National Institute of Technology Rourkela

Departmental Seminar

Seminar Title	: Laplacian State Transfer on Double Subdivided Stars
Speaker	: Swornalata Ojha
Supervisor	: Swornalata Ojha
Venue	: Seminar Room, Department of Mathematics
Date and Time	: 24 Jun 2025 (11.00AM)
Abstract	: Let G be a finite, simple, and undirected graph with the Laplacian matrix L. We study the continuous-time quantum walk on G, governed by the transition matrix $U_L(t) = e^{itL}$, where $t \in R$. In this work, we explore Laplacian state transfer on a double subdivided star $T_{m,m}$, constructed by connecting the coalescence vertices of two copies of a subdivided star $SK_{1,m}$, with an additional edge. We present a complete characterisation for the existence of Laplacian pretty good state transfer and Laplacian pretty good pair state transfer in $T_{m,m}$. Furthermore, we demonstrate that an edge perturbation in $T_{m,m}$ yields infinitely many bicyclic graphs that exhibit Laplacian perfect pair state transfer.