

International Materials R&D Supporting Center

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I. Abstract

Initiated by the Department of Materials Science and Engineering, the International Materials R&D Supporting Center integrates high-level R&D and characterization resources, and promotes collaboration with top international academics, research institutes and industrial units, for strengthening advanced education in materials characterization and research in high-value material techniques to enhance its international impact in the field of materials science.

The Center's work includes renovating precision instruments and public laboratories, and enhancing training in research techniques, of which over a hundred students have been certified in the use of high-level analytical instruments. To increase research productivity and optimize operational management, the Center has visited and consulted the Facility for Analysis, Characterization, Testing and Simulation at Nanyang Technological University in Singapore, and been cooperating with academic and industrial organizations, including MA-tek and TSMC.

In addition to publishing papers in various top journals, including *Nature* and *Nature Materials*, many of our faculty members have been elected as Fellows and have received awards from international community. The Center has also published articles on the Phys.org website, with total clicks reaching tens of thousands. In terms of international academic exchanges, several renowned scholars of the American National Academy, etc., have given courses for the Department or been appointed honorary professorship. Amongst the dozens of distinguished figures from industry who have delivered lectures include the R&D vice president at TSMC.

The Center's international collaboration has included student exchange programs with the UCLA and UC Berkeley. The Department also provides support allowing graduate students to attend international conferences and to participate in the Grenoble facility training courses. Amongst the Center's extensive collaboration with world-renowned universities have been a series of workshops organized in conjunction with the National University of Singapore and Nanyang Technological University, a dual degree program with Tohoku University, and student exchange programs with HCMUS and City University of Hong Kong.

For increasing international visibility and impact, the Department has redesigned the English version of its prospectus and created an engaging introductory video, which was broadcast during the annual MRS conference, as well as participated in on-site exhibition. In response to the COVID-19 pandemic, the Center has strengthened its use of internet platforms for connecting with the international community, such as hosting the MRS webinars. The Department's international profile has been further enhanced by online broadcasting in the annual meetings of international societies including the MRS and the ECS, etc. Last but not least, the Department's *h*-index has risen from 120 in 2019, to 134 in 2021; and its ranking in the QS Rankings (materials science) has been improved from 70 to 58.

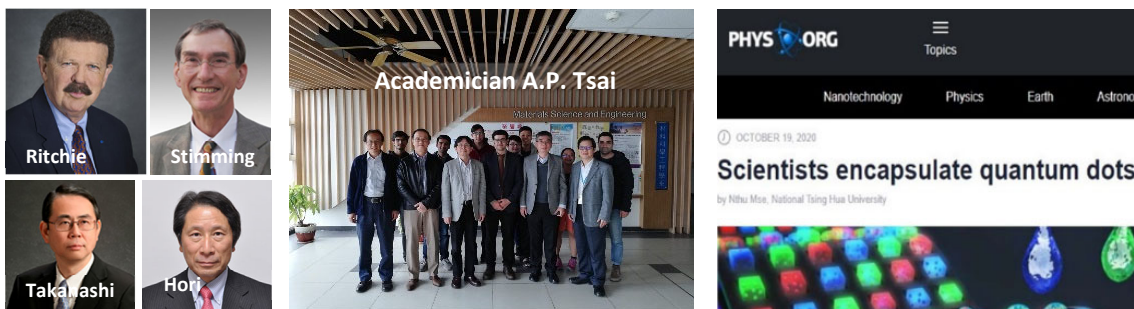
II. Highlights

1. International Materials Characterization Center (laboratory and facility)



Left: Materials Characterization Center; center: TEM; right: FIB system.

2. Enhancing teaching and research (international scholars and industry collaboration)



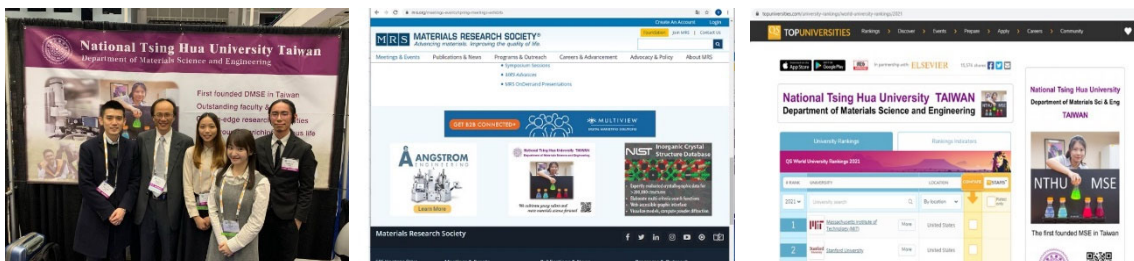
Left: honorary professors; center: visiting scholars; right: article on Phys.org.

3. International academic connections (international collaboration and exchange)



Left: Tohoku Univ., Japan; center: NTU, Singapore; right: CityU, Hong Kong.

4. Promoting international visibility (broadcasting, international impact, and citation)



Left: exhibition at MRS conference; center: MRS web broadcasting; right: QS web broadcasting.