

Estimation and control with coarse information

3rd - 6th June 2025, NH Leeuwenhorst Conference Center & Hotel

Cyber-physical systems, where feedback loops are closed over communication channels, are ubiquitous in many domains, including utility, transportation, robotics and industrial systems. In these settings, the physical component refers to the entity or environment that needs to be controlled and the cyber component is the computing and communication technologies that integrate the system. The finite capacity of communication technologies inadvertently introduces a bottleneck in guaranteeing the same stability and performance as a system with infinite information flow between the cyber and physical components. This situation becomes predominant in growing multi-agent networks, where the network capacity is shared among the agents. This summer school aims to provide the fundamentals of estimation and control under various facets of limitations in information flow between the cyber and physical components of the system, including the data rate and modeling for control systems. Deterministic and stochastic approaches for linear, nonlinear and switched systems will be covered.

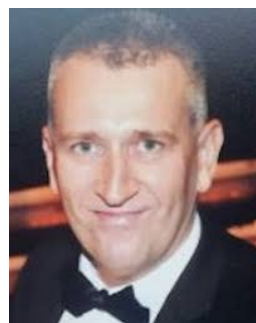
Target audience: PhD students, postdocs, and researchers interested in the field. This summer school will be taught by international and local experts.



Daniel Liberzon
(UIUC)



Girish Nair
(Uni. of Melbourne)



Dragan Nesic
(Uni. of Melbourne)



Bahman Gharesifard
(Queens Uni.)



Michelle Chong
(TU/e)



Sasha Pogromsky
(TU/e)



Henk van Waarde
(RUG)



Kanat Camlibel
(RUG)

Summer school website/registration: <https://sites.google.com/rug.nl/discsummerschool2025>

For more information, contact the organizers:

Michelle Chong (TU/e), Sasha Pogromsky (TU/e), Henk van Waarde (RUG), Kanat Camlibel (RUG)

For questions about registration, contact: Maaïke Kraeger (secr-disc-me@tudelft.nl)