lab and Outdoors

2:00 What Are Appropriate Accelerated Tests for New Module Components?, Ingrid Repins, NREL

2:25 Field Failures and Accelerated Tests, David Meakin, SunPower

2:50 Value of Recycling PV Modules, Market Size and Need for Design for Recycling, Garvin Heath, NREL

Panel Discussion

3:15 Moderator- Ingrid Repins, NREL
Risks of new materials and designs, how to extend the tests we have now to these materials, how good are we at predicting field failures using accelerated tests and modeling, what are the research needs to improve our failure mode and service life predictions?
Doug Rose, SunPower; Garvin Heath, NREL; Allan Ward, First Solar; Gabriela Bunea, SunPower

3:45 Break

DuraMAT Capability Presentations

4:00 Developing an Applied Materials Discovery Workflow, Mike Toney, SLAC
Capability 3: Materials Discovery and Forensics

4:15 Combined-Accelerated Stress Testing in DuraMAT, Peter Hacke, NREL
Capability 4: Module Durability

4:30 Thermal-Mechanical-Electrical Model for PV Module-Level Mechanical Failure Mechanisms, James Y. Hartley, Sandia
Capability 2: Predictive Simulation

Panel Discussion

4:45 Discussion and Panel with Capability Leads

BAPVC and DuraMAT Poster Presentations – Oksenberg Room

5:30 Initiate Session

6:00 Open Reception

7:00 Adjourn

TUESDAY, MAY 23, 2017

DuraMAT Session

8:00 Coffee and Networking

8:30 Changes in Field Degradation Modes Over Time, Dirk Jordan, NREL

DuraMAT Capability Presentations

9:00 Designing and Developing a Collaborative Data Infrastructure for DuraMAT, Robert White, NREL
Infrastructure- Data Hub

9:15 Opportunities and Challenges in PV Performance Analytics: A Case Study in Module Soiling,
Mike Deceglie, NREL
Capability 1: Data Analytics

9:30 Field Testing: Overview and Capability Development Activities, Birk Jones, Sandia
Capability 5: Field Deployment

Panel Discussion

9:45 Discussion and Panel with Capability Leads

10:15 Break with Posters

10:45 Collaborative Tools for Investigating PV Degradation, Ben Ellis, LBL
Infrastructure/Capability 1: Data Hub & Data Analytics

Invited Session II: Solar and Materials Data

11:00 PV Equipment Testing: Historical Data and Best Practices for Product Qualification,
Jenya Meydbray, DNVGL

11:30 Cross-sector Opportunities to Improve Solar Data Analysis and Capabilities,
Adam Shinn, kWh Analytics

12:00 Orange Button Data Standards for Solar Financing: Using Common Data Formats and Analysis Tools
to Increase Efficiency and Reliability of PV Deployment,
Michelle Savage and Tom Tansy, Orange Button

12:30 Luncheon

DuraMAT Industry Advisory Board Meeting

SLAC Tour

1:45 Travel to SLAC

2:00 SLAC Tour

3:30 Adjourn