The Department of Mathematics weekly seminar series. Math Talks is open to all KSU faculty, students, and invited visitors to present any math or math-related topic. Seminars typically require little or no advanced mathematical knowledge are open to anyone.

*Unless specified otherwise, seminars are held Thursdays 12:30-1:45 pm in MS 109.

Thursday, April 18, 2013
- **Speaker:** Niko laos Kidonakis, Kennesaw State University
- **Title:** Symmetry Breaking and the Higgs Field
- **Abstract:** Learn about the discovery of the Higgs boson and what we are to expect from future experiments in CERN.

Thursday, April 11, 2013
- **Movie:** We will be showing Sphereland, the sequel to Flatland
  - **Description:** A young scientist from the 2nd Dimension must solve mathematical mysteries to save a doomed space mission and discover the true shape of her universe. The movie features the voices of Kristen Bell, Michael York and Danica McKellar. The movie is based on the 1965 novel by Dionys Burger.

Thursday, April 4, 2013
- **Speaker:** Dr. Teresa Banker, Kennesaw State University
- **Title:** Patterns in Multiples

Thursday, March 28, 2013
- **Speaker:** Dr. Yuliya Babenko, Kennesaw State University
- **Title:** When Zombies attack, or A Mathematical Model of a Doomsday Scenario
  - **Abstract:** In this talk we will present a model of a zombie attack, using biological assumptions based on popular zombie movies. We begin with analysis of a basic model for zombie infection, determine equilibria and their stability, and illustrate the outcome with numerical solutions. We then further refine the model to introduce a latent period of zombification (when humans are infected, but not infectious) before becoming undead. We then modify the model to include the effects of possible quarantine or a cure. Finally, we examine the impact of regular, impulsive reductions in the number of zombies and derive conditions under which eradication can occur. We show that only quick, aggressive attacks can save human kind from a doomsday scenario: the collapse of the society as zombies overtake us all. Talk is based on the work “WHEN ZOMBIES ATTACK! MATHEMATICAL MODELING OF AN OUTBREAK OF ZOMBIE INFECTION” by Munz, Hudea and Smith in Infectious Disease Modeling Research Progress, Editors: J.M. Tchuenche and C. Chiyaka, 2009, pp. 133-150.

Thursday, March 21, 2013
- **Speaker:** Dr. Lewis VanBrackle, Kennesaw State University
- **Title:** How I Spent My Sabbatical Leave
  - **Abstract:** During fall semester 2012, I was on a CETL sponsored sabbatical leave working with the WellStar Center for Nursing Excellence. I will briefly review the projects I was involved in and then present in more detail the results from one project, “Using a Validated Predictive Algorithm to Identify Patients at High Risk for Hospital Readmission”.
Thursday, March 14, 2013

- Speaker: Dr. Ron Gould, Goodrich C. White Professor, Emory University
- Title: Hunting For The Dreaded Chorded Cycle
- Abstract: There are many results in graph theory that provide sufficient conditions for the existence of cycles, or cycles containing specified sets of vertices and/or edges. But there have been few results that give sufficient conditions for finding cycles with chords, where a chord is an edge between two vertices of the cycle that is not itself an edge of the cycle. In this talk we consider a number of new results for finding cycles with at least one chord, or with at least some specified number of chords.
- Bio: Dr. Gould is a distinguished professor of mathematics at Emory University and currently teaches Combinatorics II. His research interests include extremal graph theory, Hamiltonian theory, paths and cycles, matching, and graph decompositions. He earned his Ph.D. in Mathematics and M.S. in Computer Science from Western Michigan University; he earned his B.S. in Mathematics at State University of New York (SUNY) at Fredonia. Accolades include 2010 Cumberland Conference dedication in St. Louis, three Teaching Awards from the MAA, Emory, and Western Michigan, and two Alumni awards from SUNY and Western Michigan. He has directed more than fifty students for their honors, masters, and Ph.D. theses. He has received over twenty research grants and has authored two books, two book chapters, a book review, and over 150 research publications. This will be his 155th talk/invited lecture.

Thursday, February 28, 2013

- A documentary on Fermat’s Last Theorem
- Description: This is a story of Andrew Wiles and his 7-year journey to solve a 300 year old puzzle.

Thursday, February 21, 2013

- Speaker: Prof. Charles Koppelman, Kennesaw State University
- Title: Non-Euclidean Geometry – A Strange Universe

Thursday, February 14, 2013

- Speaker: Dr. Bo Yang, Kennesaw State University
- Title: Estimating the prime-counting function \( \pi(x) \)

Thursday, February 7, 2013 — SPECIAL TIME AND LOCATION

- Speaker: Dr. Jonathan Lewin, Kennesaw State University
- Title: A Simple Proof that Order Topology is T5
- Time/Location: 12:45-1:45 pm in CL 1003

Thursday, January 31, 2013

- Speaker: Dr. Yuliya Babenko, Kennesaw State University
- Title: LaTeX Workshop
- Abstract: LaTeX is a free software that offers automation of most aspects of typesetting and desktop publishing, including numbering and cross-referencing, tables and figures, formulas, page layout, bibliographies, and much more. Come and learn how to type your homeworks, papers, and presentations in a professional, beautiful, and efficient way!

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Thursday, January 24, 2013

- Speaker: Dr. Yuliya Babenko, Kennesaw State University; Dr. Mari Castle, Kennesaw State University; Dr. Joe DeMaio, Kennesaw State University; Dr. Phillipe Laval, Kennesaw State University; and Dr. Eric Westlund, Kennesaw State University
- Title: Mathematics Research Panel
- Abstract: Join us to learn more about:
  - Current research in the department of mathematics & statistics
  - Expectations and requirements for student research
  - Why do research
  - What research in mathematics could be
  - Other opportunities (REU’s, summer programs etc.)
  - Outlets to present work

Thursday, November 1, 2012

- A video of a lecture by Dr. William Dunham, Muhlenberg College
- Title: A Tribute to Euler
Thursday, October 25, 2012

• Speaker: **Bruce Thomas**, Kennesaw State University  
  • Title: *Mathematics and the Presidents of the United States*

Thursday, October 18, 2012

• Speaker: **Liancheng Wang**, Kennesaw State University  
  • Title: *An HIV Model with RT Treatment*

Thursday, October 11, 2012

• Speaker: **Ken Keating**, Kennesaw State University  
  • Title: *A Brief Introduction to the Putnam Competition*  
  • Abstract: The Putnam Competition is widely considered to be one of the toughest math competitions in the world. This presentation will provide an introduction to the competition, including a brief history and some sample problems. Then the audience will be challenged with a couple questions from recent exams. So, bring your pencils and paper, and don’t forget your thinking caps!

Thursday, October 4, 2012

• A video of a lecture by Dr. Terence Tao, UCLA  
  • Title: *Structure and Randomness in the Prime Numbers*

Thursday, September 27, 2012

• Speaker: **Dr. Sherry Ni** and team  
  • Title: *Managing the Flu Season*  
  • Abstract: The students who participated in the SAS Data Mining Shootout in the past summer will present their work and experience.

Thursday, September 20, 2012

• Speaker: **Chui-Jie Wu**, Dalian University of Technology, China  
  • Title: *Elimination of vortical wakes with traveling wavy wall*  
  • Abstract: In this talk, we discuss the physics, computational method, and results of 2D and 3D flow control with traveling wavy wall. The study was started at UTSI 24 years ago and continued till now. In the talk, two flow control examples will be shown in detail. They are the flow control of the wake of 2D cylinder, and elimination of 3D vortical wakes of a wavy ray. The most up-to-date results obtained 10 days ago will be shown.

Thursday, September 6, 2012

• Speakers: **Dr. Yuliya Babenko**, Kennesaw State University; **Dr. Mari Castle**, Kennesaw State University; **Dr. Anda Gadidov**, Kennesaw State University  
  • Title: *KWIM – an introduction, upcoming events, and information about graduate school*