



Australia-Japan Research and Collaboration Forum Research Landscape and Opportunities to Collaborate in Australia and Japan: Perspectives from Kyoto University

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京都大学

KYOTO UNIVERSITY

About Kyoto University: Mission Statement

- Kyoto University states its mission to sustain and develop its historical commitment to academic freedom and to pursue harmonious coexistence within **the human and ecological community on this planet**.
- **Research**: Kyoto University will generate **world-class knowledge** through freedom and autonomy in research that conforms with high ethical standards.
- **Education**: Kyoto University will educate outstanding and humane researchers and specialists, who will contribute responsibly to **the world's human and ecological community**.
- **International contribution**: As an international institution, Kyoto University will promote foreign academic exchange and thereby strive to contribute to **harmonious coexistence in local communities and the well-being of the world**.



Kyoto University at a Glance



Students
(As of April 1, 2024)

22,600

Undergraduate **13,000**

Graduate **9,600**

2,900



International students

2

Semesters



Summer holiday
Aug.–Sept.



Spring holiday
Feb.–Mar.

Faculty and staff members

(As of May 1, 2024)



8,020

3,500

Faculty

520

Non-teaching researchers

4,000

Non-teaching staff

500

International faculty and staff



Income in the 2023 academic year

JPY 188 Billion

(USD 1,242 million)

10

Faculties

18

Graduate schools

12

Research institutes

26

Centers & other organizations



3 Campuses in Kyoto, the cultural heart of Japan

44

Off-campus research and education facilities in Japan



11

Award winning research

Nobel laureates



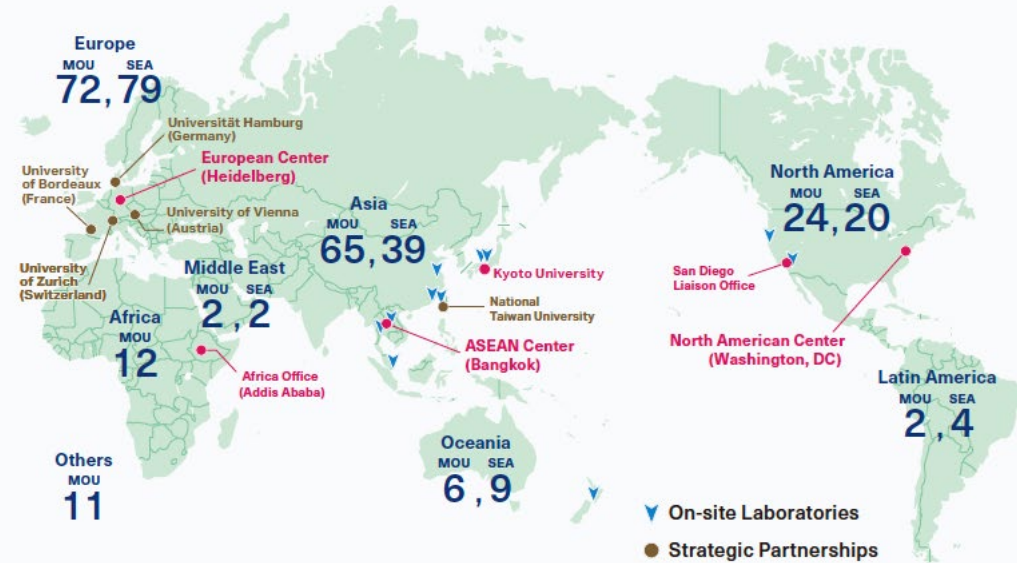
2 Fields Medalists

1 Gauss Prize winner

5 Lasker Award winners

1 Chern Medalist

International Partners



Global Engagement

912

Memorandum of Understandings (Total)

194

University level

718

Department level

345

Student Exchange Agreements (Total)

153

University level

192

Department level

63

Overseas offices and facilities

5

Strategic Partnerships

11

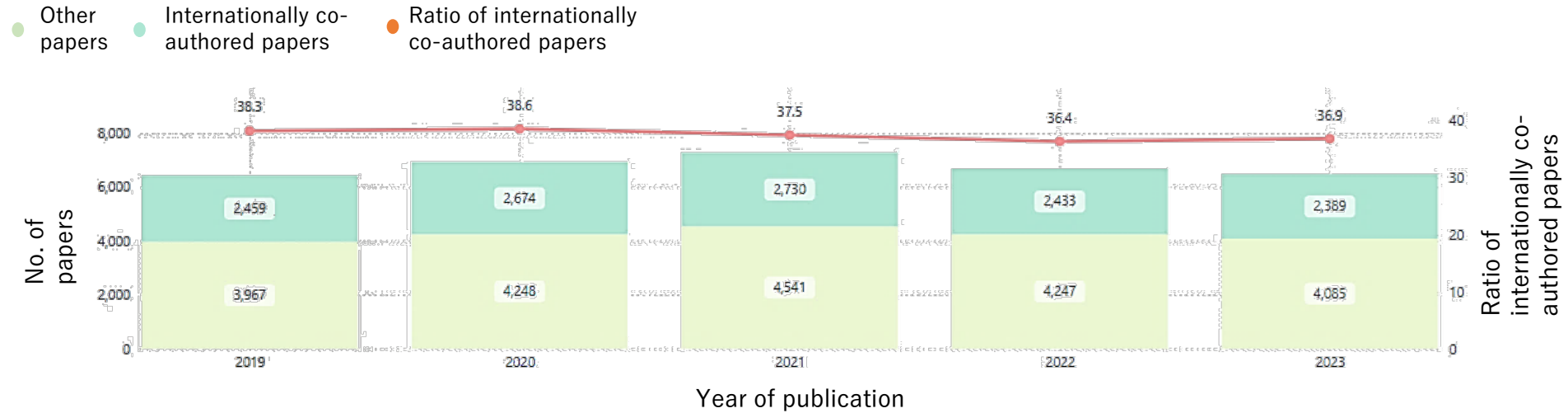
On-site Laboratories

31

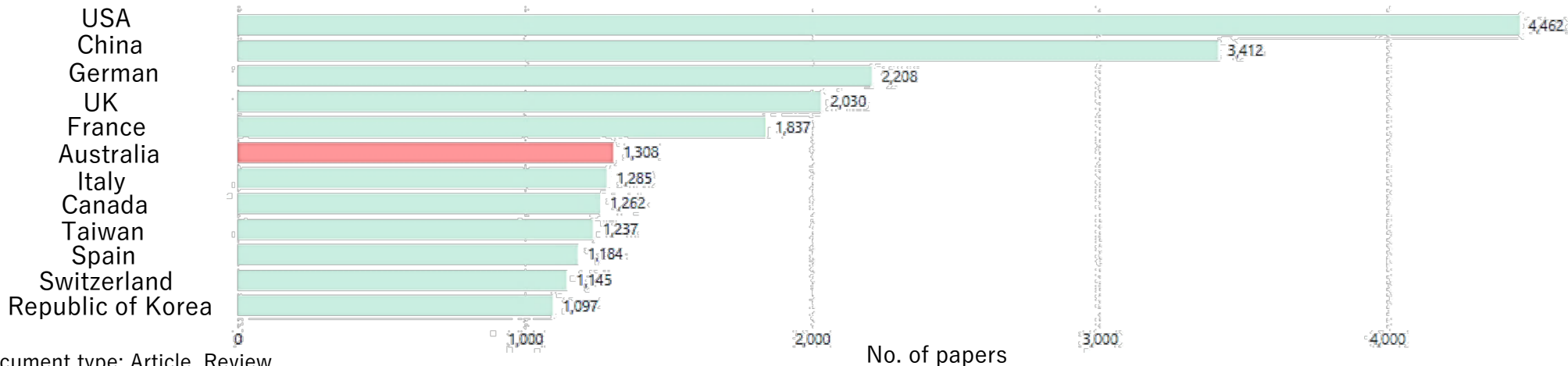
Overseas alumni associations

Internationally Co-Authored Academic Papers

Internationally co-authored papers / ratio of internationally co-authored papers



Number of internationally co-authored papers by partner country

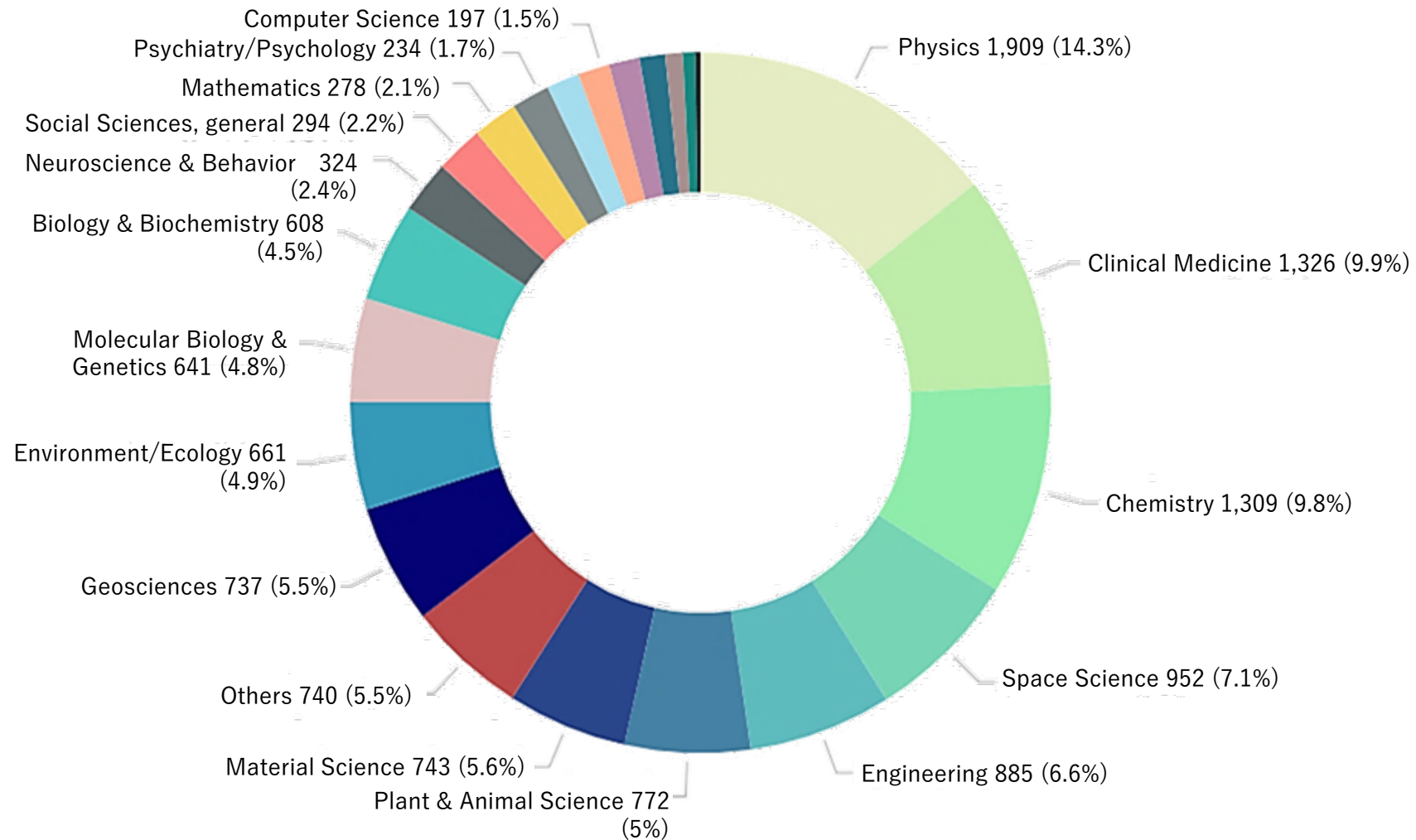


*Document type: Article, Review
 Source: Web of Science/InCites Benchmarking (Based on data as of July 22, 2024)



Internationally Co-Authored Academic Papers

Internationally co-authored papers by field



Kyoto University's Focus for Globalization

- **Cross-border collaboration and cooperation** between universities promotes new intellectual production, and such international cooperation is essential to **solving contemporary issues, including global issues.**
- It is essential to "promote research in which **outstanding researchers work together across borders.**" Rather than relying solely on the spontaneous formation of networks among researchers, we must strategically and politically promote **the formation of international networks and international collaborative research teams.**
- The unit of research has shifted from individuals to organizations, and we are now in an era in which **elite researchers form teams and collaborate internationally.**
- Regarding internationalization, evaluation methods that are heavily biased toward research have been replaced by evaluations of universities based on **their social impact, such as educational ability and public interest activities as well as contributions to both global society and local communities.**

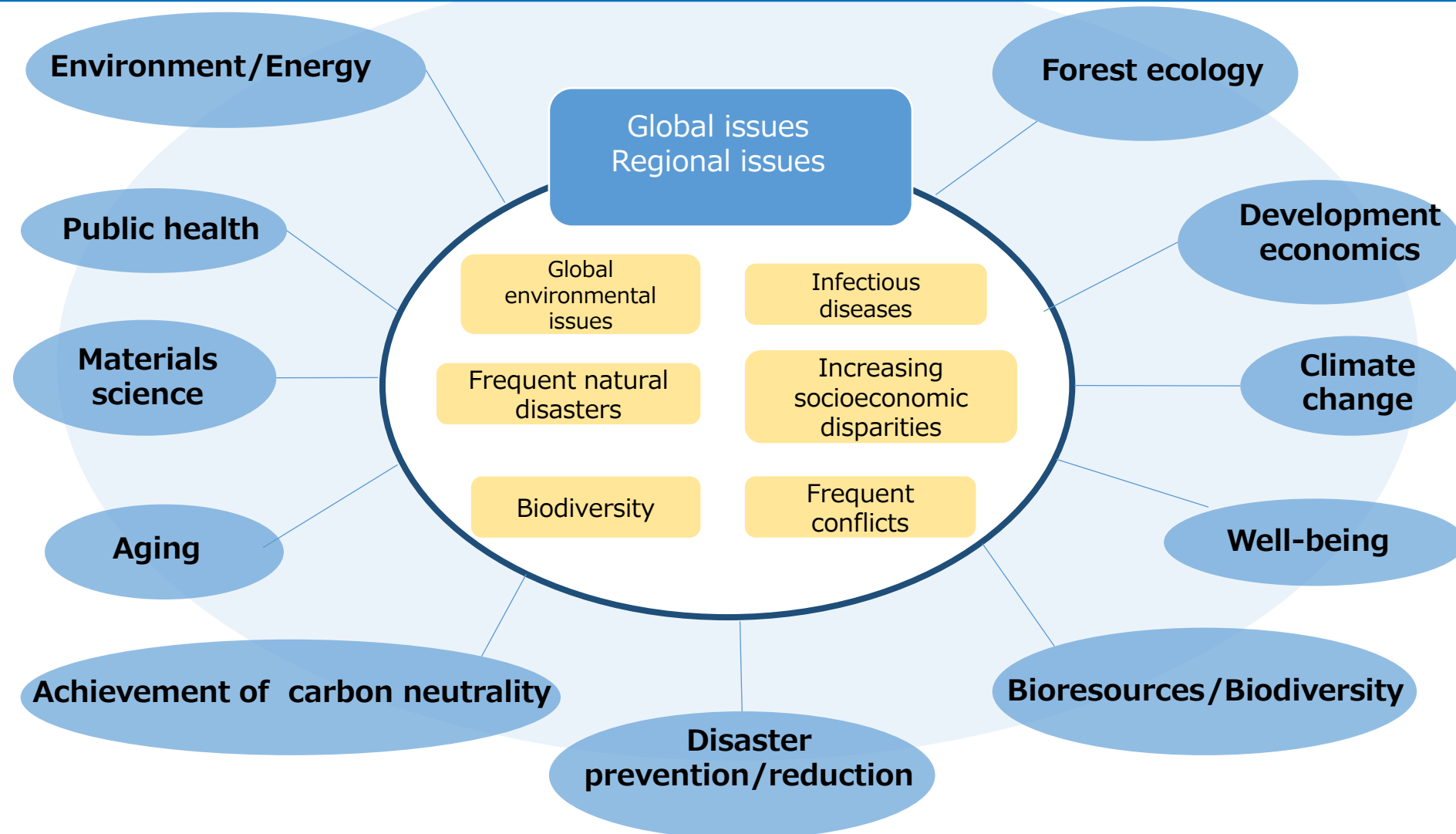
Kyoto University's Issues for Globalization

- It is necessary to fundamentally improve the programs for inviting foreign researchers by **significantly improving the research environment and working conditions** to the world's top level.
- Measures to increase both **bilateral and multilateral internationally co-authored papers**.
 - ← Bilateral internationally co-authored papers can be increased by activities at **KU's on-site laboratories**, while multilateral internationally co-authored papers can be expected to increase through **KU's strategic partnerships scheme**.
- Responses to ensure **research integrity and security in the face of new risks associated with the internationalization and openness of research activities**.



Addressing Global Issues

There are many global and regional issues that are difficult to address in a single country or region, such as global environmental problems and frequent natural disasters. Kyoto University seeks to address such issues through joint research, etc.



Example of Collaborative Research: Research Collaboration between the University of Sydney and the Disaster Prevention Research Institute

Objectives

Extremely large high waves in the open ocean are called rogue/freak waves. They cause great damage to ships and offshore wind turbines. Ocean waves have special nonlinear properties and are very difficult to predict. This research has elucidated the characteristics of the persistence of high waves in the presence of two opposing waves.

Researcher

Kyoto University

- **Amin Chabchoub**
(Associate Professor, HAKUBI Center for Advanced Research)



- **Nobuhito Mori**
(Professor, Disaster Prevention Research Institute)

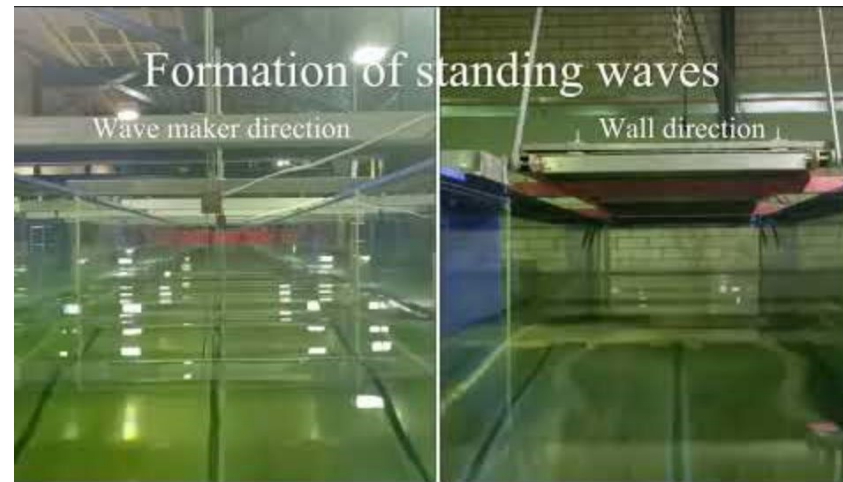


University of Sydney

- **Yuchen He**
(PhD candidate, University of Sydney)

HSE University

- **Alexey Slunyaev**
(Professor, National Research University Higher School of Economics)



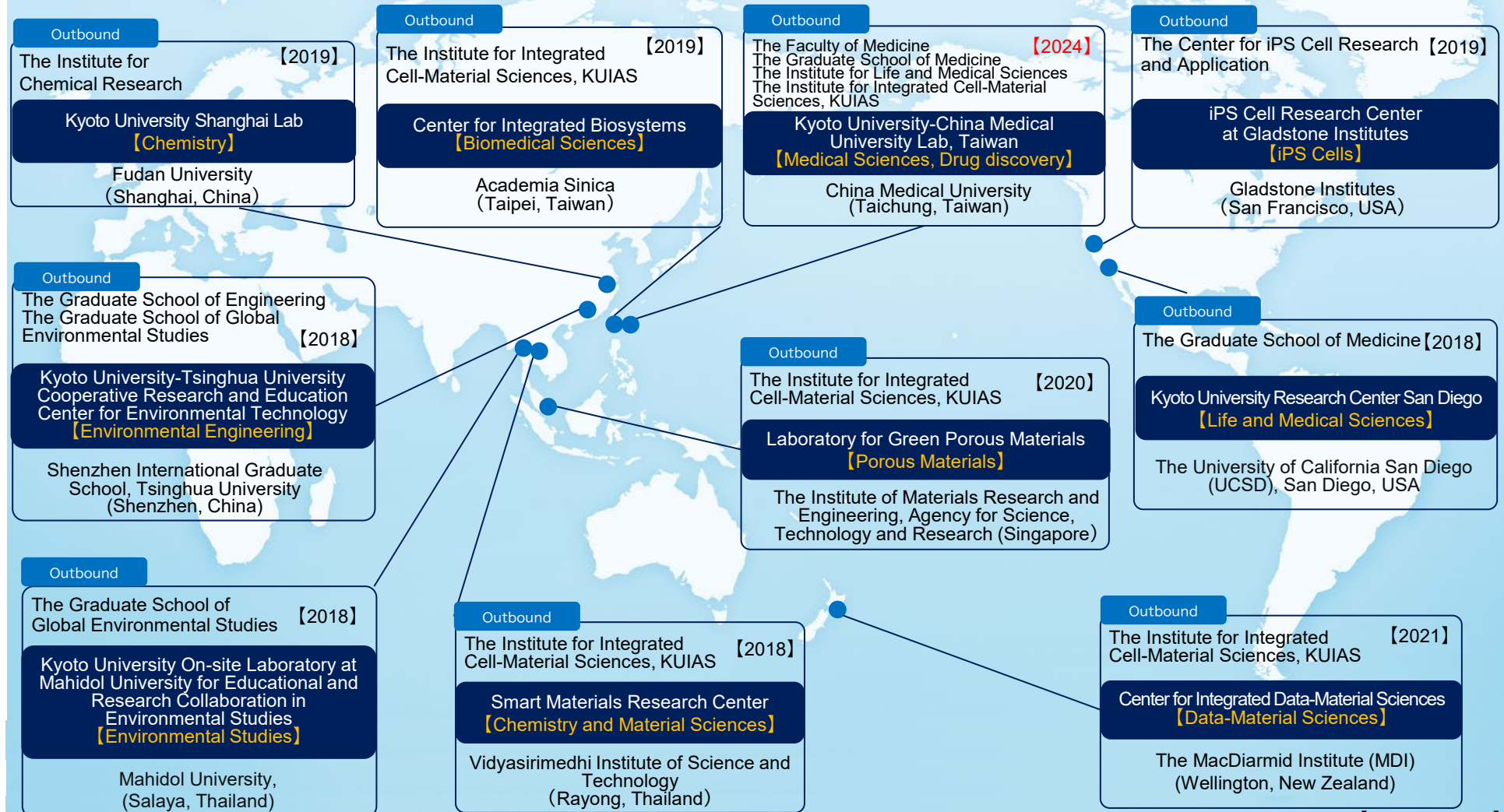
Physical Review Letters (2022)

Outcome

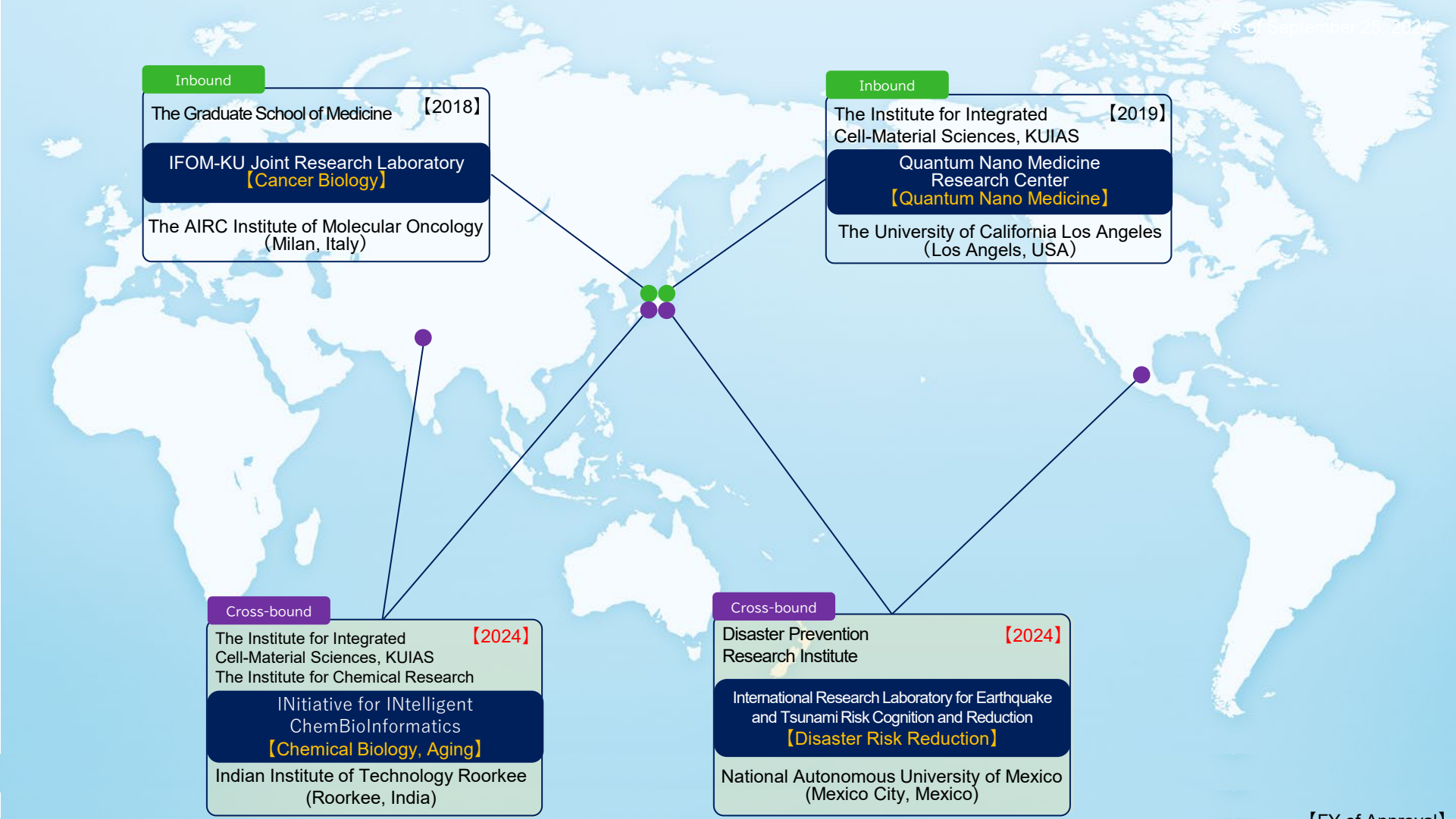
Experiments were conducted at the University of Sydney and numerical simulations using a nonlinear wave equation to study two counter-propagating waves were conducted at Kyoto University. Normally, waves disrupt each other due to nonlinearity, but it was found that two counter-propagating waves passed without affecting each other while maintaining a stability solution called the Peregrine breather. These findings will assist in the evaluation of high waves during typhoons.

On-site Laboratories are locally managed laboratories established collaboratively by Kyoto University faculties/departments and overseas partners.

Kyoto University On-site Laboratory Initiative: Outbound Type



Kyoto University On-site Laboratory Initiative: Inbound and Cross-Bound Type



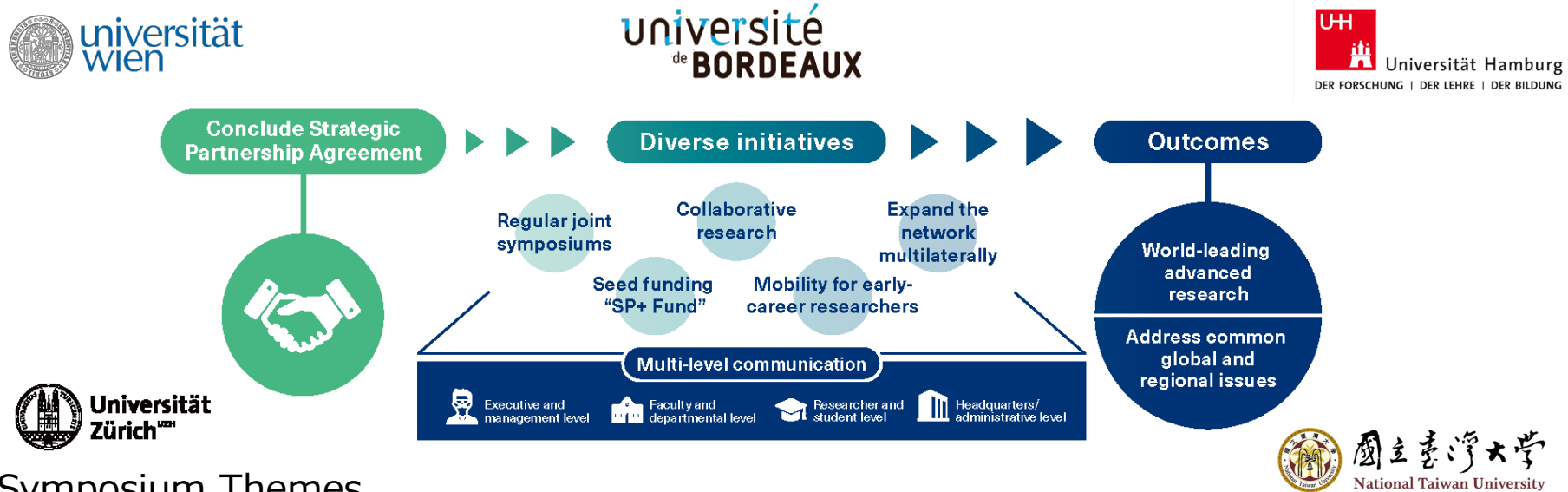
as of September 25, 2024

[FY of Approval]



Strategic Partnerships

Kyoto University has established strategic partnerships with world-leading academic institutions in order to pursue intensive cooperation and exchange to advance collaborative research and promote the development of new interdisciplinary fields.



- Joint Symposium Themes

Next Generation Partnership Through Multi-Dimensional Cooperating Approaches – Towards a Sustainable Future

Science in the Age of Challenges

Data Science and Social Impact

Global Health

Planetary Health

- SP+ Fund

General Program

Provides support for international collaborative research projects with SP institutions

ECR Program

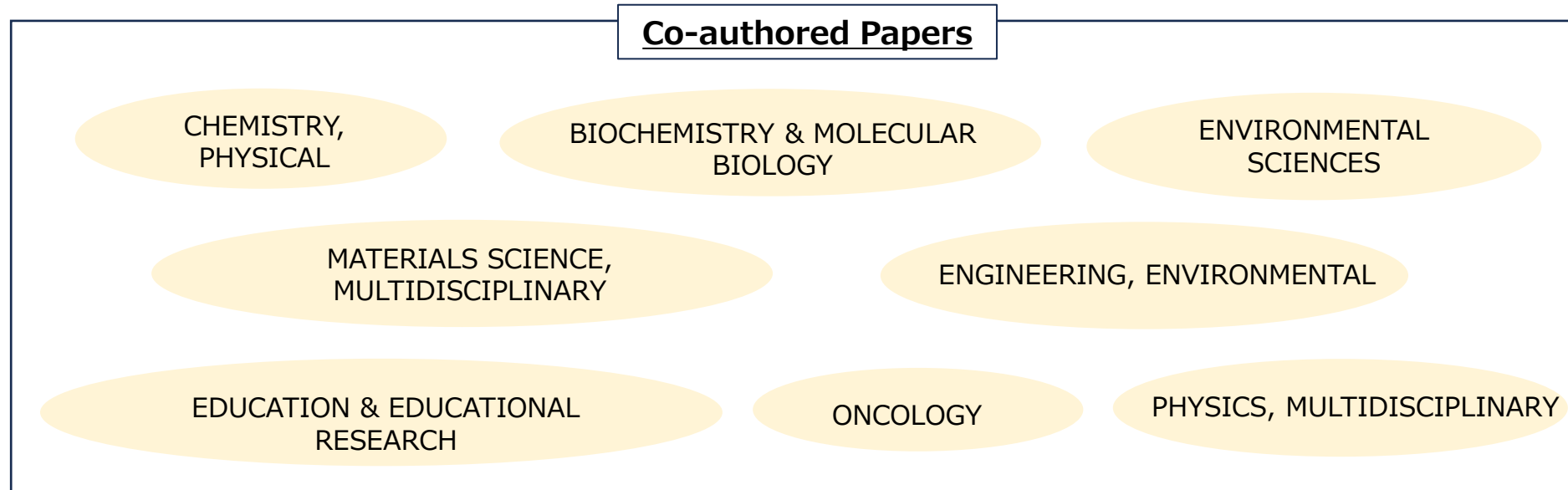
Provides travel expenses for dispatching early-career researchers to engage in research at SP institutions or to invite early-career researchers from SP institutions

Overseas Centers

Kyoto University has established three university-wide overseas centers and one liaison office as international hubs to support its international research, education, and exchange activities. The centers function as regional hubs and engage in activities that take advantage of the distinct characteristics of each region.



(For Reference) KU's Exchange Activities with Partners in Australia



Academic Exchange Agreements (MOU) and Student Exchange Agreements (SEA)

University-level MOU and SEA

Name of University	MOU	SEA
University of Queensland	1981	2012
University of Melbourne	1997	1997
University of New South Wales	1998	1998
University of Sydney	1999	1999
Australian National University	2008	2008
University of Adelaide	-	2018
Charles Darwin University	-	2020

Department-level MOU

KU Department	Partner Institution's Department	Concluded
Institute of Advanced Energy	Flinders University	1996
	Plasma Research Institute, Australian National University	1997
	School of Physics, University of Sydney	2001
Center for Southeast Asian Studies	Sydney Southeast Asia Centre, University of Sydney	2014
Wildlife Research Center	Australian Museum	2019
Graduate School/Faculty of Engineering	Royal Melbourne Institute of Technology	2020

Thank you for your Attention.

