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Joint Harvard-CUHK-YMSC Differential Geometry Seminar

Higher rank DT theory from rank 1

Abstract: Fix a Calabi-Yau 3-fold X. Its DT invariants count stable bundles and sheaves on X. The generalised DT invariants of Joyce-Song count semistable bundles and sheaves on X. I will describe work with Soheyla Feyzbakhsh showing these generalised DT invariants in any rank r can be written in terms of rank 1 invariants. By the MNOP conjecture the latter are determined by the GW invariants of X. Along the way we also show they are determined by rank 0 invariants counting sheaves supported on surfaces in X. These invariants are predicted by S-duality to be governed by (vector-valued, mock) modular forms.

By

Professor Richard Thomas

Department of Mathematics
Imperial College London

Date: **November 10, 2021 (Wednesday)**

Time: **4:00pm – 5:00pm (Hong Kong Time)**

Zoom Link: https://cuhk.zoom.us/j/92132894296
(Meeting ID: 921 3289 4296; Passcode: 20211110)

All are Welcome