Building a Quantum Computer

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April 20, 2022(Wed) **9:00 – 10:00**(JST)

This talk will be recorded and made available for 10 days after the event.

The colloquium will be held **ONLINE**.
To receive the Zoom meeting ID and the announcements of future events, please **register in advance at**
https://forms.gle/bpG2etS1Qkyn796H9

Note: RQC, iTHEMS, R-CCS members do **NOT** have to register.

Nature allows the storage and manipulation of data in new and powerful ways using quantum mechanics. I will explain the basic concepts behind the exponential power of this technology and how to build a quantum computer using superconductors. I will show recent experimental data on a "quantum supremacy" experiment with 53 qubits: the Sycamore processor takes about 200 seconds to run a quantum circuit a million times – the equivalent task for a state-of-the-art classical supercomputer would take approximately 10,000 years. Finally, I will explain some of the future uses of quantum algorithms and what may be in store for the field in the next 10 years.