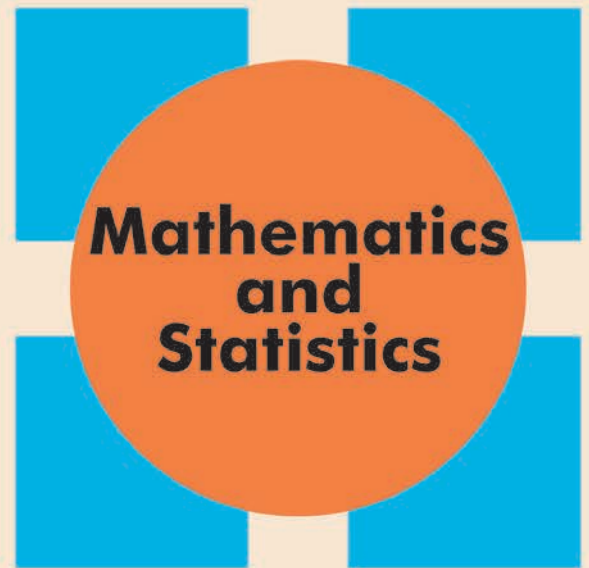


# COLLOQUIUM

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**On the maximum  
multiplicity of the largest  
 $k$ -th eigenvalue in a  
matrix whose graph is  
acyclic or unicyclic**



Friday, January 26, 2018; 3:30 - 4:30 PM; RI 208

**Abstract:** In connection with zero forcing game, the problem of maximum nullity of matrices whose zero-nozero pattern is determined by a given graph is considered. In this talk, we will discuss a modified version of the zero forcing game. After that we use this modified game in studying the maximum nullity of acyclic and unicyclic matrices with a prescribed number of negative eigenvalues. Particular interest is paid to the case of one negative eigenvalue, where characterizations of the optimal matrices attaining the largest nullity will be shown. Joint work with Shaun Fallat.