Session I-A: Graduate Student Talks (Anderson Hall 102)

2:00  *Principles of Graph Cuts and Their Applications to Image Segmentation and Object Detection*
Taposh Biswas, Delaware State University

2:18  *Joint Shape and Appearance Features for Registration of Remote-Sensing Imagery*
Azubuike Okorie, Sokratis Makrogiannis (PhD), Delaware State University

2:36  *Mathematical model for biofilm growth*
Yilin Wu, Temple University

2:54  *Asynchronous algorithms*
Xinli Yu, Temple University

Session I-B: Graduate Student Talks (Anderson Hall 105)

2:00  *On the Moduli Spaces of Metrics with Nonnegative Sectional Curvature*
McFeely Jackson Goodman, University of Pennsylvania

2:18  *Survey of weak hyperbolicity in groups*
Thomas Ng, Temple University

2:36  *Observations on the adjoint representation of Hopf algebras*
Ramy Yammine, Temple University

2:54  *Every finite division ring is a field*
Huilin Chen, Temple University
Session I-C: Graduate Student Talks (Anderson Hall 107)

2:00  Convergence Rates of Spectral Distribution of Random Inner-Product Kernel Matrices
      Nayeong Kong, Temple University

2:18  Be There or Be the Sum of Two Squares
      Brandi Henry, Temple University

2:36  The whole is greater than the sum of its parts. Generating function.
      Khanh Le, Temple University

2:54  On Fibering 3-manifolds
      Isaac Craig, Bryn Mawr

Session I-D: Graduate Student Talks (Anderson Hall 108)

2:00  On Godel's Incompleteness Theorems
      Zachary Cline, Temple University

2:18  Cosmetic Surgery Conjecture
      Timothy Morris, Temple University

2:36  Nanopteron-stegoton traveling waves in mass and spring dimer Fermi-Pasta-Ulam-Tsingou lattices
      Timothy Faver, Drexel University

2:54  A table of definite integrals from the marriage of power and Fourier series
      James Rosado, Temple University
Session II-A: Undergraduate Student Talks (Anderson Hall 23)

2:00  Finding a Sum using Lots of Calc and a Little Complex  
      John Kampmeyer, Elizabethtown College

2:12  Zero Knowledge Proofs  
      Taylor Stefovic, Elizabethtown College

2:24  Improvements to Correlation Attacks Against Non-Linear Combiners  
      Brian Stottler, Elizabethtown College

2:36  A Simple Probability Paradox  
      Angela Wesneski, Elizabethtown College

2:48  Diophantine Approximations of Romik Systems  
      Dan DeRemigi, Muhlenberg College

3:00  Analysis of the spread of vector borne diseases with delay differential equations  
      Yusuf Qaddura, Swarthmore College

Session II-B: Undergraduate Student Talks (Anderson Hall 24)

2:00  Integers Who Can be Written as the Sum of Two Squares  
      Eric Albers, Temple University

2:12  An Algebraic Analysis of Impossible Constructions in Euclidean Geometry  
      Sujay Rajkumar, Temple University

2:24  Achieving incompleteness with self-reference  
      Nart Shalqini, Franklin and Marshall College

2:36  The Monty Hall Problem  
      Fangzhou Wei, Franklin&Marshall College

2:48  The Shape of a Mirror  
      Anton Arapin, Franklin and Marshall College

3:00  The Königsberg Bridge: A Puzzle from Graph Theory  
      Yu Wan, Franklin and Marshall College
Session II-C: Undergraduate Student Talks (Anderson Hall 25)

2:00    Coloring the Integers
        Shannon Golden, Kutztown University of Pennsylvania

2:12    Sprague-Grundy Numbers of a Game with Dominoes
        Emily Thomas, King's College

2:24    The Koch Axiom System
        Dylan Koch, King's College

2:36    Axiom System Project
        Noelle Fromuth, King's College

2:48    My Axiom System
        Kelsey Gabriele, King's College

3:00    My Axiom System
        William Cameron, King’s College

Session II-D: Undergraduate Student Talks (Anderson Hall 26)

2:00    For m = 2, there is no perfect s-bases in finite cyclic group G for s = 2, and s= 2, 3(mod4)
        Tianyi Wang, Gettysburg College

2:12    Characterizing subsets of abelian groups with size $\chi(G,h)-1$
        Emma Gruner, Gettysburg College

2:24    The minimum sumset size of restricted sumsets with limited number of terms
        Zijun "Candice" Kong, Gettysburg College

2:36    Braid Groups and Free Groups
        Aidan Lorenz, Temple University

2:48    Algebras and their Deformations
        Matthew Wynne, Temple University
Session II-E: Undergraduate Student Talks (Anderson Hall 27)

2:00  *Modelling the Mediterranean: Pycnoclines and Plankton*  
Levi C Nicklas, Shippensburg University

2:12  *Euler's Exotic Infinite Series*  
Jonathan Oster, Penn State Harrisburg

2:24  *Optimal Batting Order in Baseball*  
Ronald Berna, Villanova University

2:36  *Turning Against One Another: An Analysis of Socioeconomic Inequality and Hate Crime*  
Shantel Silva, Villanova University

2:48  *The Kelly Criterion 2.0*  
Tasha Boland, Villanova University

Session II-F: Undergraduate Student Talks (Anderson Hall 28)

2:00  *Multi-commodity Flows in Planar Graphs*  
Yingzi Wang, Arcadia University

2:12  *The Math of Machine Learning*  
Terrell Nowlin, Temple University

2:24  *Idea to Reality: Starting a Student Organization*  
Sarah Connahan, Temple University

2:36  *Non-Newtonian Fluids: Thixotropic Flow and Coiling*  
Joe Azzarano, Gwynedd Mercy University

2:48  *Mandelbrot Set*  
Robert DiPierro, Gwynedd Mercy University