



# Tohoku-Melbourne Joint Workshop



**November 1, 2023 / IMRAM, Tohoku University  
Meeting Room, South Multidisciplinary Research Laboratory 2**

Chair: Prof. Hiroyuki Fukuyama

- 9:00 Opening address Prof. Masami Terauchi / Director of IMRAM, Tohoku University
- 9:10 Flocculation, agglomeration and changing the chemistry of sticking particles together  
Prof. Peter Scales (The University of Melbourne)
- 9:40 Challenges to realize Carbon-neutral of Ironmaking Process in Japan  
Prof. Taichi Murakami (Tohoku University)
- 10:10 Supercritical Fluids Process for Nanomaterials Utilized in Carbon-Neutral Chemical Industry  
Prof. Takaaki Tomai (Tohoku University)
- 10:40 Break

Chair: Prof. Junya Kano

- 11:00 Flocculation/Flotation for improved recovery of fine particles  
Prof. George Franks (The University of Melbourne)
- 11:30 Design and Synthesis of Nanoparticle-based Functional Materials toward Green Innovation  
Prof. Kiyoshi Kanie (Tohoku University)
- 12:00 Poster Session & Lunch @Second Floor

Chair: Prof. Itaru Honma

### Special Lecture

- 13:40 **Supply Chains, Strategic Competition and Security**  
Minister and Deputy Head of Mission. Peter Roberts / Australian Embassy in Japan

Chair: Prof. Etsuro Shibata

- 14:10 Surface tension measurement of  $\text{Cu}_2\text{S}$ -FeS melts using aerodynamic levitation method  
Senior Assistant Prof. Masayoshi Adachi (Tohoku University)
- 14:30 Combined shear and compression of flocs and consolidated suspensions  
Associate Prof. Anthony Stickland (The University of Melbourne)
- 14:50 Porous materials to separate hydrogen from heavy hydrogen  
Assistant Prof. Linda Zhang (Tohoku University)
- 15:10 Toxic gas separation through novel membrane mechanisms  
Associate Prof. Colin Scholes (The University of Melbourne)
- 15:30 Break

Chair: Prof. Shigeru Ueda

- 15:50 Gas Separation by Regulated Molecular Sieves  
Associate Prof. Gang Li (The University of Melbourne)
- 16:10 Development of the simulation for particle behavior in oil-water system  
Assistant Prof. Kizuku Kushimoto (Tohoku University)
- 16:30 Combined flocculation-oil agglomeration steps for mineral recovery  
Research fellow Casey Thomas (The University of Melbourne)
- 16:50 Closing Remarks Prof. Itaru Honma / Head of the CMPM, IMRAM, Tohoku University

Thursday Nov. 2, 2023 : NanoTerasu tour / IMRAM Lab. tour  
Contact : Prof. Itaru Honma (E-mail : itaru.homma.e8@tohoku.ac.jp)

