

# WINPTech2009

Workshop on Information, Nano and Photonics Technology 2009



December 1 (Tuesday) – 2 (Wednesday), 2009

KOBE University Centennial Hall and Takikawa Memorial Hall,  
Kobe University, Kobe, Japan

Organized by : Department of Frontier Research and Technology,  
Office of Collaborative Research and Technology Development (CREATE), Kobe University

In cooperation with : IEEE Photonics Society Kansai Chapter, IEICE, The Chemical Society of Japan,  
The Japan Society of Applied Physics, The Physical Society of Japan

## December 1 (Tuesday) (KOBE University Centennial Hall)

- 10:00 – 10:10 **Opening remarks**  
*Chiharu Nakamura (Vice President, Kobe University, Japan)*
- 10:10 – 10:30 **Workshop introduction**  
*Osamu Wada (CREATE, Kobe University, Japan)*
- Nano, Quantum and Photonics**
- 10:30 – 11:20 **Plenary talk**  
**Advances in Quantum Dots and Photonic Crystal for Nanophotonic Devices**  
*Yasuhiko Arakawa (The University of Tokyo, Japan)*
- 11:20 – 12:00 **THz Quantum Cascade Lasers with Microcavity and Photonic Crystal Resonators**  
*Karl Unterrainer (Vienna University of Technology, Austria)*
- 12:00 – 13:10 **(Lunch)**
- 13:10 – 13:50 **High Power, Broadband Quantum Dot Superluminescent Diodes**  
*Mark Hopkinson (University of Sheffield, UK)*
- 13:50 – 14:30 **Diffuse Light Spectroscopy and Imaging for Biomedical Engineering**  
*Yukio Yamada (University of Electro-Communications, Japan)*
- 14:30 – 14:50 **(Photo & coffee break)**
- 14:50 – 15:30 **Plasmonic Biosensing Platform**  
*Kotaro Kajikawa (Tokyo Institute of Technology, Japan)*
- 15:30 – 16:20 **Plenary talk**  
**Status and Future of High-Efficiency III-V Compound Multi-Junction Solar Cells**  
*Masafumi Yamaguchi (Toyota Technological Institute, Japan)*
- 16:20 – 17:40 **Poster Session [Department of Frontier Research and Technology, CREATE]**
- 17:40 – 19:40 **Banquet (Takikawa Memorial Hall)**

## December 2 (Wednesday) (Takikawa Memorial Hall)

### **Third-Generation Solar Cells**

- 9:00 – 9:50 **Plenary Talk**  
**Hardware for the Information Age: Constraints and Solutions for Energy, Bandwidth and Cost**  
*Lionel C. Kimerling (Massachusetts Institute of Technology, U.S.A.)*
- 9:50 – 10:30 **Third Generation Photovoltaics**  
*Gavin Conibeer (University of New South Wales, Australia)*
- 10:30 – 11:10 **Multiexcitons in Semiconductor Nanostructures**  
*Yoshihiko Kanemitsu (Kyoto University, Japan)*
- 11:10 – 11:30 **Coffee break (Coffee, Donut and Sandwich)**
- 11:30 – 12:10 **Intermediate Band Solar Cells**  
*Antonio Martí (Technical University of Madrid, Spain)*
- 12:10 – 12:50 **Recent Developments on Quantum Dot Intermediate Band Solar Cell**  
*Yoshitaka Okada (The University of Tokyo, Japan)*
- 12:50 – 14:00 **(Lunch)**
- Water and Light**
- 14:00 – 14:50 **Plenary talk**  
**Water, Energy and Life: Fresh Views from the Water's Edge**  
*Gerald Pollack (University of Washington, U.S.A.)*
- 14:50 – 15:30 **Water Burning is an Intrinsic Part of Aerobic Respiration**  
*Vladimir Voeikov (Lomonosov Moscow State University, Russia)*
- 15:30 – 15:50 **(Photo & coffee break)**
- 15:50 – 16:20 **Picture of Water Challenged by Synchrotron X-ray Experiments**  
*Yoshihisa Harada (The University of Tokyo and RIKEN/SPring-8, Japan)*
- 16:20 – 16:50 **Differential Approach to Vibrational Spectra of Water**  
*Akifumi Ikehata (National Food Research Institute, Japan)*
- 16:50 – 17:20 **Aquaporin and Water Seen by Two Photon Microscopy**  
*Masato Yasui (Keio University, Japan)*
- 17:20 – 17:25 **Closing remarks**  
*Osamu Wada (CREATE, Kobe University, Japan)*

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