GRADUATE SEMINAR

Neha Joshi

Fusion-primitivity for Multiplicity-free subgroups of Symmetric groups

PhD Student supervised by Dr. Karen Meagher and Dr. Allen Herman

March 01, 2021
14:30
University of Regina
Zoom Meeting ID: 941 2536 7372

Abstract: Suppose Ψ is a representation of the group G, with irreducible decomposition

$$\Psi = \sum_{i=1}^{m} m_i \Psi_i.$$

The representation is called *multiplicity-free* if each m_i is equal to 1 . If G and H are groups with $H \leq G$ such that $ind_G(1_H)$ is a multiplicity-free representation of G, then the adjacency matrices of the orbitals of G on the cosets G/H form a commutative association scheme.

An association scheme is known as fusion-primitive if its only fusions are the trivial ones. In the early $1990's$, Muzychuk and Uchida proved the fusion-primitivity of the Johnson scheme $J(n, k)$ with $k \geq 7$ for all n except $2k + 1 < n < 3k - 1$.

In this presentation, I will talk about the techniques for checking fusion-primitivity of multiplicity-free subgroups of the symmetric group S_n.

University of Regina

Mathematics and Statistics