



## Mathematics and CS Seminar

# Quantum K-theory of flag varieties

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Host: Tamas Hausel

The Gromov-Witten theory studies enumerative invariants of a projective variety  $X$  through counting nodal curves, and gives a family of deformed multiplication structures on the cohomology of  $X$ , known as the quantum cohomology. For flag variety  $X=G/B$ , relations in its quantum cohomology may be obtained through studying the differential equations solved by the generating function known as the J-function, which in turn come from the Toda lattice system of the Langlands dual group of  $G$ . In the first part of this talk, we review the story above. In the second part of this talk, we discuss how much of it still holds in K-theoretic settings, where quantum K-theory will replace quantum cohomology, and difference equations will replace differential equations. Quantum K-theory arises naturally in the framework of 3D mirror symmetry, a duality between mirror holomorphic symplectic varieties.

**Thursday, October 31, 2024 01:00pm - 03:00pm**

Office Bldg West / Ground floor / Heinzl Seminar Room (I21.EG.101)



This invitation is valid as a ticket for the ISTA Shuttle from and to Heiligenstadt Station.

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