## Seminars and Colloquia

### February 20–24, 2012

**Bridge to Research Seminar**
- **Monday, February 20**
  - **Dr. Carl Cowen, Purdue University**
  - “What is a Composition Operator?”
  - 4:30 P.M.  
  - REC 123

**Commutative Algebra Seminar**
- **Monday, February 20**
  - **Dr. Kuei-Nuan Lin, University of California, Riverside**
  - “The Defining Equations of Rees Algebras of Square-free Monomial Ideals”
  - 4:30 P.M.  
  - MATH 211

**Geometric Analysis Seminar**
- **Monday, February 20**
  - **Professor Tam Nguyen, University of Chicago**
  - “Finite Volume, Negatively Curved Manifolds”
  - 4:30 P.M.  
  - MATH 731

**Operator Algebras Seminar**
- **Tuesday, February 21**
  - **Mr. Steve Avsec, UIUC**
  - “A Characterization of Noncommutative Brownian Motion”
  - 2:30 P.M.  
  - MATH 731

**Probability Seminar**
- **Tuesday, February 21**
  - **Professor Rodrigo Bañuelos, Purdue University**
  - “Sharp Estimates for Lévy-Fourier Multipliers”
  - 3:30 P.M.  
  - REC 121

**Finite Generation of the Canonical Ring Seminar**
- **Wednesday, February 22**
  - **Professor Kenji Matsuki, Purdue University**
  - “Proof of Theorem A, Following the Outline of the Oversimplified Case”
  - 1:45 P.M.  
  - MATH 731

**GMIG Seminar**
- **Wednesday, February 22**
  - **Fang Wang, Princeton**
  - “Dirichlet-to-Neumann Map for Poincare-Einstein Metrics”
  - 2:30 P.M.  
  - UNIV 101

**WAGS Seminar**
- **Wednesday, February 22**
  - **Antonio Lerario, Purdue University**
  - “Systems of Quadratic Inequalities”
  - 3:30 P.M.  
  - MATH 731

**Student Colloquium**
- **Wednesday, February 22**
  - **Ms. Katia Vogt Geisse, Purdue University**
  - 4:30 P.M.  
  - BRNG 1230
### Student Commutative Algebra Seminar

**Wednesday**

**February 22**

Jacob Boswell, Purdue University  
“Tight Closure and its Applications: Introduction and First Concepts #6”  
4:30 P.M.  

**NOTE: UNUSUAL DAY**

### Automorphic Forms and Representation Theory Seminar

**Thursday**

**February 23**

Professor Enrique Treviño, Swarthmore College  
“The Least Quadratic Non-Residue and Related Problems”  
1:30 P.M.

### PDE Seminar

**Thursday**

**February 23**

Professor Donatella Danielli, Purdue University  
“Optimal Regularity and the Free Boundary in the Parabolic Signorini Problem”  
3:30 P.M.

### Algebra and Algebraic Geometry Seminar

**Thursday**

**February 23**

Professor Wenhua Zhao, Illinois State University in Normal, Illinois  
“Mathieu Subspaces”  
4:30 P.M.

### Topology Seminar

**Thursday**

**February 23**

Professor Mike Mandell, IU  
“Quillen Cohomology of Operadic Algebras and Obstruction Theory”  
4:30 P.M.

### Student Noncommutative Topology Seminar

**Friday**

**February 24**

Mr. Taylor Hines, Purdue University  
“An Introduction to KK-Theory: Functorial Properties, Homotopy Invariance and Cobordism”  
11:30 A.M.

### Applied Math/Mathematical Biology Seminar

**Friday**

**February 24**

Julia Arciero, IUPUI  
“Using a Two-dimensional Continuum Mechanical Model to Predict Collective Cell Migration”  
3:30 P.M.

### Computational & Applied Mathematics Seminar

**Friday**

**February 24**

Professor Gao-Feng Zheng, Central China Normal University and Purdue University  
“Some Blow-Up Problems for a Semilinear Parabolic Problem”  
3:30 P.M.

### 4-Manifolds Seminar

**Friday**

**February 24**

Urs Fuchs, Purdue University  
“Realization of Intersection Forms and Characteristic Classes of Complex Surfaces”  
4:30 P.M.

### Number Theory Seminar

**Friday**

**February 24**

Alejandra Alvarado, Purdue University  
“On Square Values of Quadratics”  
4:30 P.M.