4th 3C-PEEC Workshop
“What Can Power Electronics Do as Energy Needs Keep Growing?”

Friday, June 5, 2026

9:00 Registration / Welcome Coffee at
Dejima Messe Nagasaki
Room: Conference Room 103, 1st floor
4-1, Onouemachi, Nagasaki City, Japan

10:00 Welcome and Workshop opening

Hiromichi Ohashi, NPERC-J (JP)

Leo Lorenz, ECPE (EU);

Richard Zhang, CPES (US)

1. Overview of Power and Energy Trends in the World
Focus on renewable energy, energy storage, and smart grids.

10:20 **Connecting Mobility and Energy with EVs: Energy Service Prospects and Case Studies Toward Renewable Energy Society**
Satoshi Hashino, Honda Motor Co., Ltd. (JP)

10:45 **Opportunities for High-Voltage Power Electronics Enabling the Grid of the Future**
Johan Enslin, IEEE Power Electronics Society (PELS) (US)

11:10 **Powering the Energy Transition: Trends in Renewables, Energy storage and Grid Developments in Europe**
Daniel Chartouni, ABB Switzerland (CH)

2. High-Reliability Technologies or Reliability Design
Addressing fault tolerance, predictive maintenance, and robust design principles.

11:35 **Thermal performance characterization of power module by transient thermal impedance measurement**
Tsuyoshi Funaki, The University of Osaka (JP)

12:00 Lunch Break

13:10 **The Future AI Data Center: Evolving Ecosystem Requirements for Power, Cooling, and High Reliability Infrastructure**
Gregory Ratcliff, Vertiv (US)

13:35 **Research on All-Liquid Interconnections for Power Electronics Components: Status and Prospects**
Francesco Iannuzzo, Polytechnic of Turin (IT)

3. Cost Reduction of Equipment / Devices or Life Cycle Assessment

Exploring device innovation, efficient manufacturing, and environmental impact.

14:00 **Large-Diameter Intelligent Silicon Power Semiconductors for Green Society**
Shin-ichi Nishizawa, Kyushu University (JP)

14:25 **High-Density Integration and the Circular Economy – Trade-offs and Considerations**
Christina DiMarino, CPES, Virginia Tech (US)

14:50 **Lifecycle assessment of electronics manufacturing - current experiences and trends**
Lutz Stobbe, Fraunhofer Institute for Reliability and Microintegration IZM (DE)

15:15 Coffee Break

4. Low-Loss and Low-EMI Technologies

Discussing power conversion efficiency and electromagnetic interference mitigation.

15:45 **Feedback Control of Surge Voltage and Conducted EMI in a Three-Phase Inverter Using Digital Active Gate Drives**
Katsuhiro Hata, Shibaura Institute of Technology (JP)

16:10 **Electromagnetic Interference in Wide Bandgap Power Electronics: Key Characteristics, Challenges, and Mitigation Strategies**
Shuo Wang, University of Florida (US)

16:35 **From Understanding Power Electronics EMI to Their Propagation Across the Network**
Jean-Luc Schanen, Univ. Grenoble Alpes, G2ELab (FR)

17:00 Discussion

18:00 Networking Dinner
Room: Conference Room 108, 1st floor