

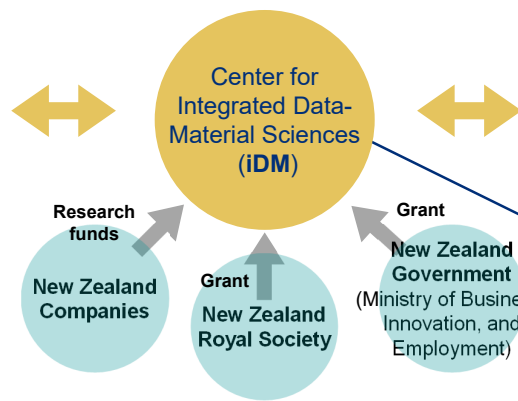
## General Information

- ◆ Approved in FY 2021
- ◆ Established in January 2022
- ◆ Established by the Institute for Integrated Cell-Material Sciences (iCeMS), Kyoto University Institute for Advanced Study (KUIAS)
- ◆ Partner institution: The MacDiarmid Institute for Advanced Materials and Nanotechnology, New Zealand
- ◆ Location: Wellington University, Wellington, New Zealand (outbound)
- ◆ Functions: Deepen research on material sciences using computational science and data science, and internationalize Kyoto University's research and education activities by enhancing collaboration with industry and local research institutions.

## Positive ripple effects to the university's activities

- Development of interdisciplinary fields combining data science and material science.
- International industrial application of materials developed at Kyoto University
- Cultivating the perspective of contributing to the international community through basic research among students and early-career researchers.
- Raising the profile of the Kyoto University brand in Oceania.
- Expanding local research networks and enhancing the brand recognition of Kyoto University and KUIAS through establishing a policy for research on hydrogen conductor materials and porous materials with local research institutions, which is anticipated to contribute to the achievement of a decarbonized society.
- Creating networks with local companies and Japanese companies, which can lead to research collaboration.
- Encouraging exchanges among early-career researchers and international students.
- Promoting the fusion of the humanities and sciences through research plans that fully respect the beliefs and customs of the Maori (indigenous people of New Zealand).

## Activity Overview



## The MacDiarmid Institute for Advanced Materials and Nanotechnology (MDI), New Zealand

New Zealand's largest-scale and highest-level virtual research institute in material science (31 laboratories from 5 major universities participate)



- Accelerating research collaboration in **computing and data science**, with a focus on **material science**, which is a strength of both Kyoto University and MDI.
- Promoting research exchange and brain circulation as a hub of the Kyoto University-MDI network.

## Main activities in FY 2023

### 1 iDM In-Person Workshops

- *The 1st MacDiarmid Institute-Kyoto University Workshop on Integrated Data-Material Sciences.* Kyoto University Rakuyu-Kaikan, August 29 – 30. 10 speakers from Kyoto University (8 from iCeMS, 2 from other departments), 8 speakers from New Zealand.
- *MacDiarmid Institute-iCeMS Symposium.* Victoria University of Wellington, February 19 – 20. 6 speakers from Kyoto University, 22 speakers from New Zealand (including 1 from industry, 1 from the Ministry of Foreign Affairs and Trade, and 5 students).



1st MacDiarmid Institute-Kyoto University Workshop (Kyoto)



MacDiarmid Institute-iCeMS Symposium (Wellington)

### 2 Data-harvesting protocol for organic solar cell materials

- New computational framework for quickly evaluating semiconductor materials for organic solar cells.
- Accurately predicts exciton transport properties when compared to MacDiarmid Institute data.
- Reduced computation time allows for generation of virtual data library for organic semiconductor design.

