Mathematics and CS Seminar

Enumerative geometry: old and new

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Ever since people have studied geometry, they have counted geometric objects. For example, Euclid's Elements start with the postulate that there is exactly one line passing through two distinct points in the plane. The kinds of counting problems we are able to pose and to answer has grown significantly since then. Today enumerative geometry is a rich subject with connections to many fields, including combinatorics, physics, representation theory, number theory and integrable systems.In this talk, I will show how to solve several classical counting questions. I will then move to a more modern problem with roots in string theory which has been the subject of intense study for the last three decades: The computation of the Gromov-Witten invariants of the quintic threefold, an example of a Calabi-Yau manifold.

Thursday, March 5, 2020 10:00am - 11:00am
Mondi Seminar Room 2, Central Building