Date: Friday, 5 March 2021

Time: 3:00pm – 4:00pm

Speaker: Professor Masahito Hasegawa (Kyoto University)

Venue: Zoom

Title: Traced monoidal categories and semantics of computation

Abstract: Traced monoidal categories were introduced by Joyal, Street and Verity in the 1990s. A trace on a (balanced) monoidal category can be thought of as a generalization of the notion of trace in linear algebra, but allows surprisingly many interpretations in various areas: the braid closure in knot theory, (quantum) traces in representation theory of quantum algebras, and feedback operators in control theory. In particular, traced monoidal categories became an important tool for theoretical computer scientists working on semantics of programming languages.

In this talk I explain this computer scientist view of traced monoidal categories, with emphasis on the relation to semantics of recursive programs. If time allows, I will address some open issues on traced monoidal categories.