

# Representation Theory, Geometry & Combinatorics Seminar

Organizer: Mark Haiman & Nicolai Reshetikhin

Wednesday, 4:00–6:00pm, 939 Evans

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Mar. 1     **Constantin Teleman**, Cambridge

*The structure of two-dimensional topological field theories*

The (rational) Mumford conjecture describes the cohomology of the moduli space of Riemann surface, in the large genus limit, as the  $\mathbb{Q}$ -algebra freely generated by the “tautological” classes defined by Morita, Mumford and Miller. This conjecture (and its integral version) was established by Madsen and Weiss. In this talk, I will explain how their result leads to a classification of “2-dimensional cohomological Field theories” satisfying a variant of the Kontsevich-Manin axioms. A certain semi-simplicity assumption on the underlying theory is essential.

Interesting examples of such theories are provided by the Gromov-Witten invariants of compact symplectic manifolds. In that case, my classification confirms a conjecture of Givental’s about higher-genus GW invariants.