

# The 12th Hokkaido University– Nanjing University–NIMS/MANA Joint Symposium

## **Chemists, Be Ambitious!**



**Date** July 29, 2016

**Venue** Akira Suzuki Memorial Hall, Frontier Chemistry Center,  
Hokkaido University

### **Organizing Committee**

Chair: Kei Murakoshi (Hokkaido University)

Co-Chairs: Dan-Ke Xu (Nanjing University)

Kazuki Sada (Hokkaido University)

Huang-Xian Ju (Nanjing University)

### **Sponsors**

Department of Chemistry, Faculty of Science, Hokkaido University,  
Graduate School of Chemical Sciences and Engineering, Hokkaido University,  
Frontier Chemistry Center, Faculty of Engineering, Hokkaido University,  
Ambitious Leader's Program; "Fostering Future Leaders to Open New Frontiers in Materials  
Science", Hokkaido University

**Frontier Chemistry Center**  
フロンティア化学教育研究センター



**HOKKAIDO UNIVERSITY**  
**AMBITIOUS**  
**LEADER'S PROGRAM**  
Fostering Future Leaders to  
Open New Frontiers in Materials Science

## Program

8:40 Welcome Address  
**Kei Murakoshi** (Hokkaido Univ.)

8:45 Opening Remarks  
**Kazuki Sada** (Hokkaido Univ.)  
**Huang-Xian Ju** (Nanjing Univ.)

Keynote Lecture 1 Chair: **Kei Murakoshi**

9:00-9:30 KL-1 **Xing-Hua Xia**  
Plasmonics enhanced spectroscopic and electrochemical detection of biomolecules

Oral Session 1 Chair: **Jian-Xin Li**

9:30-9:45 IL-1 **Koichiro Ishimori**  
Structural Characterization of Electron Transfer Complex between Cytochrome *c* - Cytochrome *c* Oxidase in Respiratory Chain

9:45-10:00 IL-2 **Huang-Xian Ju**  
In Situ Analysis and Mass Spectroscopic Imaging of Cellular Functional Biomolecules

10:00-10:15 IL-3 **Kazunari Yamaura**  
Ba<sub>2</sub>NiOsO<sub>6</sub>: a Ferromagnetic Mott Insulator

10:15-10:30 IL-4 **Jing-Juan Xu**  
Electrochemiluminescence Ratiometry for Bioanalysis

———— Short Break (15 min) ————

Oral Session 2 Chair: **Koichiro Ishimori**

10:45-11:00 IL-5 **Dan-Ke Xu**  
Multiple protein assay for biochips based on nanoprobe

11:00-11:15 IL-6 **Kazuki Sada**  
Anisotropic Deforming Materials based on Crystal Cross-linking of Metal Organic Frameworks

11:15-11:30 IL-7 **Hong Yan**  
B-H $\cdots$  $\pi$  Interaction: A New Type of Nonclassical Hydrogen-Bonding

11:30-11:45 IL-8 **Takanori Suzuki**  
Bis(10-methylacridinium)s as a Versatile Platform for Redox Active  
Functionalized Dyes and Novel Structure

————— Group Photo and Lunch —————

Keynote Lecture 2

Chair: **Dan-Ke Xu**

13:30-14:00 KL-2 **Masako Kato**  
Platinum Complexes Exhibiting Intense Luminescence and Chromic  
Phenomena

Oral Session 3

Chair: **Kazunari Yamaura**

14:00-14:15 IL-9 **Wei Wang**  
Determining the Absolute Concentration of Nanoparticles without  
Calibration Factor by Visualizing the Dynamic Processes of Interfacial  
Adsorption

14:15-14:30 IL-10 **Jun Harada**  
Unique Ferroelectricity found in Organic Ionic Plastic Crystals

————— Short Break (10 min) —————

Oral Session 4

Chair: **Hong Yan**

14:40-15:55 IL-11 **Jian-Xin Li**  
Rearrangement Products of PPAP and Inhibitory Activity on PANC-1

15:55-15:10 IL-12 **Rui Kamada**  
Methylation of Arginine Residues of Tetramerization Domain Destabilizes  
the Tetrameric Structure of Tumor Suppressor Protein p53

15:10-15:25 IL-13 **Jian-Wei Zhao**  
Theoretical investigation on the metallic plating layer by molecular  
dynamics simulation

15:25-15:40 IL-14 **Yoshiyuki Kageyama**  
Macroscopically Working Light-Powered Molecular Motor: Dissipative  
Self-Organization Resultant Oscillation

————— Short Break (10 min) —————

Oral Session 5

Chair: **Kazuki Sada**

- 15:50-16:05 IL-15 **Satoshi Maeda**  
Global Reaction Route Mapping (GRRM) Strategy for Automated  
Exploration of Reaction Pathways
- 16:05-16:20 IL-16 **De-Ju Ye**  
Redox-Activatable Trimodal Molecular Imaging Probe for the Detection  
of Reducing Environments
- 16:20-16:35 IL-17 **Satoshi Yasuda**  
Development of Iron-Nitrogen-Doped Vertically Aligned Carbon  
Nanotube Electrocatalyst for the Oxygen Reduction Reaction

———— Short Break (10 min) ————

Poster Short Presentation

Chair: **Rui Kamada, De-Ju Ye**

16:45-17:25 (2 minutes presentations by 20 persons)

17:25 Closing Remarks  
**Dan-Ke Xu** (Nanjing Univ.)

## *Poster Short Presentation*

- P-1     **Yuan-Cheng Zhu, Wei-Wei Zhao, Jing-Juan Xu, Hong-Yuan Chen**  
Alkaline Phosphatase Tagged Antibodies on Gold Nanoparticles/TiO<sub>2</sub> Nanotubes  
Electrode: A Plasmonic Strategy for Label-Free and Amplified  
Photoelectrochemical Immunoassay
- P-2     **Shizuka Anan, Yumi Mochizuki, Kenta Kokado, Kazuki Sada**  
Synthesis, deconstruction, and reconstruction of polymer MOFs
- P-3     **Jun Hu, Xiao-Xiao Jiang, Jiang Wang, Qi-Yuan Guan, Pan-Ke Zhang,  
Jing-Juan Xu, Hong-Yuan Chen**  
Alternating Current Induced Bipolar Spray and Its Application in Comprehensively  
Profiling Biomolecules in Single Cells by Combining both Positive-Ion and  
Negative-Ion Mass Spectra
- P-4     **Takanori Suzuki, Wataru Nojo, Yusuke Ishigaki, Ryo Katoono**  
Redox-induced Conformational Changes in Twin-BIC Donors that Form  
Sandwich-like Dimeric Cations Exhibiting NIR Absorption
- P-5     **Tao Liu, Meng Li, Yimin Fang, Wei Wang**  
Imaging the interfacial potential distribution on bipolar electrodes without optical  
Probes
- P-6     **Hiroshi Kagaya, Wataru Sato, Takeshi Uchida, Kyoko Ito-Shinzawa,  
Shinya Yoshikawa, Koichiro Ishimori**  
Interaction analysis of Cytochrome *c* – Cytochrome *c* Oxidase complex formation  
using fluorescence anisotropy
- P-7     **Chao Liang, Jun-Qin Qiao, Hong-Zhen Lian**  
Lipophilicity prediction of strong acids with ion-pair high-performance liquid  
Chromatography
- P-8     **Emiri Nakayama, Toshiaki Imagawa, Rui Kamada, Kazuyasu Sakaguchi**  
A Novel Assay System to Quantify The Transcriptional Activity of Tumor  
Suppressor protein p53 in Single Living Cells

- P-9      **Shu Xu, Bing-Jie Zou, Qing-Shun Zhao, Guo-Hua Zhou**  
An alternative novel tool for DNA editing without target sequence limitation: the structure-guided nuclease (SGN)
- P-10     **Ayako Watanabe, Erika Saitoh, Masaki Yoshida, Atsushi Kobayashi, Masako Kato**  
Synthesis of a Luminescent and Ion-conductive Porous Coordination Polymer
- P-11     **Wei Cui, Jian-Xin Li**  
The influence and regulation of NJx-1 on Muscle function
- P-12     **Yuki Ohta, Yoshiyuki Kageyama, Goro Maruta, Sadamu Takeda**  
Possibility of active proton transport by asymmetric proton channel of a coordination polymer
- P-13     **Kewei Ren, Ying Liu, Jie Wu, Yue Zhang, Jing Zhu, Min Yang, Huangxian Ju**  
A Structure Switchable “Double Locks-Smart Key” for Cell-Subtype Specific siRNA Delivery
- P-14     **Masanori Ebina, Takeshi Iwasa, Tetsuya Taketsugu**  
Theoretical approach to photophysical properties of thiolate-protected icosahedral gold cluster
- P-15     **Pan-Pan Gai, Yu-Sheng Ji, Wen-Jing Wang, Rong-Bin Song, Cheng Zhu, Yun Chen, Jian-Rong Zhang, Jun-Jie Zhu**  
Ultrasensitive self-powered cytosensor
- P-16     **Jinjiang Zhang, Takahiro Toda, Hiro Minamimoto, Kei Murakoshi**  
Determination of Localized Surface Plasmon Modes Excited on Au Nanorods via in-situ Surface-Enhanced Raman Scattering Measurement
- P-17     **Yi Shi, Yue Zhou, Chen Wang, Xing-Hua Xia**  
Study on the catalytic degradation of dye on palladium nanocrystals modified MoS<sub>2</sub> Nanosheets
- P-18     **Yu Su, Yoshihiro Tsujimoto, Kazunari Yamaura**  
High-Pressure Synthesis, Crystal Structure and Magnetic Properties of the New Layered Oxyfluoride Perovskite Sr<sub>2</sub>MnO<sub>3</sub>F

- P-19     **Xiao-Hui Liu, Ya-Ju Zhao, Hui Li, Dan-Ke Xu**  
Online-mixing and multiplex protein detection using AgNPs microarray  
microfluidic chip
- P-20     **Hui-Wen Lin, Hidenori Noguchi, Toshihiro Kondo, Kohei Uosaki**  
Electrochemical and Structural Studies of Si-Li anode in Organic Solvents
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- P-21\*    **Yu-Hua Zhu**  
Introduction of the State Key Lab of Analytical Chemistry for Life Science
- P-22\*    **Guang Jin**  
Introduction of Graduate School of Nanjing University

(\* No short-presentation and abstract)