A formula for data-driven control of nonlinear systems

Professor Claudio De Persis

University of Groningen

Monday 21 November 2022
2.00pm
MR4, IEB

Abstract:

In direct data-driven control the design of control policies is reduced to the solution of data-dependent convex programs. The majority of the available results focuses on linear systems, while extensions for nonlinear systems are obtainable only for special classes of systems, such as the bilinear and the polynomial ones. Unsurprisingly, deriving solutions for general nonlinear systems is much harder. In this talk, we approach the problem by designing from data feedback laws that render a nonlinear system dominantly linear.