

Online Seminar Series for IFAC TC 1.2 Adaptive & Learning Systems

Organizers: **Tiago Roux Oliveira**, State University of Rio de Janeiro – UERJ, TC 1.2 Chair
Bing Chu, University of Southampton, TC 1.2 Vice-Chair for Social Media

Details of the Seminar

Title: Optimal and Dual Control for Large-scale Systems

Speaker: Prof. **Anders Rantzer**, Lund University (LTH)

Time: **October 29, 2025 (04:00pm CET)**



Abstract: The interplay between learning and control has a history dating back at least half a century, but a surge of new activities has been stimulated by recent progress in reinforcement learning algorithms with strong ties to optimal control. This presentation will focus on recent progress in the theory of dynamic programming and positive systems, where new ideas enable computations with improved scalability and a deeper understanding of the classical exploration-exploitation tradeoff.

Bio: Anders Rantzer was appointed professor of Automatic Control at Lund University, Sweden, after a PhD at KTH Stockholm in 1991 and a postdoc 1992/93 at IMA, University of Minnesota. The academic year of 2004/05 he was visiting associate faculty member at Caltech and 2015/16 he was Taylor Family Distinguished Visiting Professor at University of Minnesota. Rantzer is a member of the Royal Swedish Academy of Engineering Sciences and a Fellow of IEEE and IFAC. He has been chairman of the Swedish Scientific Council for Natural and Engineering Sciences as well as the Royal Physiographic Society in Lund. His research interests are in modeling, analysis and synthesis of control systems, with particular attention to scalability and adaptation.

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