NEW COLLEAGUE SESSION ABSTRACTS
University of Scranton
26 April 2014

LOCATION: PNC Auditorium, LSC 133

1:30pm   Kathleen Ryan, DeSales University

TITLE: *Degree Sequences of Partial 2-trees*

ABSTRACT: The concept of characterizing the degree sequences of graphs is natural in graph theory. In 2008, Bose, Dujmović, Krizanc, Langerman, Morin, Wood, and Wuhrer characterized the degree sequences of 2-trees. In this talk, we extend their results to partial 2-trees. We also discuss how our search for the degree sequences of partial 2-trees originated from a related edge-coloring problem.

1:50pm   Shannon Talbott, Moravian College

TITLE: *Visualizing Algebras With Directed Graphs*

ABSTRACT: Representation theory is an important branch of mathematics where abstract objects are examined more concretely as linear transformations on vector spaces. Quivers are directed graphs which give a convenient visualization of finite dimensional algebras as well as a combinatorial framework for the study of representations of certain finite dimensional algebras. Erdmann and Skowronski classified all algebras of dihedral type of polynomial growth, which can be visualized by eight different quivers. In this talk, we will give a short introduction to quivers and explore the representation theory of some of these quivers.

2:10pm   Brittany Shelton, Albright College

TITLE: *Performing magic in the classroom*

ABSTRACT: Want to see a magic trick? Holding any nine cards in my hand from a standard deck of 52 and performing a few moves, I can make a card reappear on top. More impressively, by following my instructions, every audience member will perform the same magic with a completely different set of nine cards. In this talk I will give an explanation of how and why this card trick works for any nine cards. I will also explain how the trick can be used as an introduction or reinforcement of the study of permutations. A slight modification of the trick can be used to discuss modular arithmetic. This is an exciting way to engage students in two fundamental concepts in an abstract algebra course.