

ENUMERATIVE GEOMETRY SEMINAR

Speaker: Leonardo Santilli
SIMIS

Time: Wed. Nov. 19th, 14:00 - 16:00

Venue: SCMS Room 102

Framed BPS invariants from M-theory with M5-brane defects

Abstract: I will introduce a new class of enumerative invariants and give a gauge theory computational framework to obtain them. I will study M-theory on a local Calabi-Yau threefold X decorated with M5-branes on non-compact divisors. I will show two derivations of the corresponding partition functions, which, conjecturally, provide the generating functions of virtual counts of framed torsion sheaves on X .

The first derivation is valid only for Calabi-Yau threefolds without compact divisors, but yields a closed-form expression. The second derivation is valid in general and stems from a 5d gauge theory computation of the partition function, leading to a new class of BPS counting invariants. Based on work in progress with Mauricio Romo.

