

The 7th Summer Course and Workshop on “Emergent Functional Matter Science”

Date:

June 25 (Monday)-27 (Tuesday), 2018

Venue:

National Chiao Tung University, Department of Applied Chemistry, SBII 210

Organizing Committee Members:

Jiun-Tai Chen, Yen-Ju Cheng, Hsin-Yun Hsu, Hajime Ishihara, Ian Liau, Hiroshi Masuhara,
Takashige Omatsu, Keiji Sasaki, Teruki Sugiyama, Chien-Lung Wang

Honorary Organizing Committee Members:

Kikuo Cho, Chain-Shu Hsu, Tadashi Ito, Yuan-Pern, Yaw-Kuen Li

Supported by:

Center for Emergent Functional Matter Science NCTU and JSPS Grant-in-Aid for Scientific
Research on Innovative Area “Nano-Material Optical Manipulation”, MEXT, Japan

June 25, Monday

Registration

9:50 Opening Remarks

10:00–11:30 **Summer Course Tutorial 1**

Prof. Prashant Kamat (University of Notre Dame)

“Characterization of light harvesting properties of nanomaterials”

Lunch Box

13:00–14:30 **Summer Course Tutorial 2**

Prof. Hiromi Okamoto (Institute for Molecular Science)

“Basic concept of spatial resolution in optical microscopy”

14:30–15:30

Project Introduction of Center for Emergent Functional Matter Science of National Chiao Tung University by Prof. Yuan-Pern Lee (National Chiao Tung University)

Progress Report of JSPS Project on “Nano-Material Optical Manipulation” by Prof. Hajime Ishihara (Osaka University/Osaka Prefecture University)

Coffee

16:00–18:00 **Workshop 1: Yen-Ju Cheng Session on “Nano and Energy”**

Prof. Prashant Kamat (University of Notre Dame), “Solar cell design principles: Quantum dots to perovskites”

Prof. Eric Diao (National Chiao Tung University), “Development of lead-free perovskites for photovoltaic and photocatalytic applications”

Prof. Cheng-Liang Liu (National Central University), “Spray-coating process for perovskite solar cells application”

Prof. Hao-Wu Lin (National Tsing Hua University), “Fabrication and device engineering in all-vacuum processed perovskite solar cells”

June 26, Tuesday

9:30–11:00 **Summer Course Tutorial 3**

Prof. Takashige Omatsu (Chiba University), “TBA”

11:00–11:30 **Short Presentation of Posters**

Poster Session & Lunch Box

13:00–14:30 **Summer Course Tutorial 4**

Prof. Yasuhiro Sugawara (Osaka University), “Scanning Probe Microscopy for Functional Materials”

Coffee

15:00–16:50 **Workshop 2: Jiun-Tai Chen Session on “Nano and Surface”**

Prof. Po-Yu Chen (National Tsing Hua University), “From superhydrophobic to superhydrophilic: Synthesis of multifunctional surfaces inspired from carnivorous pitcher plants”

Prof. Dun-Yen Kang (National Taiwan University), “Scalable wet deposition of nanoporous thin films”

Prof. Zung-Hang Wei (National Tsing Hua University), “Magnetic micro/nano structures for biological detection and manipulation”

Short Break

17:00–18:00 **Special Lecture by the Editor-in-Chief of ACS Energy Letters,**

Prof. Prashant Kamat (University of Notre Dame)

“Making your Next Publication Scientifically Effective”

Buffet Dinner

June 27, Wednesday

9:30–11:30 **Workshop 3: Chien-Lung Wang Session on “Nano and Polymer”**

Prof. Xiaosong Wang (Waterloo Institute of Nanotechnology), “Metal carbonyl polymers and supramolecular chemistry”

Prof. Wei-Tsung Chuang (National Synchrotron Radiation Research Center), “Self-assembly of dendron-jacketed block copolymers: hierarchically helical transfers from a focal asymmetry”

Dr. Kalathil K. Kartha (University of Muenster), “Hierarchical organization and photoresponsive behavior of π and metal- π systems”

11:30–12:00

The Latest Findings in JSPS Project on “Nano-Material Optical Manipulation” by Prof. Keiji Sasaki (Hokkaido University)

Lunch Box

13:00–15:00 **Workshop 4: Hsin-Yu Hsu Session on “Nano and Green”**

Prof. Chia-Hung Hou (National Taiwan University), “Low energy desalination using capacitive deionization with nanoporous carbon-based electrodes”

Prof. Chia C. Wang (National Sun Yat-sen University), “Electronic and vibrational spectroscopy of nanoaerosols, and their implications in the atmospheric and environmental chemistry”

Dr. Chia-Ying Anderin Chuang (Academia Sinica), “Role of biopolymers in the biogeochemical cycle of tracers in the sea”

Coffee

15:30–17:30 **Workshop 5: Teruki Sugiyama Session on “Nano and Chirality”**

Prof. Hiromi Okamoto (Institute for Molecular Science), “Nanoscale imaging and control of chiral plasmons”

Prof. Takashige Omatsu (Chiba University), “Structured light meets chiral structures”

Prof. Yung-Fu Chen (National Chiao Tung University), “Structured coherent waves in optical and quantum systems”

17:30 Closing Remarks