HARSHIT YADAV, University of Alberta
Rigidity of VOAs and their extensions

I will start by motivating the study of non-semisimple modular tensor categories (ns MTC) using logarithmic vertex operator algebras (log VOAs). Among the most well understood techniques of obtaining new log-VOAs is by VOA extensions. The categorical counterpart of VOA extensions is the local module construction. We prove that given a ns MTC and a suitable commutative algebra A, the category of local modules is a ns MTC. This generalizes the results of Kirillov-Ostrik. Applying our result to VOA extensions allows us to prove that the extension of strong rational (resp., finite) VOA is strong rational (resp., finite). This talk is based on joint works with Kenichi Shimizu, Thomas Creutzig and Robert Mcrae.