iTHEMS Colloquium

Topological phases of matter and operator algebras

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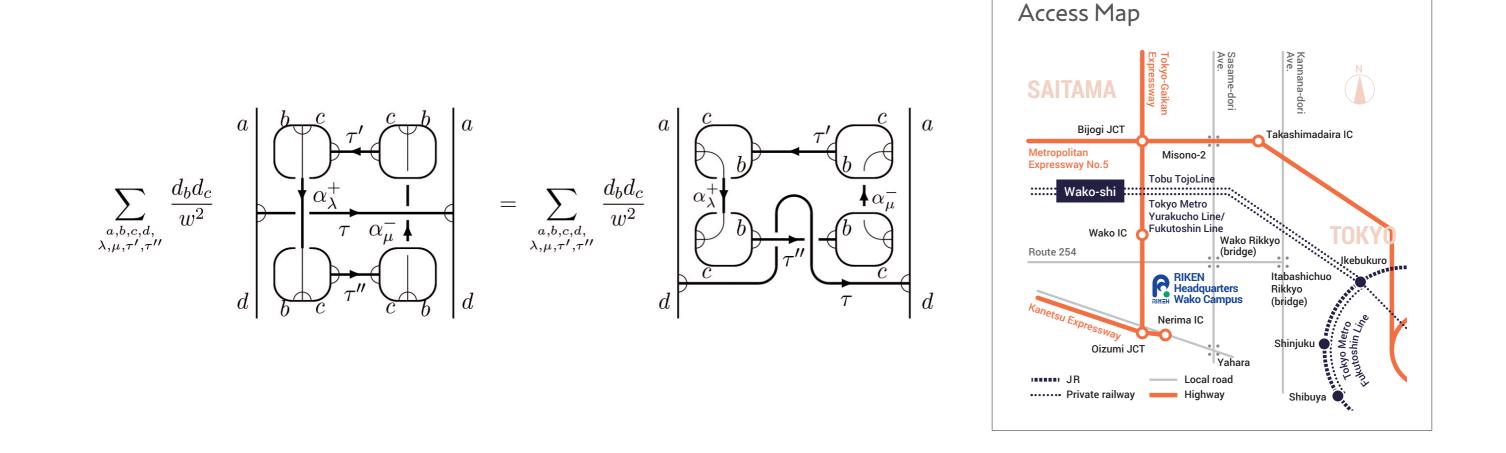### (The University of Tokyo)

2019 10/4 15:30 - 17:00

Okochi Hall Bldg. C32
RIKEN Wako Campus

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Topological phases of matter are hot topics in recent physics and related to a wide range of mathematical fields. I will talk about their aspects related to operator algebras. Our emphasis will be on theory of tensor categories which describe interactions of anyons. This theory plays an important role in topological quantum computations.
In theory of operator algebras, Jones initiated theory of subfactors and discovered the Jones polynomial, a new topological invariant for knots as an application. We apply this theory to mathematical studies of anyons.

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