

Seminario Sistemas Dinámicos de Santiago

TIME (Mon 30th Sep) 4:30 pm - 5:30 pm

LOCATION CMM (Beauchef 851, Torre Norte, 7mo piso, Sala de Seminarios John Von Neumann)

SPEAKER Lei Jin (CMM, Universidad de Chile)

TITLE The Bebutov--Kakutani dynamical embedding theorem and mean dimension

ABSTRACT

I will start with the classical Bebutov--Kakutani theorem, which states that a real flow can be (dynamically/equivariantly) embedded in the space $C(\mathbb{R}, [0,1])$ if and only if its fixed point set can be (topologically) embedded in $[0,1]$, and further, touch possible directions in three aspects. The first direction is to improve this theorem, with a point of view towards its drawback, making it more reasonable and clearer. The second direction is about universal real flows. The third direction, provided the time is sufficient, will focus on the discrete analogue of this theorem, in which, I will introduce another rather important and newly emerging invariant (other than topological entropy) of dynamical systems: mean dimension, and meanwhile, I shall talk about its calculation (especially, for full shifts) and application (in particular, to Auslander's problem) as well as the embedding problem (mainly concentrating on the Lindenstrauss--Tsukamoto conjecture). My talk will be historical in general and will include the latest progress in this area, revealing that $\mathbb{R}$ -actions differ critically from $\mathbb{Z}$ -actions.