

# Colloquium

University of Notre Dame  
Department of Mathematics

Kiyokazu Nagatomo - University of Osaka

**Speaker:** Kiyokazu Nagatomo

University of Osaka

**Will give a lecture entitled**  
Modular linear differential equations



**Date:** Tuesday, February 25, 2020

**Time:** 4:00 PM

**Location:** 229 Hayes-Healy Hall

**Departmental Tea:** Tea in Room 257 (lounge in Hurley Hall) at 3:30 p.m.

**Abstract:**

The notion of *modular linear differential equations* (MLDEs) first appeared in mathematics in the late 90's due to Y. Zhu who built the theory of conformal field theories over a family of elliptic curves in a mathematically rigorous way using the notion of vertex operator algebras. Since his theory is equivariant under the slash action of modular groups, the space of one-point functions are also invariant by the same action. This modular invariance is proved by using the fact that spaces of one-point functions are equal to the space of solutions of *monic* MLDEs. In this colloquium talk I will explain how MLDEs characterize several VOAs, like the minimal models, which are known in conformal field theory (CFT).