

The 8th LIA NextPV International Workshop Program

Venue: ENEOS Hall (Building 3S), RCAST, The University of Tokyo

[see pages 4 and 5, or visit at http://www.rcast.u-tokyo.ac.jp/home/access/index_en.html]

Date: 18th-19th November, 2019

18th Nov. (Mon), 2019

10:00 Opening Remarks (T. Kubo)

Welcome & Address from UTokyo (M. Ebisawa)

Address from CNRS (J. Maleval)

Overview in 2019 (E. Cloutet & H. Segawa)

10:30 Invited Talk (Y. Okada) *Review of 200 years of passion for Science at*

HORIBA Jobin Yvon and contribution to the PV field

Dr. Ramdane Benferhat (HORIBA, LTD.)

11:00 1st Session on III-V devices (15-min presentation) (Y. Nakano)

[Coordinators: Profs. JF. Guillemoles, Y. Okada, S. Collin, Z. Jehl]

Remote epitaxy: removable III-V devices, for simplified integration and substrate re-use

Amaury Delamarre (FedPV • LPN-CNRS)

Absolute luminescence spectroscopy on InAs quantum dot intermediate band solar cells

Ryo Tamaki (RCAST, UTokyo)

Effect of Number of Multiple Quantum Well to Radiative and Non-radiative Recombination

Warakorn Yanwachirakul (RCAST, UTokyo)

12:00 Board Meeting (@#M251: Open Seminar Room) [including Group Photo & Lunch]

14:00 Invited Talk (M. Sugiyama) *Challenges to ZEB Solutions Harmonized with the City Environment*

Akihiko Nakajima (Kaneka cooperation)

14:30 2nd Session on Advanced Concepts (15-min presentation) (Y. Okada)

[Coordinators: Profs JF. Guillemoles, Y. Okada, Y. Nakano, S. Collin, Z. Jehl]

Current status and perspectives for hot carrier solar cells fabrication and characterization

Daniel Suchet (Ecole Polytechnique)

Light trapping by nanostructured back mirror, application to hot carrier solar cells

Andrea Cattoni (FedPV • LPN-CNRS)

Innovative heterostructure for thermionic cooling

Marc Bescond (IIS, UTokyo)

Designing better absorbers for hot-carrier solar cells

Maxime Giteau (RCAST, UTokyo)

DNA technology for PV

Anthony Genot (LIMMS, CNRS)

16:00-18:00 Poster session (T. Kubo) (@#156: Open Seminar Room)

P-1 ~ P-15 (see page 3)

18:30-20:30 Dinner (@ Lever son Verre Kanran, Komaba I campus)

19th Nov. (Tue), 2019

- 9:00 **3rd Session on Characterization: Perovskites and surfaces (M. Sugiyama)**
[Coordinators: Profs. C. Alonso, M. Sugiyama, D. Aureau, H. Akiyama]
Characterization of perovskites : what can we learn from multidimensional photoluminescence studies
Jean-François Guillemoles (FedPV • IPVF)
XPS characterization of surfaces and interfaces
Damien Aureau (FedPV • ILV-CNRS)
Photo-assisted Scanning Probe Methods on Solar Cell Materials
Takuji Takahashi (IIS, UTokyo)
Progress of femtosecond-laser photoemission spectroscopy for ultrafast photovoltage dynamics in solar cells
Hidefumi Akiyama (ISSP, UTokyo)
Characterization of band alignment at semiconductor photoelectrode / electrolyte interface
Masakazu Sugiyama (RCAST, UTokyo)
- 10:30 **Invited Talk (Y. Okada) Outline of Power to Gas technologies and NEDO-CO₂ methanation project**
Itsuki Wakayama (INPEX Corporation)
- 11:00 [Coffee Break]
- 11:15 **Invited Talk (T. Kubo) Perovskite solar cells with narrow band gap or wide band gap**
Shuzi Hayase (Univ. Electro-Communications)
- 11:45 **4th session on Perovskites, OPV, CQDs (S. Uchida)**
[Coordinators: Profs. G. Hadziioannou, H. Segawa, E. Cloutet, T. Kondo, T. Bessho, T. Kubo]
Molecular Hole Transport Materials
Thierry Toupance (Univ. of Bordeaux, • ISM)
Alternatives to SpiroOMeTAD dopants for HTMs in Perovskite Solar Cells
Silvia Mariotti (Univ. of Bordeaux, LCPO-ISM)
Accurate redetermination of crystal systems and Lattice parameters of lead halide perovskite alloy CH₃NH₃Pb(I_{1-x}Br_x)₃
Yuiga Nakamura (RCAST, UTokyo)
Potassium-doped Organometal Halide Perovskite Solar Cells
Takeru Bessho (RCAST, UTokyo)
Solution-processed infrared colloidal quantum dot solar cells
Haibin Wang (RCAST, UTokyo)
- 13:00 **Invited Talk (H. Segawa) PV in Japan**
Mitsuhiro Yamazaki (New Energy and Industrial Technology Development Organization)
- 13:30 **Closing Remarks (H. Segawa & E. Cloutet)**
- 14:00 **Lunch / Site visit & Short excursion**
Geothermal (heat) energy utilization systems at *Tokyo Sky Tree Town*
Option: *Tokyo Sky Tree*, Asakusa area, etc.
- 19:00 **Dinner** (Chinzanso on Hongo campus)
~21:00

Poster presentations

(November 19, 2019, #156 (open seminar room) in 3-s)

No.	Title	Authors
p-1	Self-assembly using DNA : applications in PV	<u>N. Lobato-Dauzier</u> , M. Denoual, V. Menon, Y. Tauran, H. Fujita, T. Toshiyoshi, T. Fujii & A.J. Genot
p-2	CuGaS ₂ thin films for solar cell application	<u>N. Ahsan</u> (RCAST, UTokyo), M. Kim, Z. Jehl, Y. Sanchez, T. Logu, S. Kalainathan, Y. Okada
p-3	Dilute nitride based MQWs with strain compensation for 1.0 eV absorber	<u>N. Miyashita</u> (RCAST, UTokyo), Y. Okada
p-4	Engineering of sub-band in CuGaS ₂ thin films via Mo doping by chemical spray pyrolysis route	<u>T. Logu</u> (RCAST, UTokyo), S. Kalainathan, N. Ahsan, M. Kim, Y. Okada, K. Sethuraman
p-5	Self-organized growth of type-II GaAsSb/GaAs quantum dots for intermediate band solar cells	<u>Y. Oteki</u> (EEIS, UTokyo), N. Miyashita, Y. Shoji, Y. Okada
p-6	Characterization of Wire on Well for High Efficiency Ge-based Multi-junction Solar Cell	<u>M. Asami</u> (EEIS, UTokyo), Y. Okada, M. Sugiyama
p-7	Dependence of CuGaS ₂ grain growth on deposition condition	<u>M. Kim</u> (GPES, UTokyo), N. Ahsan, Z. Jehl, N. Miura, T. Logu, S. Kalainathan, Y. Okada
p-8	MA and Br free perovskite solar cell	<u>S. Almosni</u> , T. Bessho, M. Furue, N. Shibayama, K. Tada, T. Hirano, Z. Tang, H. Segawa
p-9	Band-gap Tuning of Perovskite Solar Cells for Top Cell of Multi-Tandem Solar Cells	<u>F. Awaj</u> , T. Kubo, H. Segawa
p-10	Control of Crystal Microstructures toward Efficient Organometal Halide Perovskite Solar Cells	<u>S. Takahashi</u> , T. Kinoshita, H. Segawa
p-11	Solution-process AgSiS ₂ nanocrystal/ZnO heterojunction solar cells	<u>Y. Xiao</u> , H. Wang, T. Kubo, H. Segawa
p-12	Multiple Exciton Generation in Yb Doped Metal Halide Perovskites	<u>K. Fukumoto</u> , T. Kinoshita, H. Segawa
p-13	Band gap tuning for desirable single junction solar cells by Sn-Pb complexed organometal halide perovskite.	<u>T. Maekawa</u> , G. Kapil, S. Hayase, T. Bessho, H. Segawa
p-14	Potassium incorporated MA-free organometal halide perovskite for efficient photoelectric properties.	<u>K. Fujiu</u> , S. Almosni, T. Bessho, H. Segawa
p-15	Temperature dependence of PbS quantum-dot-based solar cell performance.	<u>M. Desbordes</u> , H. Wang, T. Kubo, H. Segawa