Hokkaido University – The University of Melbourne Dual PhD Programme on Nanomaterials

Project Summary

One fully funded joint PhD candidacy is available, focused on the synthesis of photoactive nanomaterials for enhanced anti-cancer therapy in nanomedicine applications. The candidate will be based primarily at Hokkaido University, with a mandatory minimum 12-month research at the University of Melbourne, Australia.

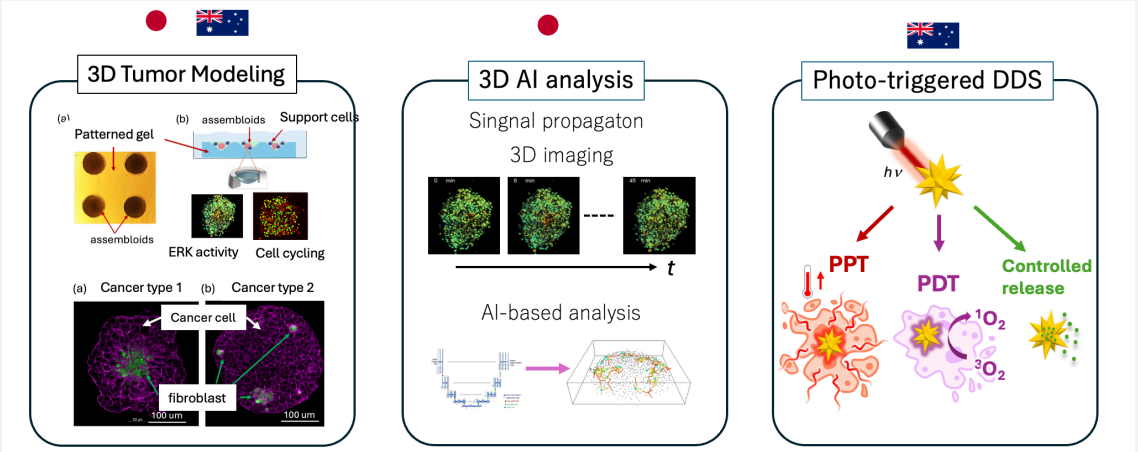
Degrees Available for this project

- Doctor of Philosophy (PhD)

Available Scholarships

Applicants are automatically considered for a dedicated scholarship co-funded by Hokkaido University and the University of Melbourne. This scholarship covers living expenses in both Hokkaido and Melbourne and travel costs, including a flight from th candidate's home country to Hokkaido University, and a flight from Hokkaido University to the University of Melbourne during the PhD program.

Project Details



This project aims to develop novel near-infrared light-responsive nanomaterials to sense and modulate cellular behaviour. Due to their small size, these nanomaterials can penetrate tumour to spectroscopically probe local microenvironments and deliver phototherapies. To evaluate cellular response to these stimuli, 3D-tumor models will be established for anti-cancer drug screening. Signal propagation, including signal-regulated kinase (ERK) activation, cell cycling,

and apoptosis, will be monitored via microscopic analysis of expressed sensor proteins. The project will be conducted at Hokkaido University for the first-half, followed a 12 month tenure at the School of Chemistry, Uni. Melbourne.

- Online interview may be undertaken with short-listed candidates
- Submit Proof of English competency with Expression of Interest

Anticipated project start date

Tue 01 April 2027 or 01 Oct 2027

Due date for application submission

Start date in April 2027: 20 Nov 2026 (for pre-screening) and 4-8 January 2027 (for application submission)

Start date in October 2027: 8-11 March 2027 (for pre-screening) and 9-15 April 2027 (for application submission), and early May 2027 (for final enrolment)

*The Expression of Interest (EOI) must be submitted by 30 October for a state date in April 2027, and by 28 February for a start date in October 2027.

Supervisors: Professor Hiroshi Uji-i, Research Institute for Electronic Science, Hokkaido University: hiroshi.ujii[at]es.hokudai.ac.jp

Professor Georgina Such, Faculty of Science, the University of Melbourne: gsuch[at]unimelb.edu.au
*Enquiries/expressions of interest shall be addressed to either of the academics

Offered by: Graduate School of Information Science and Technology, Hokkaido University in collaboration with the University of Melbourne, Australia

Location: Sapporo, Hokkaido
*Laboratory of Nanomaterials and Nanoscopy, Research Institute for Electronic Science, Hokkaido University

Reference

- PhD Course application information of the Graduate School of Information Science and Technology, Hokkaido University
- Recruitment by the University of Melbourne