

Integration of Simulation, Data, and Machine Learning on **A Heterogeneous Supercomputer System**

Time

2025.2.17
09:00-17:002025.2.18
09:00-15:00

Venue

Room 505,
Cosmology Building, NTU

Speakers

Kengo NakajimaThe University of Tokyo
RIKEN R-CCS**Takashi Arakawa**CLiMTEch
The University of Tokyo**Shinji Sumimoto**

The University of Tokyo

Hisashi YashiroNational Institute for
Environmental Studies

Organizers

Weichung Wang

National Taiwan University

Hung-Chi Kuo

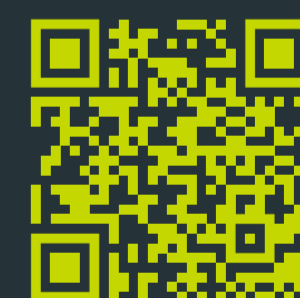
National Taiwan University

Feng-Nan Hwang

National Central University

Introduction & Purposes

In this 2-day intensive course, participants will learn about the development of coupled applications on heterogeneous systems using WaitIO and UtilMP, and in particular the methods of combining simulation for computational science and machine learning. Starting from the basics of coupled computation, this course focuses on how to develop coupled applications between Odyssey and Aquarius on Wisteria/BDEC-01 using WaitIO and UtilMP.



Registration

deadline:
January 23, 2025
(Thursday)

Outline & Descriptions

First, participants will learn how to rewrite weakly coupled applications via files using WaitIO with MPI-like communication API.

Next, they will learn about integration of simulation and machine learning using UtilMP. In particular, by coupling simulation code written in Fortran/C with machine learning libraries written in Python, they will learn about application coordination that takes advantage of the characteristics of Wisteria/BDEC-01, not limited to multi-physics coupling. Furthermore, hands-on exercises using Wisteria/BDEC-01 are provided.