

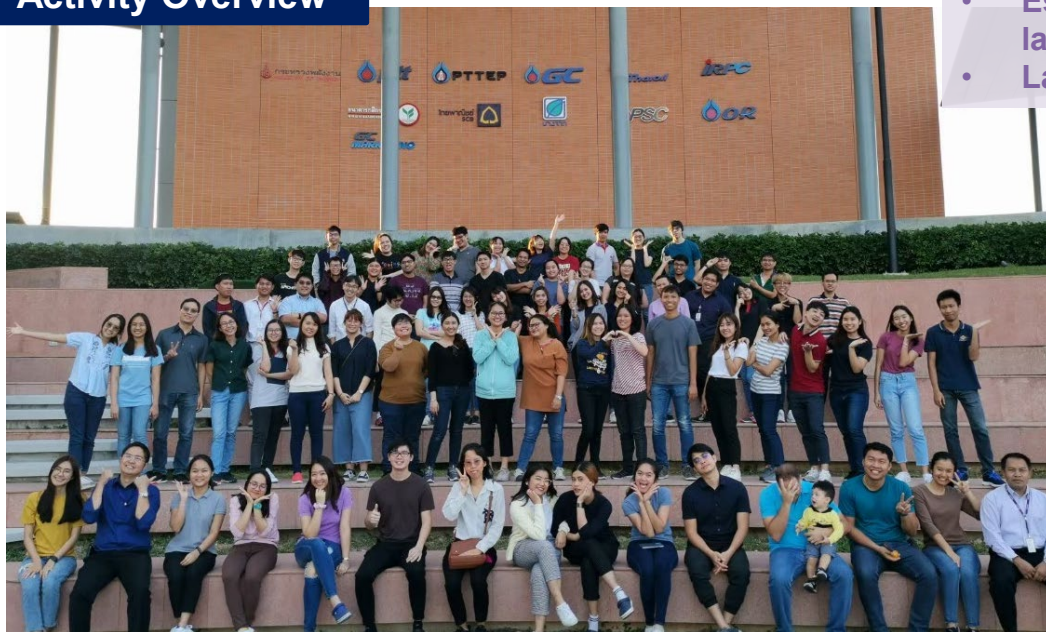
General Information

- ◆ Approved in FY 2018
- ◆ Established in August 2018
- ◆ Established by the Institute for Integrated Cell-Material Sciences (iCeMS), Kyoto University Institute for Advanced Study (KUIAS)
- ◆ Partner institution: Vidyasirimedhi Institute of Science and Technology (VISTEC), Thailand
- ◆ Purposes: Development of basic research in chemistry and materials science in both countries, and training of researchers with expertise in these fields
- ◆ Location: Vidyasirimedhi Institute of Science and Technology (VISTEC), Rayong, Thailand (outbound)
- ◆ Functions: Creation of new materials and development of technologies that contribute to solving energy and environmental issues / Training of young researchers and human resource circulation

Positive ripple effects to the university's activities

- Development of international joint research including research with local companies
 - Student recruitment
 - Provision of education for local students and summer schools
 - Development into international joint program (JD/DD)
 - Establishment of venture companies
- Recruit talented undergraduate students from top universities throughout Thailand through in-person visits or online recruitment activities.
- Utilize VISTEC's one- to two-year study abroad programs for PhD students, and strengthen collaboration and develop joint research with relevant top laboratories around the world, using VISTEC as a hub.
- Continue to develop the research using the Thai research grants, and establish a new research consortium consisting of multiple research organizations.

Activity Overview



- Instructing PhD students and cultivating human resources for industry, government, and academia
- Establishment and management of a sustainable laboratory
- Launching projects and obtaining external funding



Main Activities in FY 2025

① Promoting materials science and chemistry research through collaboration between local lab members and others

- We worked on (i) synthesis and evaluation of catalysts and electrolytes using MOFs/COFs; (ii) synthesis and evaluation of solid materials via CO₂ recycling; (iii) development of new materials using phase transition phenomena.
- 7 papers (including 6 papers in Nature Index journals) were published during the period 2025/1-2025/12. One paper each related to (i), (ii), and (iii) was published in *the Journal of the American Chemical Society*, a top journal in the field of chemistry. Four papers were authored by OSL-affiliated PhD candidates enrolled at VISTEC as first authors, and Kyoto faculties as corresponding authors.
- One candidate enrolled at VISTEC obtained a PhD in 2025, and two more candidates are on track to obtain their PhD, and are currently proceeding with the graduation procedures. All students have been abroad to join international conferences and research collaboration.

② Efforts to establish sustainable laboratory/launching new projects and acquiring external funding

- Prof. Horike is affiliated with the Department of Materials Science and Engineering (MSE) and has classes. He participated in the admission process, and successfully recruited two new PhD candidates.
- A joint proposal in JST-NEXUS (Networked Exchange, United Strength for Stronger Partnerships between Japan and ASEAN) “Development of intermediate-temperature water electrolyzer using proton-conductive metalorganic frameworks” was accepted. Profs. K. Kongpatpanich (MSE, VISTEC) and Horike conducted experiments on each side, including the setup of new equipment in Thailand
- A joint proposal in JST-NEXUS-Y-tec “Japan-Thailand young talent exchange through the development of coordination polymer catalysts for CO₂ recycling” was accepted. Profs. Tabé (iCeMS), Kongpatpanich and Imyen (Kasetsart University, Thailand) send postdocs and students to each side every few months.