

Welcome and Introduction to the Workshop

9th PVPMC PV Performance Modeling and Monitoring Workshop
Weihai, China, Dec 5-7, 2017

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PVPerformance
MODELING COLLABORATIVE

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PV Performance Modeling Collaborative (PVPMC)



- Founded in 2010 to foster better collaboration in PV Performance Modeling
- **Three Pillars of Communication and Collaboration**
 - 1. Website** (PVPMC.sandia.gov) (>10,000 visits per month)
 - Detailed Modeling Steps (~150 technical webpages)
 - Past workshop presentations (over 300 available for download*)
 - *SlideShare is not accessible in China. Are there alternatives?
 - Document library, datasets, blog, events, ...
 - 2. Open Source Software**
 - **PVLIB** - Modeling function libraries for Matlab and Python (50+ functions), BSD 3-clause licenses
 - **Wavelet Variability Model** – Matlab code for calculating geographic smoothing of PV plant power.
 - **GridPV** – Matlab code for analysis of distribution systems with PV
 - 3. Workshops**
 - Planning is underway for the 10th PVPMC Workshop, May 1-3 in Albuquerque, New Mexico USA

Welcome to the 9th PVPMC Workshop!

- Aim is to bring together international experts on PV performance modeling and monitoring to discuss new trends and present research results to the community.
 - Focus on technical issues. Information transfer between researchers and industry.
 - Identify gaps and opportunities for improving models (and technology).
 - Learn about PV experience in China and identify modeling and monitoring opportunities.
 - Support discussion, networking, and partnerships.



2017 Workshop in Albuquerque

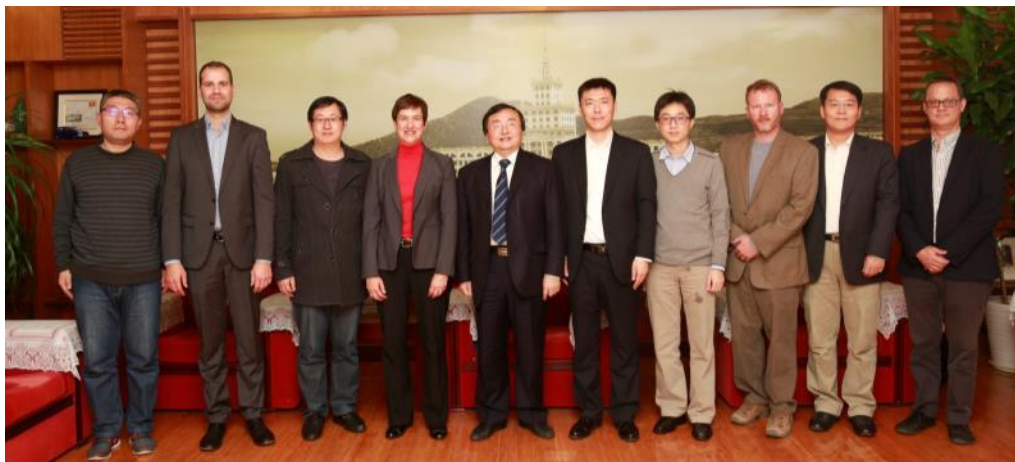
Previous and Future Workshops

1. 2010 Albuquerque, NM
2. 2013 Santa Clara, CA
3. 2014 Santa Clara, CA
4. 2015 Cologne, Germany
5. 2016 Santa Clara, CA
6. 2016 Freiburg, Germany
7. 2017 Lugano, Switzerland
8. 2017 Albuquerque, NM
9. **2017** **Weihai, China**
10. **2018 (May 1-3)** **Albuquerque, NM**

- **Motivation of Fraunhofer to collaborate with PVPMC**
 - PVPMC helps PV community to become more professional
 - Prevents to reinvent existing models
 - Models included in PVPMC are validated -> ready to use
- **Why Fraunhofer ISE supports this Workshop**
 - We want to transfer our research knowledge and build a bridge between the scientific community and the Industry
 - We want to work on solutions in collaboration with the international Industry on today's challenges

First PVPMC Wokshop in China

- Why the PVPMC Wokshop moved to China?
 - China is now the largest PV market world wide and will continue to grow
 - To strengthen International Network between Sandia, Fraunhofer, HIT and other stakeholders
 - Lot of research work is done in China



First PVPMC Wokshop in China

■ The Program

- 35 presentation from international scientists and experts
- Conference Dinner
- Technical Tour to the HIT Outdoor Test Field



Topics for this workshop

Day 1

- Introductions and Keynote speeches
- Solar Resource and Forecasting
- Modeling Software Updates
- Modeling Methods and Case Studies (Part 1)
- Conference Dinner
 - New product announcement from sponsors

Day 2

- Modeling Methods and Case Studies (Part 2)
- PV Monitoring for Degradation
- New PV Technologies
- Grid Integration of PV
- Soiling Studies

Day 3

- Technical tours of PV Test Field of HIT
- Technical tours of Laboratories of HIT

Protocols

■ Speakers

- Time limits will be enforced!
- Ensure presentations are uploaded well before your scheduled session.
- We would like to be able to post/share presentation materials after the workshop. If there are restrictions, please notify organizers.

■ Audience

- Silence cell phones
- Return from breaks on time
- Ask questions
- Participate in discussion sessions
- Meet colleagues and network during breaks



请将你的手机调到静音模式。 8

Thank You and Enjoy the Workshop!

