

IBM Q Network Hub, Quantum Internet Task Force

Prof. Rodney Van Meter
Vice Chair Keio Quantum Computing Center
Keio University



IBM Q Network Hub @ Keio University

Keio Yagami Campus
Yokohama, Japan
(Keio Q Hub)



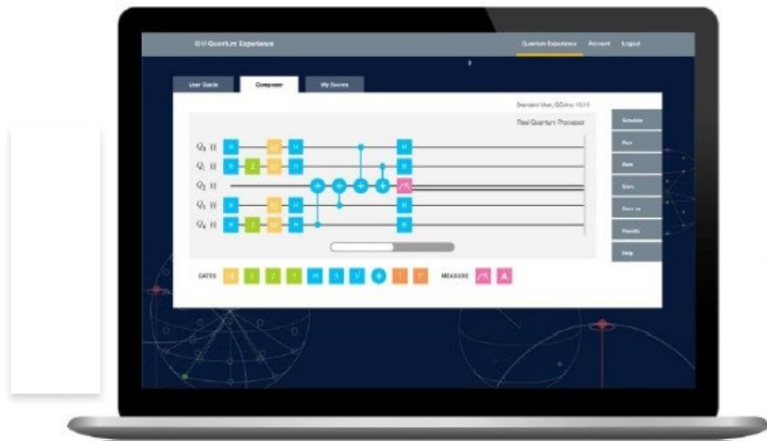
**Cloud quantum
computing**

IBM Watson Research
(New York)



Program

Results



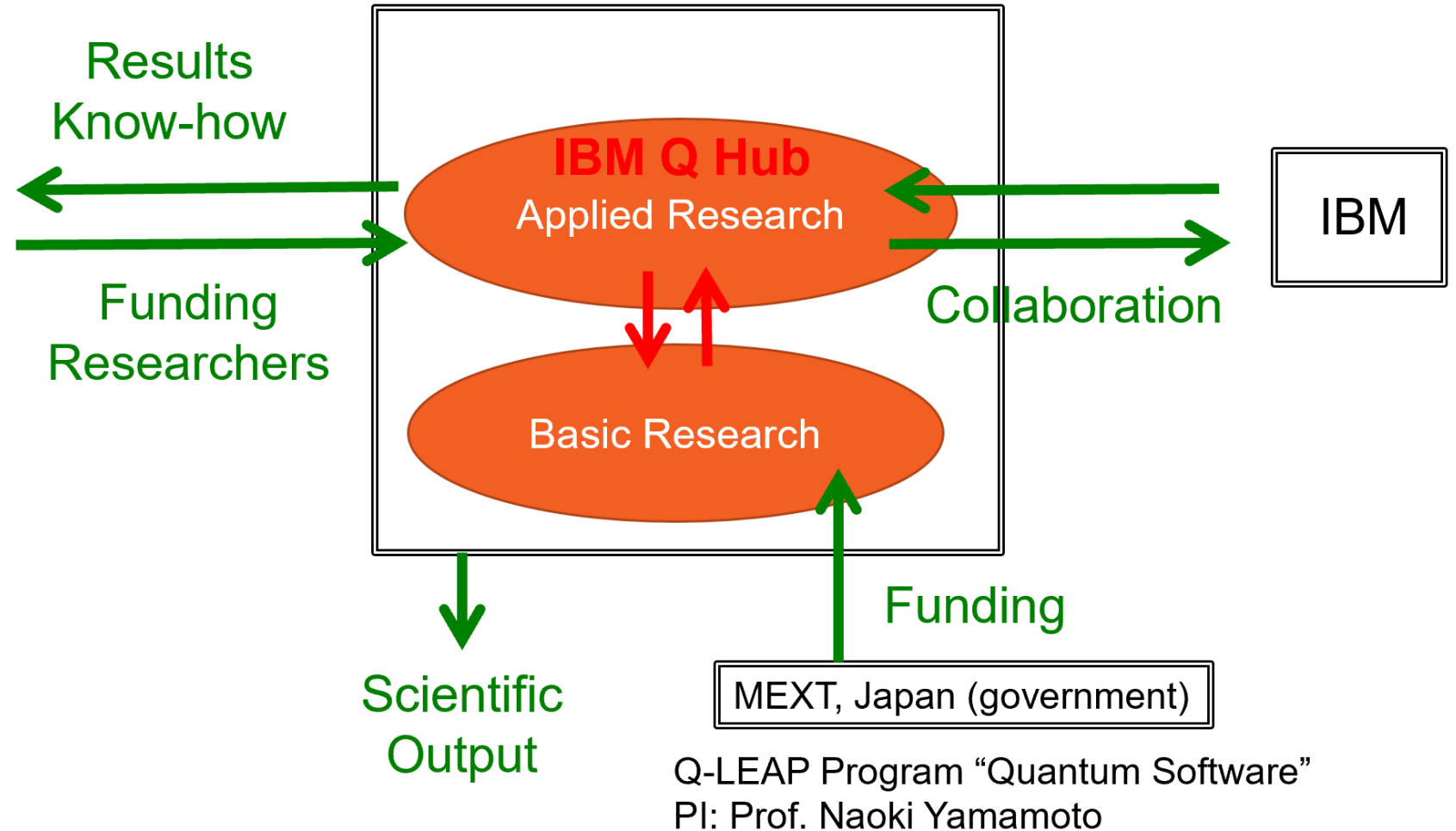
Keio Quantum Computing Center

(started May 2018)

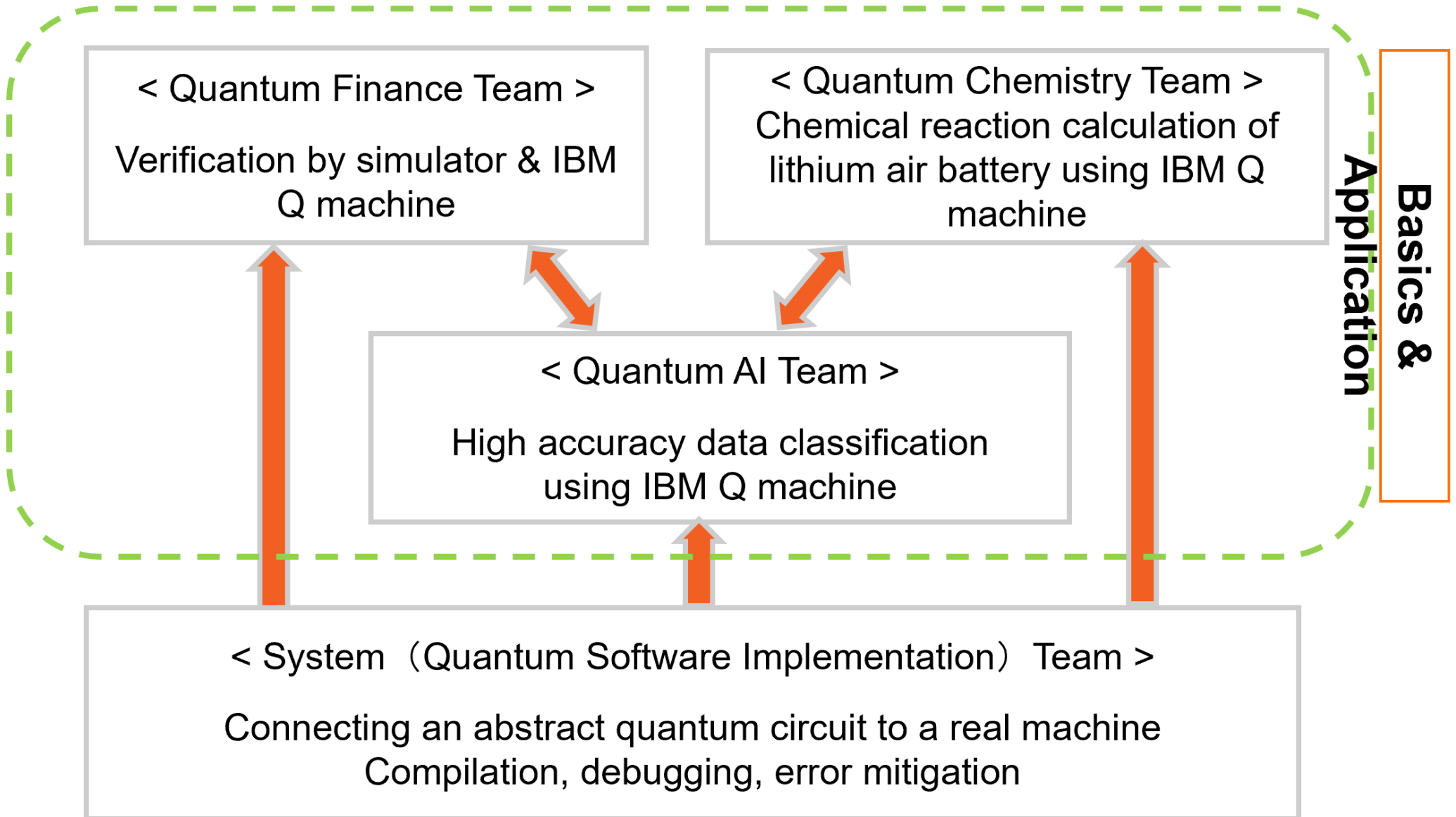
Member Companies



Keio Quantum Computing Center (KQCC)



Research topics at IBM Q Hub @ Keio

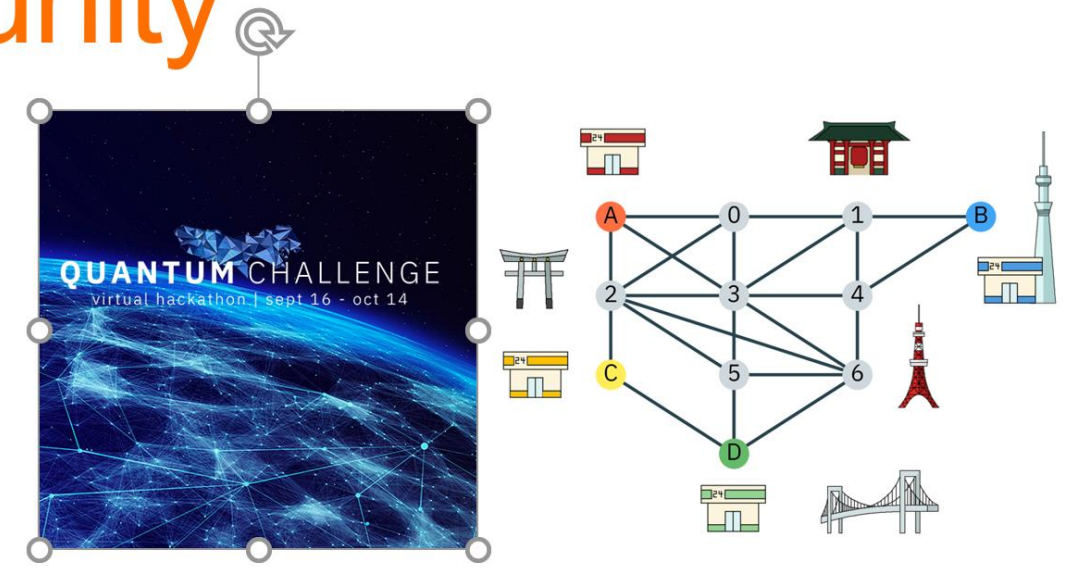


#QuantumNative Community

IBM Quantum Challenge 2019

Programming contest

- ✓ 700 participants
- ✓ Winner has come to Keio as Ph.D. student



東京を模した地図の塗り分けを量子コンピュータで解決

IBM Quantum Challenge 2020 Fall

- ✓ 3,000 participants
- ✓ Over half from India
- ✓ Indian Qiskit Advocate now at Keio as master's student



問題を解いてProf. Ryokoを量子世界から救出

Women Who Code, etc.

- ✓ Ph.D. student teaching quantum in WWC
- ✓ Master's student leading international group focusing on high school quantum education



#QuantumNative Education

Understanding Quantum Computers

MOOC(Massive open online course)

- ✓ H.S./ university freshman level
- ✓ Simple math
- ✓ 2017 start, 130 countries, 11000 participants
- ✓ English, Japanese, Thai, Indonesian
- ✓ Due to COVID-19, currently free



Future
Learn

Quantum Academy of Science & Technology

Government-sponsored (Q-Leap office)

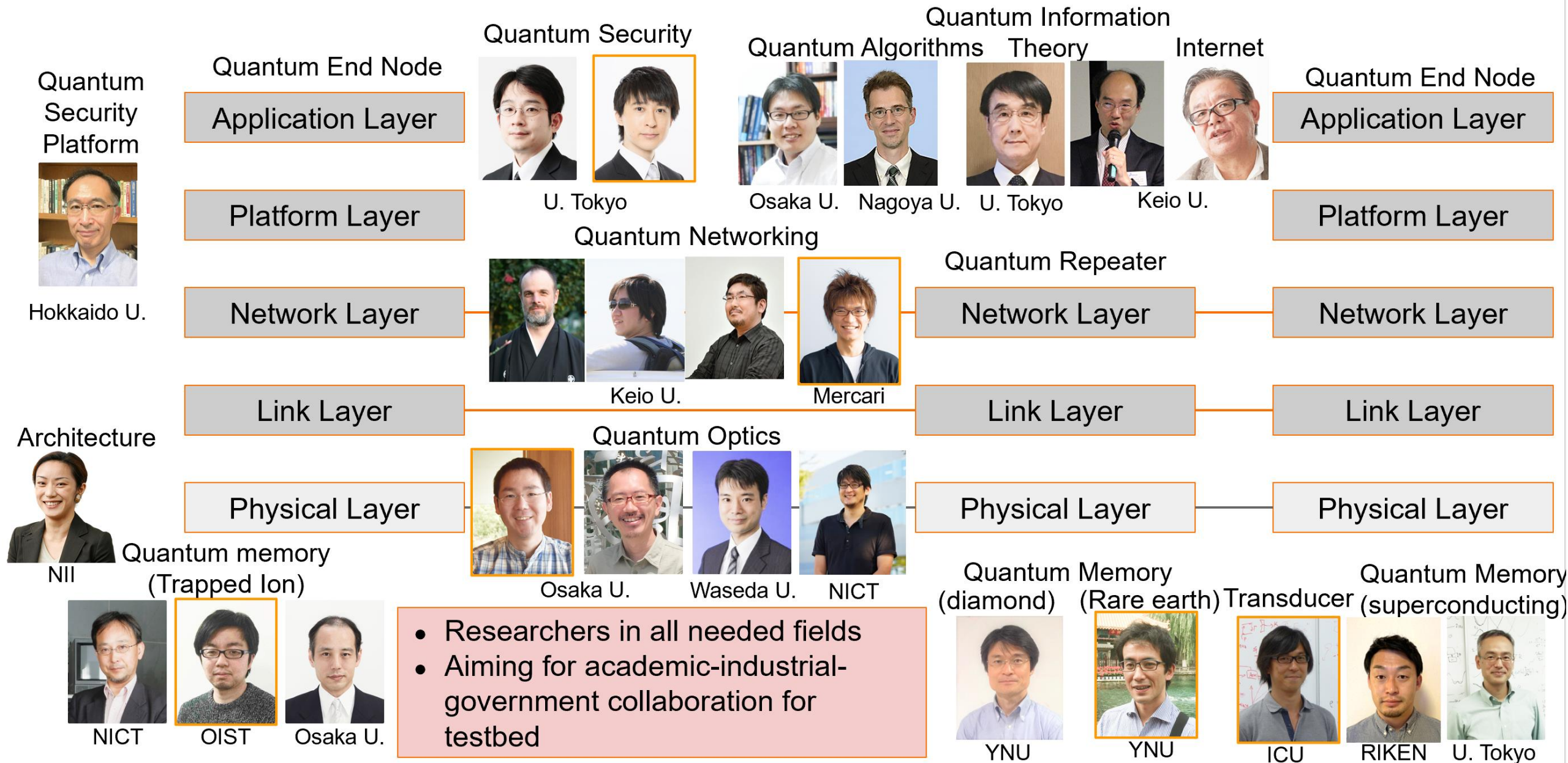
online undergraduate curriculum development

Headed by Prof. Kae Nemoto (NII)

Keio responsible for quantum communications



QITF Members



- Researchers in all needed fields
- Aiming for academic-industrial-government collaboration for testbed



We have created the Quantum Internet Research Group (QIRG) inside the Internet Research Task Force (IRTF). Co-chairs are Van Meter (Keio) and Kozlowski (TU Delft).

<https://www.irtf.org/mailman/listinfo/qirg>

<https://datatracker.ietf.org/rg/qirg/about/>

442 list members (as of 2021/07/06)