**Undergraduate Calendar**

| **Wednesday, November 5** | **Department Meeting** | **Time:** 3:30 p.m.  
**Place:** Jeffery 234 | **Appointments Committee Meeting 3:30 p.m. to 4:00 p.m.**  
**Department Meeting to begin at 4:00 p.m.** |
|--------------------------|------------------------|-----------------------------|---------------------------------------------------------------------------------------------------|
| **Thursday, November 6** | **CYMS Seminar** | **Time:** 3:30 p.m.  
**Place:** Jeffery 319 | **Speaker:** Alexander Molnar, Queen’s University  
**Title:** Special values of our L-functions  
**Abstract Attached** |
| **Friday, November 7** | **Number Theory Seminar** | **Time:** 9:30 a.m.  
**Place:** Jeffery 422 | **Speaker:** Akshaa Vatwani, Queen’s University  
**Title:** Bounded gaps between primes à la Maynard (continued)  
**Abstract Attached** |
| **Friday, November 7** | **Department Colloquium** | **Time:** 2:30 p.m.  
**Place:** Jeffery 234 | **Speaker:** Oleg Bogoyavlenskij, Queen’s University  
**Title:** A family of solution to the Arnold’s 1965 problem  
**Abstract Attached** |
| **Friday, November 7** | **Graduate Seminar** | **Time:** 4:00 p.m.  
**Place:** Jeffery 319 | **Speaker:** Philipp Mascher  
**Title:** Statistical learning Theory – Is Learning Feasible  
**Abstract Attached** |
| **Monday, November 10** | **Algebraic Geometry Seminar** | **Time:** 4:30 p.m.  
**Place:** Jeffery 319 | **Speaker:** Andrew Fiori, Queen’s University  
**Title:** Dimension formulas for modular forms on orthogonal locally symmetric spaces  
**Abstract Attached** |
| **Tuesday, November 11** | **Remembrance Day Services** |  | **Classes cancelled 10:30 a.m. – 11:30 a.m.** |

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

**Thursday, November 6, 3:30 p.m. Jeffery 319**

**CYMS Seminar**

*Speaker:* Alexander Molnar  
*Title:* Special values of our L-functions

**Abstract:** We begin the treacherous computation of special values of the L-functions attached to our rational models of the threefolds as well as the respective models of the intermediate Jacobians, in order to compare them.
Friday, November 7, 9:30 p.m. Jeffery 422  
Number Theory Seminar  
Speaker: Akshaa Vatwani  
Title: Bounded gaps between primes à la Maynard (continued)  

Abstract: Last time we discussed the GPY sieve method and stated Maynard's main theorem. We will now present an outline of the proof.

Friday, November 7, 2:30 p.m. Jeffery 234  
Department Colloquium  
Speaker: Oleg Bogoyavlenskij  
Title: A family of solutions to the Arnold’s 1965 problem  

Abstract: We will discuss: (a) what is the Arnold’s 1965 problem, (b) why it is important, (c) why it was not solved during 49 years and (d) how it is solved now, in November 2014.

The talk concerns 3-dimensional dynamical systems describing dynamics of an ideal fluid and connected with exact solution to the Euler equations of hydrodynamics.

Friday, November 7, 4:00 p.m. Jeffery 319  
Graduate Seminar  
Speaker: Philipp Mascher  
Title: Statistical Learning Theory – Is Learning Feasible?  

Abstract: Given some data input and respective labels, we will ask the question: can we construct an algorithm that allows us to correctly classify new data?

We will discuss the meaning of "learning" in a computational framework and introduce the principle of Empirical Risk Minimization developed by Vapnik and Chervonenkis. The ERM principle will lead us to study the VC dimension of a class of functions, and finally, to a formulation of our results about learning in terms of the latter.

Monday, November 10, 4:30 p.m. Jeffery 319  
Algebraic Geometry Seminar  
Speaker: Andrew Fiori  
Title: dimension formulas for modular forms on orthogonal locally symmetric spaces  

Abstract: This talk will be a status report on a long term project on which I have been working. The goal of the project is to find dimension formulas for spaces of modular forms on Shimura varieties of orthogonal type. Rephrased geometrically, we wish to find the dimensions for the spaces of global sections of the bundles $O(k)$ for certain natural moduli spaces (for example: K3-surfaces +additional structures). The strategy we employ is to directly use the Hirzebruch-Riemann-Roch formula. However, as we do not know how to compute any of the Chern classes of our variety, we must find other means to allow us to evaluate the universal formula which the Hirzebruch-Riemann-Roch theorem gave us. This talk will summarize what we have been able to do. In particular, we will

- introduce the variety and line bundle we wish to study;
- explain how we use various tools (Hirzebruch-Mumford proportionality, logarithmic Chern classes, toric varieties, Leray spectral sequence, projection formula, cohomology and base change, etc.) to formally massage the Hilbert polynomial, into terms we can hope to understand;
- explain the shape of the formula we expect to obtain in the general case; and
- discuss the difficulties which still remain.