FIELDS

THEMATIC PROGRAM ON **CALABI-YAU VARIETIES: ARITHMETIC, GEOMETRY AND PHYSICS**

Workshop 1: Modular Forms Around String Theory

ORGANIZERS **Charles Doran** (Alberta), **Matthias Schütt** (Hannover), **Noriko Yui** (Queen's)

September 16–20, 2013

FIELDS INSTITUTE, ROOM 230

Workshop 1: Modular Forms Around String Theory is devoted to the arithmetic aspects of Calabi-Yau varieties around string theory. The subjects of the workshop may be classified into not clearly disjoint sets of the following topics:

- Modular, quasimodular, mock modular, Siegel and Jacobi modular forms, and their appearance in string theory.
- Topological string theory, and modular forms.
- Modularity (automorphy) of Galois representations, and arithmetic questions.
- Mirror symmetry, mirror maps: arithmetic aspects.
- Conformal field theory, and possible relations to monstrous moonshine.
- Holomorphic anomaly equations.
- Picard–Fuchs differential equations and periods
- Wall-crossing formulas, Black holes, and Jacobi forms.
- Feynman diagrams and integrals.
- Toric geometry and applications to Calabi-Yau varieties.

CONFIRMED SPEAKERS

Philip Candelas (Oxford)
Adrian Clingher (Missouri at St. Louis)
Xenia de la Ossa (Oxford)
Charles Doran (Alberta)
Vasily Golyshev (Moscow)
Shinobu Hosono (Tokyo)
Steve Kudla (Toronto)
Andreas Malmendier (Colby College)
Sameer Murthy (NIKHEF, Amsterdam)
Boris Pioline (Jussieu)
Yongbin Ruan (Michigan)
Daqing Wan (UC Irvine)
Ursula Whitcher (Wisconsin, Eau Claire)
Don Zagier (MPIM Bonn & College de France)
Jie Zhou (Harvard)

THERE WILL BE A CONCENTRATED GRADUATE COURSE THE WEEK OF SEPTEMBER 9 IN PREPARATION FOR WORKSHOP 1.

THE SCHEDULE FOR THE CONCENTRATED GRADUATE COURSE AND FOR THE WORKSHOP AS WELL AS TITLES AND ABSTRACTS OF TALKS WILL BE POSTED ON THE PROGRAM WEBPAGE.

For more information, please visit:
www.fields.utoronto.ca/programs/scientific/13-14/calabi-yau

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