Title: Simultaneous Triangularization Over Max Algebras

Abstract: We define the max algebra by the triplet $(\mathbb{R}_+, \oplus, \otimes)$, where $\mathbb{R}_+$ denotes the set of nonnegative real numbers, $\oplus$ denotes the binary operation of taking the maximum of two nonnegative numbers and $\otimes$ is the usual multiplication of two numbers. The purpose of this talk is to investigate triangularization and simultaneous triangularization of matrices over max algebras using graph theoretic methods. We establish a connection between commutators and commutants with the simultaneous triangularization over max algebras. We also define the notion of characteristic polynomial of a collection in terms of the tropical determinant and determine when it can be written as a product of linear terms. This is a joint work with Prof. Sachindranath Jayaraman (IISER Thiruvananthapuram) and Prof. Himadri Mukherjee (BITS PILANI Goa Campus).