

2024 The 7th NYCU–Gakushuin Student Symposium

November 2-3, 2024

Lecture Hall R210, Science Building II, NYCU

Organizer

Department of Applied Chemistry, National Yang Ming Chiao Tung University

Co-Organizer

Department of Chemistry, Gakushuin University

Symposium Chairs

Prof. Yen-Ju Cheng

Prof. Naokazu Kano

Sponsored by

College of Science, NYCU

Center for Emergent Functional Matter Science, NYCU



國立陽明交通大學
NATIONAL YANG MING CHIAO TUNG UNIVERSITY



学習院大学
GAKUSHUIN UNIVERSITY

Program

2024/11/2 (Sat)

11:50-13:00 **Registration and Lunch**

13:00-13:10 **Opening Remarks**

Prof. Yen-Ju Cheng (NYCU) and Prof. Naokazu Kano (Gakushuin)

Session I

Chair: Prof. Naokazu Kano

13:10-13:35 **IL-1** **Prof. Yang-Hsiang Chan**
NIR-II Fluorescent Polymer Dots for Deep-Tissue imaging

Chair: Mikoto Sato

13:35-13:48 **O-1** **Yuki Anami**
Novel Synthesis of Seleno- and Telluro-Esters by Utilizing Photo-Induced Generation of Siloxycarbenes

13:48-14:01 **O-2** **Lin-Ruei Lee**
Structurally Defined Amphiphilic AAO Membranes Using UV-Assisted Thiol-Yne Chemistry: Applications in Anti-Counterfeiting and Electronics

14:01-14:14 **O-3** **Yuta Asami**
Differential Scanning Calorimetry of Oivine-type Mn_2SiO_4 , Co_2SiO_4 , and Ni_2SiO_4

14:14-14:27 **O-4** **Ruei-Hung Juang**
Unraveling the High-Efficiency Catalytic Performance of Dinuclear Nickel Complexes in Alkaline Water Oxidation via X-ray Absorption Spectroscopy

14:27-14:40 **O-5** **Seiya Iwamoto**
Synthesis and Structure of Group 14 Element Complexes Using Redox-Active 5-Hydroxy-4(9H)-acridinone

14:40-14:53 **O-6** **Guganchandar Vedarethinam**
Pd(II)-Catalyzed C(sp²)-H Alkenylation of 2-Amino Biaryls with Alkynes Substituted with Bulky Groups: From Alkenylation to Hetero Polycyclic Hydrocarbons

14:53-15:13 **Coffee Break**

Session II

Chair: Chia-Shen Tsai

15:13-15:26 **O-7** **Saya Kaneko**
Development of an in-situ Analytical Technique for Zircon Chronology using LA-ICP-MS/MS

15:26-15:39 **O-8** **Jheng-Yi Chen**
Elucidation of Ultrafast Carrier Dynamics in the Heterojunction Photocatalyst Consists of Perovskite and Metal-Organic Framework



- 15:39-15:52 **O-9** **Ruiji Kataoka**
Elucidation of the Mechanism of Multi-order Stimulated Raman Scattering Generated from Single and Colliding Droplets by Measuring Temporal Waveforms
- 15:52-16:05 **O-10** **Yu-Chiau Ying**
Alloxan-Catalyzed Biomimetic N-Oxidation with H₂O₂ Under Mild Conditions
- 16:05-16:18 **O-11** **Tomomi Nagaoka**
High-pressure Synthesis of New Bi-containing Oxides
- 16:18-16:31 **O-12** **Hung-Sheng Hsieh**
Regioselective Synthesis of Indazole-Fused Chromenes with Indazole-6-carboxylic Acids Derivatives And Alkyne Ester/Amide Via Rhodium (III)-Catalyzed [4+2] Annulation
- 18:30 **Dinner**

2024/11/3 (Sun)

08:40-09:00 **Registration**

Session III

Chair: Prof. Chi-Shen Lee

09:00-09:25 **IL-2** **Prof. Hiroshi Kojitani**
Assessment of Self-consistent Thermodynamic Parameters for Earth's Mantle Minerals

Chair: Yusaku Sunohara

09:25-09:38 **O-13** **Chihiro Narita**
Enantioselective Friedel-Crafts Alkylation Reaction of Heterocyclic Compounds and Trifluoromethyl Ketimines Using Chiral Phosphoric Acid

09:38-09:51 **O-14** **Yi-Chen Tsai**
Design of Octaphyrins with High Quantum Yield in NIR-II-a Region

09:51-10:04 **O-15** **Rin Odashima**
Evaluation of Zinc Oxide Nanoparticles by UV Photoluminescence Microscopy

10:04-10:17 **O-16** **Yu-Hsuan Chang**
Spectral Studies of the Reaction of the Criegee Intermediate CH₃CHOO with HNO₃ Using a Step-scan Time-resolved Fourier-transform Infrared Spectrometer

10:17-10:47 **Group Photo and Coffee Break**

Session IV

Chair: Lin-Ruei Lee

10:47-11:00 **O-17** **Mikoto Sato**
Visible Light-driven Racemization Reaction of Axially Chiral Diamines toward Dynamic Kinetic Resolution



- 11:00-11:13 **O-18** **Chia-Shen Tsai**
Synthesis of Multisubstituted Tellurophenes by S,O-Ligand Promoted Pd-Catalyzed C–H Olefination
- 11:13-11:26 **O-19** **Yutaro Shiba**
Determination of Anthropogenic Uranium Isotopes in Seawater and Seaweeds Using ICP-MS/MS
- 11:26-11:39 **O-20** **Chein-Chung Lee**
Direct β -Methylation of α -Activated Cross-Conjugated Cycloalkenone Systems: Total Synthesis of Benastatins B and D and Me-oxo-pre-bikaverin
- 11:39-11:52 **O-21** **Akitaka Shimazaki**
Determination of High-pressure Phase Relations in the MgCr_2O_4 – FeCr_2O_4 system
- 11:52-12:05 **O-22** **Yen-Hua Lee**
Small Molecule Activation by Novel BNB Frustrated Lewis Pair
- 12:05-13:00 **Lunch**

Session V

Chair: Prof. Koichi Iwata

- 13:00-13:25 **IL-3** **Prof. Sung-Fu Hung**
Single-Atom Catalysts for Industrial Carbon Dioxide Reduction Reaction to Carbon Monoxide

Chair: Suchita Paul

- 13:25-13:38 **O-23** **Yusaku Sunohara**
Orientational Analysis of Organic Thin Films by z-Polarization Raman Microscopy
- 13:38-13:51 **O-24** **Tao-Chung Chao**
Green Approaches in Manufacturing Polyimides: From Eugenol-Based Monomers to Crosslinked Polyimides with Low Dielectric Properties Utilizing γ -Valerolactone as Solvent
- 13:51-14:04 **O-25** **Kazuma Takizawa**
Constructing a Nanosecond Time-resolved Visible Absorption Spectrometer and Attempt for Observing Long Living Hydrated Electrons
- 14:04-14:17 **O-26** **Chao-Yi Long**
Design and Synthesis of Dextran-Capped Hollow Mesoporous Organosilica Nanoparticles with Redox Sensitivity and PBA Selective Binding for Cancer Therapy
- 14:17-14:30 **O-27** **Mizuki Watanabe**
Temporal and Spatial Fluctuations of Viscosity in Single Vesicle Lipid Bilayer Membranes Observed by Picosecond Time-resolved Fluorescence Microspectroscopy
- 14:30-14:50 **Coffee Break**

Session VI

Chair: Prof. Yen-Ku Wu

- 14:50-15:15 **IL-4** **Prof. Takanori Mimura**
How to Prepare a Metastable Phase



Chair: Tomomi Nagaoka

- 15:15-15:28 **O-28** **Suchita Paul**
Tryptophan-based Self-assembly in DVFLG Containing Peptides for Targeting and Killing Staphylococcus spp.
- 15:28-15:41 **O-29** **Hinako Yoshimura**
Synthesis and Structure of a Stannylphosphorane
- 15:41-15:54 **O-30** **Kang-Shun Peng**
Spatial Confinement Enhancement and Orbital Modification of Copper-Aluminum Alloy Encapsulated within Carbon Nanofibers for Ampere-Level Carbon Dioxide Reduction Reaction
- 15:54-18:30 **Lab Tour and Research Discussion**
- 18:30 **Dinner**

