



*Institute of Mathematical Research
Department of Mathematics*

GEOMETRY SEMINAR

String structures and the Witten genus

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Abstract

This is an overview of an active area of research. String structures and the Witten genus are two mathematical notions that were first inspired by the study of quantum field theory. I will outline their known or conjectural interpretations in various contexts: (i) geometry of maps from a surface, (ii) geometry of loops, (iii) factorization algebras, and (iv) elliptic cohomology. If time allows, I will also outline their equivariant versions. The connections between said interpretations highlight some fascinating interactions between geometry, topology, number theory, representation theory and higher algebra.

Date: September 22, 2014 (Monday)

Time: 4:00 – 5:00pm

Place: Room 210, Run Run Shaw Bldg., HKU

All are welcome