

# Invited Lecture Program as of Nov. 17, 2014

Monday (Nov. 24)			
10:15-11:00	PL-01	Akira FUJISHIMA (Tokyo University of Science, Japan)	Water Photolysis and Photocatalysis using Titanium Dioxide
11:00-11:40	IL1-01	Daniel G. NOCERA (Harvard University, USA)	The artificial leaf
13:00-13:30	IL1-02	Kazunari DOMEN (The University of Tokyo, Japan)	Water splitting on some semiconductor photocatalysts
13:30-14:10	IL1-03	Lee CRONIN (University of Glasgow, UK)	Water splitting with redox mediators
14:10-14:50	IL1-04	Richard COGDELL (University of Glasgow, UK)	Strategies to enhance the absorption cross section of light harvesting complexes on surfaces
15:10-15:40	IL1-05	Shinji INAGAKI (Toyota Central R&D Labs., Inc., Japan)	Light-harvesting molecular photocatalysis based on periodic mesoporous organosilicas
Canceled	IL1-06	Michael WASIELEWSKI (Northwestern University, USA)	Integrated molecular systems for artificial photosynthesis
15:40-16:10	IL1-07	Shunichi FUKUZUMI (Osaka University, ALCA, JST, Japan)	Hydrogen peroxide produced from water and dioxygen as a promising solar fuel
16:30-17:10	IL1-08	Kyung Byung YOON (Sogang University, Korea)	Novel HER and OER electrodes with extraordinary performances and low price
17:10-17:40	IL1-09	<u>Takeshi MORIKAWA</u> , Shunsuke SATO, Takeo ARAI, Tomiko SUZUKI M, Keiko UEMURA, Tsutomu KAJINO, Ken-ichi YAMANAKA, Keita SEKIZAWA (Toyota Central R&D Labs., Inc., Japan)	Artificial photosynthesis: Synthesis of organic compounds from CO <sub>2</sub> , H <sub>2</sub> O and sunlight energy using a semiconductor/metal-complex hybrid system
17:40-18:10	IL1-10	<u>Haruo INOUE</u> , Fazalurhaman KUTTASSERY, Siby MATHEW, Daisuke YAMAMOTO, Satomi ONUKI, Yu NABETANI, Hiroshi TACHIBANA (Tokyo Metropolitan University, Japan)	The key-steps for artificial photosynthesis: How can we do an oxidative activation of water by visible light?

Tuesday (Nov. 25)

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8:30- 9:10	IL2-01	Vincent ARTERO (Univ. Grenoble Alpes and CEA-Life Science Division, France)	Molecular H <sub>2</sub> -evolving catalysts: Design, benchmarking and system integration
9:10- 9:40	IL2-02	<u>Kazuhito INOUE</u> , Masaharu KITASHIMA, Hajime MASUKAWA, Hidehito SAKURAI (Kanagawa University, Japan)	Genetic engineering of the heterocyst-forming cyanobacteria to enhance hydrogen production from sunlight and water
9:40-10:20	IL2-03	<u>Henrik JUNGE</u> , Matthias BELLER (Leibniz Institute for Catalysis at the University of Rostock (LIKAT), Germany)	Photocatalytic generation of chemical energy carriers from light, water and carbon dioxide
10:40-11:00	IL2-04	<u>Neyde Yukie MURAKAMI IHA</u> , Danilo BARBOSA, Kassio ZANONI, Rodolfo COPPO, Ronaldo AMARAL (Universidade de São Paulo, Brazil)	Artificial photosynthesis via dye-sensitized solar cells
11:00-11:40	IL2-05	Gary W. BRUDVIG (Yale University, USA)	Photochemical water oxidation for solar fuel production
11:40-12:20	IL2-06	<u>Huub de GROOT</u> , Thomas EISENMAYER, Karthick Babu SANKAR GUPTA, ALIA, Jorg MATYSIK, Francesco BUDA (Leiden University, IMPB, Netherlands)	Responsive matrices for solar to fuel conversion: Trading time for efficiency

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13:30-14:10	IL2-07	<u>Craig L HILL</u> , Hongjin LV, Yurii GELETII, James VICKERS, Sarah LAUINGER, Tianquan LIAN, Djameladdin MUSAEV, John BACSA, Paul KÖGERLER (Emory University, USA, RWTH Aachen University, Germany)	Tunable robust molecular catalysts for solar fuels
14:10-14:40	IL2-08	<u>Koji TANAKA</u> , Katsuaki KOBAYASHI (Kyoto University, Japan)	Photochemical CO <sub>2</sub> reduction aimed at production of a C1 building block of organic materials
14:40-15:10	IL2-09	Shin-ichi ADACHI (High Energy Accelerator Research Organization, Japan)	Capturing structural dynamics of photochemistry by picosecond X-ray pulses
15:30-16:10	IL2-10	<u>James T. MUCKERMAN</u> , Dmitry POLYANSKY, Javier CONCEPCION, Randolph THUMMEL, Etsuko FUJITA (Brookhaven National Laboratory, Univ. of Houston, USA)	Photo- and electrochemical water oxidation: New water oxidation chemistry of ruthenium complexes with polypyridyl ligands
16:10-16:40	IL2-11	<u>Hideki HASHIMOTO</u> , Daisuke KOSUMI, Ritsuko FUJII, Mitsuru SUGISAKI, Masahiko IHA, Kazuhiko SAKAGUCHI, Shigeo KATSUMURA (Osaka City University, South Product Co. Ltd., Japan)	The secret of highly efficient light-harvesting antenna found in brown algal photosynthesis
16:40-17:20	IL2-12	Thomas FAUNCE (Australian National University, Australia)	Lighting up the dark side of a global synthetic photosynthesis project
17:40-18:10	IL2-13	Tohru SETOYAMA (Mitsubishi Chemical Science and Research Center, Japan)	What is the realistic strategy of artificial photo synthesis to contribute for the mitigation of climate change?
Canceled	IL2-14	Rienk van GRONDELLE (Free University of Amsterdam, Netherlands)	The quantum design of photosynthesis

Wednesday (Nov. 26)			
8:30- 9:10	IL3-01	John A. TURNER (National Renewable Energy Laboratory, USA)	The immobilization of a molecular catalyst on a photoelectrode for water reduction
9:10- 9:40	IL3-02	<u>Kazuhiro SAYAMA</u> , Yugo MISEKI (National Institute of Advanced Industrial Science and Technology, Japan)	Solar hydrogen production using oxide semiconductor photoelectrodes, photocatalysts and redox mediators
9:40-10:20	IL3-03	Wolfgang LUBITZ (Max Planck Institute for Chemical Energy Conversion, Germany)	Light-induced water splitting and hydrogen conversion in Nature: Basis for artificial photosynthesis
10:40-11:10	IL3-04	Akihiko KUDO (Tokyo University of Science, Japan)	Water splitting and CO <sub>2</sub> fixation using semiconductor photocatalysts and photoelectrodes
11:10-11:50	IL3-05	Bruno ROBERT (Saclay Institute of Biology and Technology, France)	Molecular basis of photoprotection in natural and artificial photosynthesis

Wednesday (Nov. 26)			
13:00-13:40	IL3-06	<u>Devens GUST</u> , Thomas MOORE, Ana MOORE (Arizona State University, USA)	Bio-inspired systems for solar fuels
13:40-14:10	IL3-07	Hitoshi TAMIAKI (Ritsumeikan University, Japan)	Artificial light-harvesting antenna systems using semi-synthetic chlorophyll derivatives
14:10-14:40	IL3-08	<u>Hiroshi ISHIKITA</u> , Saito KEISUKE (The University of Tokyo, Japan)	Proton transfer reactions in Photosystem II
15:00-15:20	IL3-09	Ryota SAKAMOTO (The University of Tokyo, Japan)	Bottom-up molecular wires and sheets for artificial photosynthesis
15:20-16:00	IL3-10	Eun-Kyung HA, Sung-Min BYUN, Jeong-Ah JANG, Dong-II WON, Ho-Jin SON, Won-Sik HAN, Chongjin PAC, <u>Sang Ook KANG</u> (Korea University, Korea)	Photocatalytic CO <sub>2</sub> reduction from organic/inorganic hybrid system
16:00-16:20	IL3-11	Satoshi YOTSUHASHI (Panasonic Corporation, Japan)	CO <sub>2</sub> conversion to hydrocarbons in GaN-based photo-electrochemical system
16:40-17:10	IL3-12	<u>Tsunehiro TANAKA</u> , Zheng WANG, Saburo HOSOKAWA, Kentaro TERAMURA (Kyoto University, Japan)	Photocatalytic CO <sub>2</sub> splitting into CO and O <sub>2</sub> in aqueous solution
17:10-17:50	IL3-13	<u>Clifford P. KUBIAK</u> , Charles MACHAN, Steven CHABOLLA, Jian YIN, Michael GILSON, Akif TEZCAN (University of California, San Diego, USA)	Carbon dioxide reduction by earth abundant catalysts in artificial photosynthesis: Mechanistic insights and challenges

Thursday (Nov. 27)			
8:30- 9:10	IL4-01	James R. DURRANT (Imperial College London, UK)	Charge carrier dynamics in oxide photoelectrodes
9:10- 9:40	IL4-02	Hiroshi ONISHI (Kobe University, Japan)	Surface science of doped NaTaO <sub>3</sub> photocatalysts
9:40-10:20	IL4-03	<u>Thomas J. MEYER</u> , Neyde Yukie MURAKAMI IHA, Leila ALIBABAEI, Paul HOERTZ, Ralph HOUSE (University of North Carolina at Chapel Hill, USA, Universidade de São Paulo, Brazil)	Artificial photosynthesis. Where are we now? Where can we go?
10:40-11:10	IL4-04	Shigeyuki MASAOKA (Institute for Molecular Science, Japan)	Molecular catalysts designed for water oxidation
11:10-11:40	IL4-05	<u>Yoshinori NARUTA</u> , Zaki N. A. ZAHRAN, Samit MAJUMDER, Ashraf A. HALEEM, Eman. A. MOHAMED, Nagaraju PERMANDRA, Masatoshi YAKIYAMA (Chubu University, JST-ACT-C, Japan)	Photochemical water splitting and CO <sub>2</sub> reduction with inorganic-organic hybrid systems
11:40-12:20	IL4-06	Can LI (Dalian Institute of Chemical Physics, China)	Hybrid system of natural and artificial photosynthesis for solar overall water splitting

Thursday (Nov. 27)			
13:30-14:10	IL4-07	<u>Sebastiano CAMPAGNA</u> , Giuseppina LA GANGA, Fausto PUNTORIERO (University of Messina, Italy)	Photoinduced water oxidation using self-assembled photosensitizer-catalyst systems
14:10-14:40	IL4-08	Yoshiki HIGUCHI (University of Hyogo, Japan)	Structure, function and evolution of [NiFe]-Hydrogenases
14:40-15:20	IL4-09	Leif HAMMARSTRÖM (Uppsala University, Sweden)	Molecular mechanisms of artificial photosynthesis
15:40-16:20	IL4-10	<u>Etsuko FUJITA</u> , James MUCKERMAN, Kotaro SASAKI, Yuichiro HIMEDA (Brookhaven National Laboratory, USA, AIST, Japan)	From photochemical CO <sub>2</sub> reduction to CO <sub>2</sub> hydrogenation by solar-produced H <sub>2</sub>
16:20-17:00	IL4-11	<u>Licheng SUN</u> , Lele DUAN, Lei WANG, Fusheng LI, Mei WANG, Fei LI, Yan GAO (KTH Royal Institute of Technology, Sweden and Dalian University of Technology, China)	Functional devices for water splitting based on molecular catalysts and nano materials
17:20-18:00	IL4-12	Joel AGER (Lawrence Berkeley National Laboratory, USA)	Design strategies for sustainable solar-driven water splitting
18:00-18:30	IL4-13	Hiroaki MISAWA (Hokkaido University, Japan)	Plasmon-induced artificial photosynthesis systems
18:30-19:00	KS-01	Ei-ichi NEGISHI (Purdue University, USA)	Special message to all scientists: Challenge of a sustainable society

Friday (Nov. 28)

8:30- 9:10	IL5-01	<u>Kasper Skov KJAER</u> , Tobias HARLANG, Pavel CHABERA, Jens UHLIG, Carlito S. PONSECA JR., Yizhu LIU, Villy SUNDSTROM (Lund University, Sweden)	From solar light to electrons and fuel - The fundamental processes
9:10- 9:40	IL5-02	<u>Shinya KOSHIHARA</u> , Keiki FUKUMOTO, Ken ONDA (Tokyo Institute of Technology, JST-CREST, Japan)	Ultrafast carrier dynamics in nano-scale space observed by femtosecond time-resolved photo-emission electron microscope
9:40-10:10	IL5-03	Osamu ISHITANI (Tokyo Institute of Technology, Japan)	Photocatalytic reduction of a low concentration of CO <sub>2</sub>
10:30-11:10	IL5-04	<u>Frederick M. MACDONNELL</u> , David BOSTON, Matthew WEST, Norma de TACCONI (The University of Texas at Arlington, USA)	Deep photoreduction of carbon dioxide with ruthenium chromophores and pyridinium cocatalysts
11:10-11:40	IL5-05	Yutaka AMAO (Osaka City University, JST-PRESTO, Japan)	Visible-light induced conversion of CO <sub>2</sub> to chemical with sensitizer-enzyme hybrid artificial photosynthesis system
11:40-12:10	IL5-06	Takumi NOGUCHI (Nagoya University, Japan)	The mechanism of photosynthetic water oxidation in photosystem II and the application to artificial photosynthesis
12:10-12:30	IL5-07	Ken ONDA (Tokyo Institute of Technology, JST-PRESTO, Japan)	Time-resolved infrared spectroscopy for studying photo-energy conversion systems



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13:40-14:10	IL5-08	Ken SAKAI (Kyushu University, Japan)	Multifunctional molecular devices for photoinduced hydrogen evolution from water
14:10-14:40	IL5-09	Jian-Ren SHEN (Okayama University, Japan)	Molecular mechanism of light-induced water oxidation in photosynthesis based on the atomic structure of photosystem II
14:40-15:10	IL5-10	Ryu ABE (Kyoto University, Japan)	Z-scheme type water splitting under visible light
15:30-16:00	IL5-11	Masayuki YAGI (Niigata University, JST-PRESTO, Japan)	Development of a new series of complex catalysts for water oxidation toward artificial photosynthesis
16:00-16:20	IL5-12	<u>Ryuhei NAKAMURA</u> , Akira YAMAGUCHI, Kazuhito HASHIMOTO (RIKEN, The University of Tokyo, Japan)	Insight into water oxidation by manganese oxides
16:20-16:50	IL5-13	<u>Nobuo KAMIYA</u> , Ayako TANAKA, Keisuke KAWAKAMI, Yasufumi UMENA (Osaka City University, Japan)	High-resolution and Low-dose X-ray crystal structure of photosystem II