Tohoku University – Dalian University of Technology

Joint Workshop 2025 on Chemistry and Materials

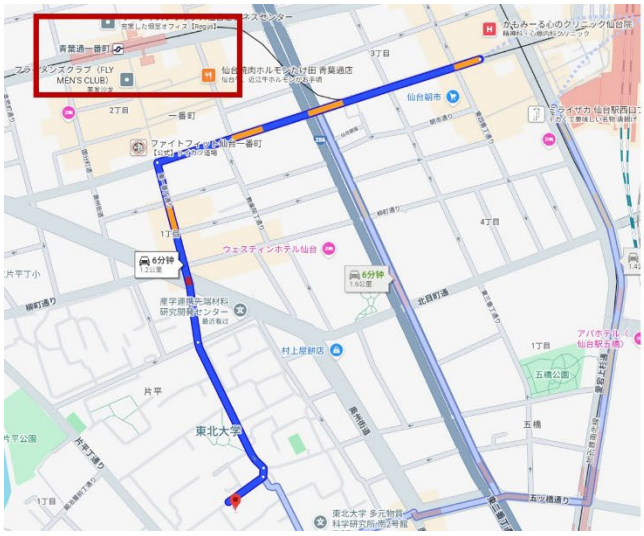
Date: October 28, 2025 13:00- 17:30

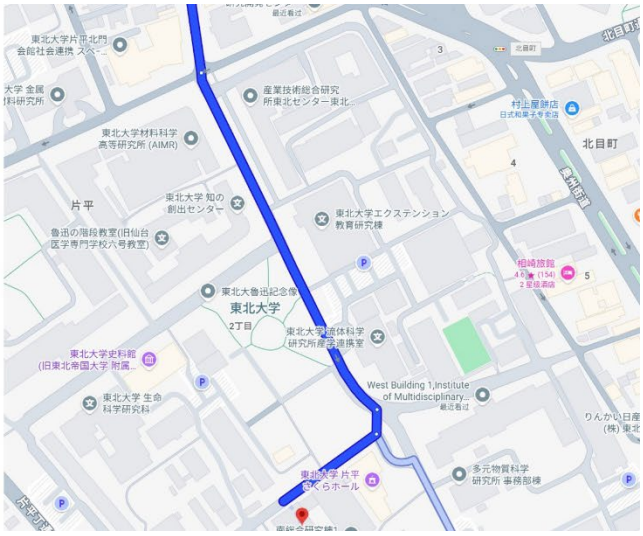
Venue: Materials Science Building
Katahira Campus, Tohoku University
(Katahira, Sendai, Japan)

Designed by Qiuyu JIN

Venue: Materials Science Building2, Katahira Campus, Tohoku University (Sendai, Japan)

https://www.tohoku.ac.jp/japanese/profile/campus/01/katahira/index.html





Access from Sendai Station (仙台駅) to the Venue (E-03)

The conference venue is the Materials Science Building (南総合研究棟 2) at Tohoku University (東北大学).

By Foot (Approx. 20 minutes)

From Sendai Station (仙台駅), exit towards the west side and head in the direction of Aoba-dōri Ichibancho Station (青葉通一番町駅). Continue walking along the main street, passing by landmarks such as Sendai Asaichi (仙台朝市).

Proceed straight towards the Katahira Campus (片平キャンパス) of Tohoku University. Once you enter the campus area, follow the main road southward, passing the Institute of Multidisciplinary Research for Advanced Materials (多元物質科学研究所). The Materials Science Building (南総合研究棟 2) is located nearby, as shown in the enlarged campus map.

By Subway + Walking

Alternatively, you may take the Tozai Line (地下鉄東西線) from Sendai Station (仙台駅) to Aoba-dōri Ichibancho Station (青葉通一番町駅) (indicated by the red box on the first map). From there, it is approximately a 7-minute walk to the Katahira Campus (片平キャンパス) and the Materials Science Building (南総合研究棟 2)

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Tohoku University (Sendai, Japan)

PROGRAM

13:00 – 13:05

Opening Remarks from TU, Prof. Shu YIN (IMRAM, Tohoku University)

13:05 – 13:10

Opening Remarks from DUT,

Introduction of the History of TU-DUT academic exchange

Prof. Guangzhe LI (Vice Director, School of Chemical Engineering, Dalian University of Technology)

Session 1: Faculty Presentations(15min.: 12 min presentation + 3 min Q&A)

13:10 – 13:25 (Chair: S.YIN)

Prof. Guangzhe LI (School of Chemical Engineering, Dalian University of Technology)

Research on Antitumor Therapy of Chlorin-Containing Compounds

13:25 – 13:40 (Chair: G. LI)

Prof. Tomohito KAMEDA(Graduate School of Environmental Studies, Tohoku University)

Functional Layered Double Hydroxides for Environmental Remediation

13:40– 13:55 (Chair: T.KAMEDA)

Prof. Wenrui ZHANG (School of Chemical Engineering, Dalian University of Technology)

Solid-State Electrolytes: Crucial Roles in Solid Oxide Fuel Cells and All-Solid-State Batteries

13:55– 14:10 (Chair: W.ZHANG)

Yamato HAYASHI, Hitotsugu TAKIZAWA (School of Engineering, Tohoku University)

Sustainable Processing of Nanomaterials

14:10 – 14:25 (Chair: Y.HAYASHI)

Assistant Prof. Yibei XUE(IMRAM, Tohoku University)

Synthesis and Characterization of VO_2 base Smart Materials

Break (10min)

Session 2: Faculty Presentations (15min.: 12 min presentation + 3 min Q&A)

14:35 – 14:50 (Chair: Y.XUE)

Assoc. Prof. Masanori SHIGENO (Graduate School of Pharmaceutical Sciences, Tohoku University)

Reactive Brønsted Base Chemistry for Direct Molecular Transformation

14:50 – 15:05 (Chair: M. SHIGENO)

Assoc. Prof. Guanghui ZHANG (School of Chemical Engineering, Dalian University of Technology)

Development of Fe and Co Carbide Catalysts for CO_2 Hydrogenation

15:05– 15:20 (Chiar G.ZHANG)

Assist. Prof. Atsushi TAHAARA[1,2] (FRIS[1], Graduate School of Pharmaceutical Sciences[2], Tohoku University)

Utilization of Biomass Compounds Leading to Material Sciences

15:20-15:35 (Chair:A.TAHARA)

Assoc. Prof. Bingwen ZHOU (Graduate School of Material Sciences, Dalian University of Science and Technology)

Research on the Design and Preparation of Bulk Metalic Glass

15:35-15:50 (Chair: B. ZHOU)

Assoc. Prof. Fu TANG (Tohoku University, University of Science and Technology Beijing(USTB))

Synthesis of Polymeric Hydrogels with Nanostructures and their Prospect Applications

15:50-16:05 (Chair: F.Tang)

Assoc. Li JIANG

(Graduate School of Material Sciences, Dalian University of Science and Technology)

Research on the Micro-deformation Mechanisms and Irradiation Effects of High-entropy Thin Films

Break (10min)

16:15 – 17:15 Poster Session

Poster Presentation from TU Side

PT1 P. Vinda Q.Jin A. Okawa, T. Hasegawa, S.Yin (IMRAM, Tohoku University), ***Fabrication of $K_{0.33}WO_3$/g-C_3N_4/rGO Nanocomposite using Solvothermal and Physical Mixing Routes for NIR Shielding and Photocatalytic Activity Improvement***

PT2 Z.Wang, Q. Cheng, A. Okawa, T. Hasegawa, T.Goto, T.Tanaka, S.Yin (IMRAM, Tohoku University),, ***Novel $CeCO_3$ and CeO_2-Based Pearlescent Pigments: Synthesis and Properties***

PT3 R. Larasati, A. Okawa, T. Hasegawa, S.Yin (IMRAM, Tohoku University), ***Creation of Ternary Ag3PO4-Based Composite Materials and Its Functionality for Pollutant Removal and Gas Sensing under Light Irradiation***

PT4 Q.Jin, L.Miao, A. Okawa, T. Hasegawa, S.Yin (IMRAM, Tohoku University), ***Solvothermal Synthesis of Black Phosphorus Self-Assembled into Spherical Shells for High-Performance NH_3 Sensing***

PT5 Takaharu Nakajima, Yamato Hayashi, Hitotsugu Takizawa (School of Engineering, Tohoku University), ***Sonochemical synthesis of Sn-Bi solder nanoparticles and investigation of their grain growth behavior***

PT6 Madoka Yoshikawa, Yamato Hayashi, Hitotsugu Takizawa (School of Engineering, Tohoku University), ***One-pot synthesis and morphological characterization of CNF/AgNPs composites***

PT7 Panupong WETHANGKABOWORN[1], Masahito YOSHIMURA[2], Goro NISHIKORI[3], Toru NISHIYAMA[2], Tomohito KAMEDA[1]([1] Graduate School of Environmental Studies, Tohoku University, [2] DOWA ECO-SYSTEM Co., Ltd., [3] Meltech Corporation), ***Assessment of Selenate Adsorption from Industrial Wastewater using Mg-Al Layered Double Hydroxides***

PT8 Hou Yilin, Hongbin Zhao, Takuya Tokunaga, Kosuke Ohsawa, Takayuki Doi (Graduate School of Pharmaceutical Sciences, Tohoku University), ***Synthetic Study for Cyclodepsipeptide teixobactin***

PT9 Masaharu Maezawa, Ozora Sasamoto, Masanori Shigeno (Graduate School of Pharmaceutical Sciences, Tohoku University), ***Phosphazene Base Catalysis for Carbon–Fluorine Bond Exchange Reaction***

Poster Presentation from DUT Side

PD1 Zeyuan GAO, School of Chemical Engineering, Dalian University of Technology, ***Tuning Fluorination of Carbon Molecular Sieve Membranes for Enhanced Reverse-Selective Hydrogen Separation From Helium***

PD2 Yu SI, School of Chemical Engineering, Dalian University of Technology, ***NIR Light-Activated Immobilized Nanodrug for Synergistically Enhanced Photodynamic/Photothermal/Chemo-Therapy with Oxygen Modulation***

PD3 Guoliang LI, School of Chemical Engineering, Dalian University of Technology, ***PTFE-coated AlH3 with improved combustion efficiency, stable hydrogen evolution, and superior anti-sintering characteristics***

PD4 Jinrong LI, School of Chemical Engineering, Dalian University of Technology, ***Sono-triggered enhanced in situ vaccine via chlorin-based small molecule sensitizer for systemic cancer therapy***

PD5 Guanyi ZHANG, ***School of Chemical Engineering, Dalian University of Technology, PTP1B-inhibiting chlorin-based sonosensitizers for SDT-induced systemic antitumor immunotherapy***

PD6 Wei CHEN, Graduate School of Material Sciences, Dalian University of Science and Technology, ***Neural Network–Enabled Accelerated Discovery of Multifunctional Metamaterials for Adaptive Multispectral Stealth Applications***

PD7 Shuyue TAN, Graduate School of Material Sciences, Dalian University of Science and Technology, ***Tailoring Zr-vacancy induces superior thermoelectric performance of Hf-free ZrCoSb-based half-Heusler compounds***

PD8 Min SHANG, Graduate School of Material Sciences, Dalian University of Science and Technology, ***Direct Formation of Cu_3Sn at Sn-Bi/Cu Interfaces: A Thermodynamic and Kinetic Perspective***

PD9 Zhifan WEI, Graduate School of Material Sciences, Dalian University of Science and Technology, ***Study on low-temperature sintering and high-temperature deformation behaviour of ZrB_2Ceramics***

17:15– 17:20

Closing Remarks from DUT

Prof. Honggang DONG, Director, Graduate School of Material Sciences,
Dalian University of Science and Technology(DUT)

17:20-17:25

Closing Remarks from TU

Prof.Takayuki DOI, Dean, Graduate School of Pharmaceutical Sciences,
Tohoku University（TU）