



INFO SHEET

September 6, 2011

QUEEN'S UNIVERSITY AT KINGSTON
Department of Mathematics and Statistics
<http://www.mast.queensu.ca>

CALENDAR		
Friday, September 9	Conference Room Time: 10:30 a.m. Place: Jeffery 521	Ph.D. Oral Student: Daniel Cownden Title: Evolutionarily stable learning and foraging strategies Supervisor: P. D. Taylor
Monday, September 12	Seminar on Free Probability and Random Matrices Time: 4:30 pm – 6:00 pm Place: Jeffery 202	Speaker: Mike Brannan, Queen's University Title: On the von Neumann algebras associated to quantum permutation groups. Abstract Attached
Monday, September 12	Algebraic Geometry Seminar Time: 4:30 p.m. – 5:30 p.m. Place: Jeffery 319	Speaker: Gregory G. Smith, Queen's University Title: Log-concavity of asymptotic Hilbert series Abstract Attached
Wednesday, September 14	Special CYMS Seminar Time: 3:30 p.m. Place: TBA	Speaker: Ron Livne, Hebrew University, Israel Title: 2-dimensional Galois representations arising from non-congruence subgroups Abstract Attached
Thursday, September 15	Conference Room Time: 10:30 a.m. Place: Jeffery 521	Ph.D. Student: Karla Fox Title: A Framework for the Meta-Analysis of Survey Data Supervisors: T. Day & D. Steinsaltz
Monday, September 19	Conference Room Time: 9:30 a.m. Place: Jeffery 521	Ph.D. Student: Shifang Liu Title: Statistical Methods for Testing Treatment-Covariate Interactions in Cancer Clinical Trials Supervisor: D. Tu

Items for the Info Sheet should reach Anne (burnsa@mast.queensu.ca) by noon on Monday. The Info Sheet is published every Tuesday.

Monday, September 12, 4:30 p.m. Jeffery 202 Seminar on Free Probability and Random Matrices

Speaker: Mike Brannan

Title: On the von Neumann algebras associated to quantum permutation groups

Abstract: In this talk, we will give an intuitive introduction to the quantum permutation groups, and discuss some of their probabilistic and operator algebraic properties. In particular, we will focus on the reduced von Neumann algebras associated to these quantum groups. For $N < 5$, an explicit description of these von Neumann algebras is known. On the other hand, for N at least 5, very little is known about these von Neumann algebras. We will show that for N at least 8, these von Neumann algebras are II_1 factors (i.e., have trivial centre), which moreover have the Haagerup approximation property.

Monday, September 12, 4:30 p.m. Jeffery 319

Algebraic Geometry Seminar

Speaker: Gregory G. Smith

Title: Log-concavity of asymptotic Hilbert series

Abstract: We study the linear map sending the numerator of the multigraded Hilbert series of a module to that of its r -th Veronese submodule. We show that the limit as r tends to infinity exists and depends on the multidegree of the module and the underlying positively multigraded polynomial ring. We also give a polyhedral description for the limiting polynomial and prove that the coefficients are log-concave. This talk is based on joint work with Adam McCabe.

Wednesday, September 14, 3:30 p.m. Jeffery TBA

Special CYMS

Seminar

Speaker: Ron Livne

Title: 2-dimensional Galois representations arising from non-congruence subgroups

Abstract: 2-dimensional Galois representations of weight one over a number field can be constructed from elliptic curves or abelian varieties with endomorphism. Higher weight examples (say over the field \mathbb{Q} of rational numbers) can be attached to higher weight modular forms on congruence subgroups using Hecke operators.

Several people gave a finite number of constructions (over \mathbb{Q}) coming from congruence subgroups of $SL(2, \mathbb{Z})$. These constructions are all special cases of a construction analyzed by Atkin-Li-Long and others. We shall study this construction more systematically and see the scope of the examples that it yields. Over all the cyclotomic fields one gets a finite number of (infinite) families.