Submittee: Jim Carrell
Date Submitted: 2011-06-01 09:10
Title: Bellingham Algebraic Geometry Seminar
Event Type: Conference-Workshop

Location:
UBC

Dates:
March 5, 2011

Topic:
Recent advances in algebraic geometry

Methodology:
There were four one hour lectures with a fifteen minute question and discussion session after each talk. The lecture on March 4 was a departmental colloquium and hence was designed for a general audience, especially graduate students. There was also a significant amount of time set aside for participants to discuss mathematics with each other.

Objectives Achieved:
The Bellingham Algebraic Geometry Seminar (BAGS) has met semi-annually at Western Washington University for more than a decade. Its purpose is to allow faculty, post docs and grad students from UBC and the University of Washington to meet and interact on a mathematical level and to hear lectures from some of the world's leading experts in algebraic geometry. This meeting was held in Vancouver as parrt of an experiment to see if it is feasible to meet in Seattle and Vancouver once a year instead of Bellingham. The long border lineups are what prompted this experiment.

Scientific Highlights:
We had excellent lectures from Vincent Bouchard (UA), Shrawan Kumar (UNC, Chapel Hill), Greg Smith (Queen's U) and Sandor Kovacs (UW). Bouchard reported on the geometry of mirror curves and the "remodeling conjecture". Kumar reported on new results about the geometry of orbits of permanents and determinants. Smith discussed interesting new results on vanishing theorems and equations of embedded varieties.

Organizers:
Carrell, Jim - Math UBC Kovacs, Sandor - Math, UW

Speakers:
Gregory Smith (Queen's): Vanishing theorems and equations of embedded varieties. Abstract: Understanding the relationship between the algebraic equations that cut out a variety Y in X and the geometric features of the embedded variety Y lies at the heart of algebraic geometry. In this talk, we will discuss the key theorems when the ambient variety X is projective space. We'll then motivate and present new results designed for other ambient varieties. // Vincent Bouchard (Alberta): The geometry of mirror curves. Abstract: According to the "remodeling conjecture", the generating functions of Gromov-Witten invariants of toric Calabi-Yau threefolds are fully determined in terms of a topological recursion. At the origin of the recursion is the geometry of the corresponding mirror curves, obtained through the Hori-Vafa mirror symmetry recipe. In this talk I will describe the geometry of mirror curves and the remodeling conjecture. In particular, I will explain how the "pair of pants" decomposition of mirror curves plays an important role in the topological recursion, in mirror analogy to the topological vertex formalism on the Gromov-Witten side. // Shrawan Kumar (UNC): Geometry of orbits of permanents and determinants. For the abstract, please see http://www.math.washington.edu/~kovacs/bags/abstracts.htm

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Links:
http://www.math.washington.edu/~kovacs/bags/abstracts.htm
