BOSTON UNIVERSITY GEOMETRY AND PHYSICS SEMINAR

THREE-MANIFOLDS, QUANTUM MODULAR FORMS AND LOG VOAS

Miranda Cheng
Academia Sinica/University of Amsterdam

Sep 15, 2021, **11-12pm**
Zoom link:
https://bostonu.zoom.us/j/93731959866?pwd=b2JaWTE1TkRPdEpXRXk0M1pPQkIzdz09
Please email Yu-Shen Lin (yslin0221@gmail.com) for password

Abstract: Quantum modular forms are, roughly speaking, functions that have certain weak modular properties. Mock modular forms and false theta functions are examples of holomorphic functions on the upper-half plane which lead to quantum modular forms. Generalising the Witten-Reshetikhin-Turaev invariants for three-manifolds which arise from Chern-Simons theory, a new topological invariant named homological blocks which arise from 6d SCFT have been proposed a few years ago. My talk aims to explain the recent observations on the quantum modular properties of the homological blocks, as well as the relation to logarithmic vertex algebras. The talk will be based on a series of work in collaboration with Sungbong Chun, Ioana Coman Lohi, Boris Feigin, Francesca Ferrari, Sergei Gukov, Sarah Harrison, Davide Passaro, and Gabriele Sgroi.

See `http://math.bu.edu/research/geom/seminar.html` or contact Yu-Shen Lin (*yslin@bu.edu*) or Siu-Cheong Lau (*lau@math.bu.edu*) for more information.