



Title: Intersecting families of permutations and perfect matchings

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Date: 21 April 2017 (Friday)

Time: Refreshments: 12.45pm to 1.30pm

Colloquium: 1.30pm to 2.30pm

Venue: Refreshments: Empty Space near LT 2, SPMS-03-03

Colloquium: Lecture Theatre 5 (SPMS-03-08)

School of Physical and Mathematical Sciences

Abstract

One of the most beautiful result in Extremal Combinatorics is the Erdős-Ko-Rado Theorem which states that if F is a family of k -subsets which is *intersecting*, i.e. any two members of F have nonempty intersection, then $|F| \leq \binom{n-1}{k-1}$, provided $n \geq 2k$. In this talk, we will look at some extensions and variants of this result for permutations and perfect matchings. In the case of permutations, the problem is related to the representation of the symmetric group and its characters. In the case of perfect matchings, the problem is related to the finite Gelfand pair of the symmetric group associated with the hyperoctahedral group and its spherical functions.

Speaker Biography

Ku Cheng Yeaw is currently a senior lecturer in the Division of Mathematical Sciences at Nanyang Technological University. Most of his research is focused on applying combinatorial and algebraic methods to extremal problems for a variety of combinatorial structures.

Host: Division of Mathematical Sciences, School of Physical and Mathematical Sciences