



THE UNIVERSITY OF
CHICAGO

Departments of Mathematics and Statistics
ALGEBRAIC GEOMETRY SEMINAR

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Hodge Theory and Gromov-Witten Invariants

WEDNESDAY, May 21, 2014, from 4:30–6:00 PM

312 Eckhart Hall, 5734 S. University Avenue

ABSTRACT

The original mirror symmetry predictions of Gromov-Witten invariants of Calabi-Yau threefolds relied heavily on the behavior of a degenerating variation of Hodge structure near the boundary of Calabi-Yau moduli space. This led to a definition in the early 1990's of the “A-variation of Hodge structure”: a degenerating variation of Hodge structure directly constructed from the Gromov-Witten invariants themselves.

Recently, there have been advances in the physical study of the “A-model” (the physical theory leading to Gromov-Witten invariants), which have revealed that one aspect of the original definition of A-VHS needs clarification and modification. The modification involves the Gamma class, a characteristic class closely related to the Gamma function.

We will explain this modification, and discuss some interesting examples. If time permits, we will also describe the new physics calculation which directly leads to Gromov-Witten invariants without invoking a mirror.

Organizers:

For further information on this event, please email Lek-Heng Lim at lekheng@galton.uchicago.edu or Madhav Nori at nori@math.uchicago.edu.

UCAGS Seminar URL: <http://www.stat.uchicago.edu/~lekheng/ag.html>