



Seminar Announcement

June 10th, 2026, 10:30-11:30, Faculty of Engineering, Room 155/d2

OUTPUT REDUNDANCY AND THE GEOMETRY OF PRIVACY IN LINEAR SYSTEMS

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Abstract

This talk investigates the geometric structure of output-redundant linear systems, characterized by having more outputs than inputs. Motivated by secure monitoring in cyber-physical systems, we formulate an output-allocation problem in which input information must be concealed from an eavesdropper while remaining recoverable by an authorized user. We show that output redundancy is essential for solvability and enables systematic strategies for secure input reconstruction.

Bio

Prof. Andrea Serrani received the B.Eng. degree in Electrical Engineering and the Ph.D. degree from the University of Ancona, Italy, and the M.S. and D.Sc. degrees from Washington University in St. Louis. He is a Professor at the University of Bologna, and was with The Ohio State University from 2002 to 2024. His research focuses on control theory. He is a former Editor-in-Chief of IEEE Transactions on Control Systems Technology and serves as VP for Publications of the IEEE Control Systems Society.

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