ICTS Synopsis Seminar

Title : Parameter Identification using Asymptotic Observers

Speaker : Vishal Neeraje (ICTS-TIFR, Bengaluru)

Date : Thursday, 14 May 2026

Time : 4:00 PM (IST)

Abstract :

Oftentimes dynamical systems depend on parameters and any practical application of these models requires knowledge of these parameters. At the same time, the observations available to us may not specify the full state-vector, but only a part of it. In this talk, I will introduce a new approach to parameter identification from partial-observations of a dynamical system using asymptotic observers. Briefly stated, I will show that under reasonable assumptions, the parameters can be uniquely identified by minimising a real-valued function related to the observations. I will present theorems for finite-dimensional systems (both linear and nonlinear) when the parameter-space is finite-dimensional. Using numerical experiments, I will show that in the presence of errors (either observational noise and/or model specification error), the parameters are identified in a stable manner.

Venue : AKR Meeting Room
Zoom link: https://icts-res-in.zoom.us/j/93199010035?pwd=7sx5ZuM8Y7rpJ83LyspBCVUf9OqZyh.1
Meeting ID: 931 9901 0035
Passcode: 232980