

**5th International Workshop on the
Sustainable Actions for “Year by Year Aging” under Reliability
Investigations in Photovoltaic Modules, 2024**

SAYURI-PV 2024

Agenda

Date: November 7 – 8, 2024

Venue: Auditorium in AIST Tsukuba Central Campus

Committee

Chair: Yuji Yoshida

Hitoshi Sai,

Masahiro Yoshita,

Takashi Oozeki,

Tomihisa Tachibana,

Katsuto Tanahashi,

Shogo Ishizuka,

Takeshi Tayagaki,

Yasuo Chiba

Keiichiro Sakurai,

Tadanori Tanahashi,

Takuya Matsui,

Host

Renewable Energy Research Center (RENRC)

in National Institute of Advanced Industrial Science and Technology (AIST)

5th International Workshop on the Sustainable Actions for “Year by Year Aging” under Reliability Investigations in Photovoltaic Modules, 2024 (SAYURI-PV 2024)

[Day 1] November 7

9:30- General Introduction

Takeshi Tayagaki (AIST)

9:35- Welcome Address

Hideyuki Takagi (AIST)

Session I: General

Chair: Takashi Oozeki (AIST) and Takeshi Tayagaki (AIST)

9:45- New Era of PV Technologies and Markets and Requirements of New Standards

Michio Kondo (Waseda University, AIST)

10:05- DuraMAT Program

Michael Owen-Bellini (NREL)

10:30- Reliability challenges of new PV module designs

Gernot Oreski (PCCL)

10:55- Q&A

11:15- Lunch [Self-pay]

12:30- Poster Session

Session II: Silicon and Tandems

Chair: Michael Owen-Bellini (NREL) and Takuya Matsui (AIST)

13:30- Mechanisms and performance linked with UV-induced degradation

Peter Hacke (NREL)

13:50- Recent insight in the reliability of silicon heterojunction and TOPCon solar cells and modules

Bram Hoex (UNSW)

14:10- Key materials and processes for highly reliable perovskite/silicon tandem photovoltaic modules

Atsushi Masuda (Niigata University)

14:30- Annual trends of indoor output measurement results of crystalline silicon based photovoltaic modules exposed outdoors in Tusu city, Japan

Yasuo Chiba (AIST)

14:50- Q&A

Session III: Perovskite

Chair: Gernot Oreski (PCCL) and Shogo Ishizuka (AIST)

15:40- Insights into the reliability of perovskite solar cells from outdoor exposure, stress testing, and mobile ion analysis

Takeshi Tayagaki (AIST)

16:00- Damp heat and high temperature test of flexible perovskite solar cell modules

Takashi Minemoto (Ritsumeikan University)

16:20- Assessing the Reliability of Metal Halide Perovskite Photovoltaic Modules with Accelerated Testing at the PACT Center

Laura Schelhas (NREL)

16:40- PACT’s Quest to Develop a Preconditioning Protocol for Metal Halide Perovskite Photovoltaic Modules

Joshua Stein (SNL)

17:00- Interface engineering for efficient and stable perovskite photovoltaics

Stefaan De Wolf (KAUST)

17:20- Q&A

17:40 End of 1st Day

18:00 Network Meeting (ticket required)

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[Day 2] November 8

Session IV: BIPV/VIPV/Floating PV

Chair: Hitoshi Sai (AIST) and Keiichiro Sakurai (AIST)

9:30- Long-term reliability of new BIPV modules over 40 years

Kengo Maeda (KANEKA)

9:50- VIPV research at AIST

Hidenori Mizuno (AIST)

10:10- Testing, Modeling, and Rating: Unusual behavior of curved PV devices under non-ideal solar irradiance

Kenji Araki (University of Miyazaki)

10:30- Interconnection, encapsulation and reliability for vehicle- and other integrated PV

Jonathan Govaerts (Imec)

10:50- New Reliability Challenges of PV Modules for Floating Applications

Min Hsian Saw (TII)

11:10- Q&A

11:30- Lunch [Self-pay]

Session V: Sustainability and Safety

Chair: Bram Hoex (UNSW) and Yasuo Chiba (AIST)

13:00- Development of crystalline silicon photovoltaic modules without encapsulant

Keisuke Ohdaira (JAIST)

13:20- Wind-induced failure and its mitigation of photovoltaic systems in Japan

Yasushi Uematsu (Tohoku University)

13:40- Snow Load acting on the Eaves of Photovoltaic Array Facilities Installed on Ground

Takahiro Chiba (Hokkaido University of Science)

14:00- Safety issue and prospects for PV systems in Japan

Takashi Oozeki (AIST)

14:20- Q&A

14:40- Closing

Takeshi Tayagaki (AIST)

14:45 End of 2nd Day

Poster Sessions

[Day1] Poster Session (November 7, 12:30 – 13:30)

1. Similarities and differences between Perovskite and III-V tandem solar cells in outdoor power generation behavior
Kenji Araki (University of Miyazaki)
2. Improvement of hail resistance of cover glass for solar panel
Takumi Nagasako (AGC)
3. Degradation of perovskite solar cell performances owing to intentionally formed pinholes
Tatsuro Kawamura (EneCoat Technologies)
4. AC Impedance Characteristics and Modeling of Electrical Leakage Circuit Within a Photovoltaic Module
Tadanori Tanahashi (AIST)
5. Durability evaluation of structural colored glasses for BIPV by accelerated stress
Hitoshi Sai (AIST)
6. AIST R&D for Commercialization of Perovskite Solar Cells
Takuro N. Murakami (AIST)
7. Development of Perovskite Solar Cells using Amorphous Indium Zinc Oxide substrate
Kohei Yamamoto (AIST)