Enumerative geometry of hyper-Kaehler varieties and modular forms

Abstract:
The enumerative geometry of curves on K3 surfaces is governed by modular forms. I will discuss a parallel connection between the enumerative geometry of hyper-Kaehler varieties and Jacobi forms. The case of genus 1 curves is particularly interesting and leads to the Igusa cusp form conjecture. In the last part I will explain recent work with Junliang Shen and Aaron Pixton which yields a proof of this conjecture.

Host: Dragos Oprea
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