

A joint workshop will be held with the aim of strengthening collaborative research between the three institutions of Hiroshima University, RIKEN and OIST.



# Understanding Life and Physical Phenomena using Mathematical Models and Analysis

June 25<sup>th</sup> (Sat), 2022

10:00-16:05



Faculty Club Reception Hall as well as via Zoom

In-person : up to **50** participants      Online : up to **300** participants

※ Depending on the COVID-19 situation, the event may be held completely online.

## Program

10:00 ~ 10:05	Opening Address	Prof. Manabu Abe, Executive Vice President (HU)
<b>1<sup>st</sup> Session</b>		Moderator : Prof. Shin-ichi Tate (HU)
10:05 ~ 10:35	Data-driven decoding of decision-making and mental conflict by machine learning	Prof. Naoki Honda (HU)
10:35 ~ 11:05	Exploring 2-stage sleep in octopus	Asst. Prof. Sam Reiter (OIST)
11:05 ~ 11:35	Integration of multiple omic data on the basis of reaction kinetics and open source intelligence	Dr. Katsuyuki Yugi (RIKEN)
<b>2<sup>nd</sup> Session</b>		Moderator : Assoc. Prof. Hiroshi Ochiai (HU)
12:30 ~ 13:00	Modeling of cellular morphodynamics: from unicellular to multicellular systems	Assoc. Prof. Nen Saito (HU)
13:00 ~ 13:30	Emergence of cell chirality from the spatial organization of cytoskeleton	Dr. Tatsuo Shibata (RIKEN)
13:30 ~ 14:00	Complex adaptive systems at the interface of ecology, evolution, and socio-economic dynamics	Prof. Ulf Dieckmann (OIST)
<b>3<sup>rd</sup> Session</b>		Moderator : Prof. Akio Kimura(HU )
14:15 ~ 14:45	Perspective on skyrmion spintronics: from mathematical concepts to material science and to real prototype devices	Assoc. Prof. Andrey Leonov (HU)
14:45 ~ 15:15	Nuclear spins as hidden degrees of freedom in life and physical phenomena	Dr. Tomohiro Uesaka (RIKEN)
15:15 ~ 15:45	Surprising thermodynamics of landfalling typhoons	Prof. Pinaki Chakraborty (OIST)
15:45 ~ 16:00	Discussion on collaboration among HU-RIKEN-OIST	Prof. and Dean of Research Tadashi Yamamoto (OIST)
16:00 ~ 16:05	Closing Address	Dr. Shigeo Koyasu, Executive Director (RIKEN)



After the workshop has been held, a special site (The Matching Square) will be established with the aim of allowing information to be exchanged between researchers, which in turn will help with the formation of new collaborations. As this site is intended for researchers who wish to collaborate with others, registration is on an entirely voluntary basis.

Host: **Hiroshima University (HU), RIKEN, OIST**

Co-Host: **Program for Developing and Supporting the Next-Generation of Innovative Researchers at HU**

Contact

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Registration

<https://forms.office.com/r/6irSB99BJV>

Registration

