INFO SHEET

March 8, 2011

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

CALENDAR		
Wednesday, March 9	**Curves Seminar** **Time: 4:00 p.m. – 5:30 p.m.** **Place: Jeffery 319**	**Speaker:** Victor Lozovanu **Title:** Syzygies of algebraic varieties III **Abstract Attached**
Thursday, March 10	**Math Club** **Time: 5:30 p.m. – 6:30 p.m.** **Place: Jeffery 118**	**Speaker:** Valdo Tsanov **Title:** Soap-film surfaces **Abstract Attached**
Friday, March 11	**Number Theory Seminar** **Time: 11:30 a.m. – 12:20 p.m.** **Place: Jeffery 422**	**Speaker:** Michael Dewar, Queen's University **Title:** Making the infinite finite in modular forms with nebentypus **Abstract Attached**
Friday, March 11	**Department Colloquium** **Time: 2:30 p.m. – 3:30 p.m.** **Place: Jeffery 234**	**Speaker:** Tim Reluga, Penn State **Title:** Accounting for Individual and Community Interests in the Public-Health Management of Infectious Diseases **Abstract Attached**
Tuesday, March 15	**Seminar on Random Matrices and Free Probability** **Time: 4:30 p.m. – 6:00 p.m.** **Place: Jeffery 101**	**Speaker:** Tim Harris, Queen's University **Title:** The Largest Eigenvalue Distribution of a Wigner Random Matrix **Abstract Attached**

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

Wednesday, March 9, 4:00 p.m. Jeffery 319 **Curves Seminar**
Speaker: Victor Lozovanu
Title: Syzygies of algebraic varieties III

Abstract: We will discuss Hilbert's syzygy theorem for graded resolutions, and look at -------- several concrete examples.

Thursday, March 10, 5:30 p.m. Jeffery 118 **Math Club**
Speaker: Valdo Tsanov
Title: Soap-film surfaces

Abstract: If you dip a twisted (but closed up) wire into soap, it produces a soap-film surface whose boundary is the wire. This talk will explore this phenomenon and the related mathematical fact: every knot in three-space is the boundary of an orientable surface.

Friday, March 11, 11:30 a.m. Jeffery 422 **Number Theory Seminar**
Speaker: Michael Dewar
Title: Making the infinite finite in modular forms with nebentypus

Abstract: We give an introduction to modular forms with nebentypus and their fundamental operators. In particular, we show some practical ways to extract arithmetic information from the coefficients of modular forms. We will finish by proving Sturm's bound which reduces an infinite computation to a finite computation.

Friday, March 11, 2:30 p.m. Jeffery 234 **Department Colloquium**
Speaker: Tim Reluga
Title: Accounting for Individual and Community Interests in the Public-Health Management of Infectious Diseases

Abstract: In his history of the Peloponnesian war, Thucydides provides one of the earliest accounts of the devastation that infectious diseases can cause cities and communities. Despite 2000 years of advancement, infectious diseases continue to plague nations around the world. While vaccines and modern medicine have greatly reduced disease burdens in many parts of the world, pressures from growing human populations and microbial evolution are eroding our advances. Today, management problems are as much social as biological. In this talk, I'll describe some contemporary challenges we face in managing infectious disease, and how mathematical methods can help us understand these challenges. Using dynamical systems, Markov processes, and game theory, we can formulate and solve a rich variety of problems with practical applications related to vaccines, disease prevention and treatment, and public health in general. These methods are suitable for use throughout the field of ecological-economics.

Tuesday, March 15, 4:30 p.m. Jeffery 101
Seminar on Random Matrices and Free Probability
Speaker: Tim Harris
Title: The Largest Eigenvalue Distribution of a Wigner Random Matrix

Abstract: I will discuss the paper of Sinai and Soshnikov (1998) on the distribution of the eigenvalues at the edge of the spectrum of a Wigner random matrix.