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SIPo (Seminario de Investigadores Postdoctorales)

Expositor: Georgios Kontogeorgiou (CMM)

Título: Caminos de Santiago: small separating path systems for complete graphs.

Summary: In a communication network of n nodes, each linked to every other, a single link fails. How can we discover which link is broken without going through the burdensome process of examining separately all Θ(n^2) of them? A quick way to determine the faulty link would be to propagate messages through a designated set of paths S, such that for every two links there exists a path in S that contains exactly one of them. We say that such a set S (weakly) separates the network. It is known that a separating path system for a network of n nodes must contain at least n-1 paths. Recently, Fernandes, Oliveira Mota and Sanhueza-Matamala proved that (1+o(1))n paths suffice.

I will talk about the history and motivation of this problem and give a short proof that n+2 paths are enough. This is joint work with Maya Stein.

Martes 12 de marzo a contar de las 14:30 hrs hrs, en la sala John Von Neumann CMM, séptimo piso, torre norte, piso 7 de Beauchef 851.