

LCIS Seminar
Thursday, 29 September 2022 at 16:15
Room: D011

16:15 – 17:15

Title: Information and communication in distributed optimization: application to energy systems

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Abstract: Nowadays, large and distributed systems composed of many individual subsystems become increasingly important in areas like smart grids, cooperative robotics, manufacturing or transportation. The automation design process hence follows the trend and is evolving from a single-system-single-controller architecture towards distributed or decentralized control architectures. A key aspect of such distributed control systems is the amount of information and communication that the individual subsystems need to exchange in order to guarantee stability or optimality. In the presentation, I will give an overview of my research on the field of distributed model predictive control and distributed optimization with applications to energy systems. The goal of my research is to design controllers that are efficient in terms of information exchange while ensuring optimality.

Short Bio: Pol Jané Soneira received the B.Sc. and M.Sc. in Electrical Engineering from the Karlsruhe Institute of Technology, Karlsruhe, Germany, in 2016 and 2019, respectively. He is currently pursuing the Ph.D. degree in Electrical Engineering at the Institute of Control Systems at the Karlsruhe Institute of Technology. His main research interest is networked and optimal control theory with applications to energy systems.