ICMS Seminar

September 14, 2021

ICMS, 4:30-5:30 pm,
Broadcasted through Zoom

Title: *The congruence property in two-dimensional rational conformal field theory, revisited*
Speaker: Vesselin Dimitrov, University of Toronto

Abstract: In a joint work with Frank Calegari and Yunqing Tang, we use methods from transcendental number theory to prove a conjecture that goes back to Atkin and Swinnerton-Dyer, in a special case, and generalized by Mason to the following form: A vector-valued modular form on SL(2,Z) whose components have q-expansions with bounded denominators are exactly the ones for which the underlying representation of SL(2,Z) has a finite image with kernel containing the congruence subgroup of matrices reducing to the identity modulo some positive integer N. In this talk, I will outline the basic ideas of the proof of the conjecture, describe the relation to mathematical physics and the representation theory of vertex algebras, and explain how our result in particular recovers a completely new proof of the so-called 'congruence property' in rational conformal field theory.

The lecture will be broadcasted through Zoom:

https://us06web.zoom.us/j/84203402868?pwd=QjIxamRxUU94RDN2bmNycjVmNFpmUT09

Meeting ID: 842 0340 2868
Passcode: 667064