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Brief biography

Florian Dörfler is an Associate Professor at the Automatic Control Laboratory at ETH Zürich. He received his Ph.D. degree in Mechanical Engineering from the University of California at Santa Barbara in 2013, and a Diplom degree in Engineering Cybernetics from the University of Stuttgart in 2008. From 2013 to 2014 he was an Assistant Professor at the University of California Los Angeles. He is a recipient of the distinguished young research awards by IFAC (Manfred Thoma Medal 2020) and EUCA (European Control Award 2020). His students were winners or finalists for Best Paper awards at the European Control Conference (2013, 2019), American Control Conference (2016), Conference on Decision and Control (2020), PES General Meeting (2020), PES PowerTech Conference (2017), and International Conference on Intelligent Transportation Systems (2021). He received the 2010 ACC Student Best Paper Award, the 2011 O. Hugo Schuck Best Paper Award, the 2012-2014 Automatica Best Paper Award, the 2016 IEEE Circuits & Systems Best Paper Award, and the 2015 UCSB ME Best PhD award. He has served as the Associate Head of the Department of Information Technology and Electrical Engineering.

Research interests

Florian Dörfler's primary research interests are centered around control, optimization, and system theory with applications in network systems such as electric power grids, robotic coordination, and social networks. Topics of recent interest include stability and control in low-inertia power grids, online feedback optimization with applications to power systems operation, distributed control and optimization, data-driven control, social network dynamics and formation, and synchronization in complex networks.

Selected publications

- C. Arghir and F. Dörfler. "The electronic realization of synchronous machines: model matching, angle tracking and energy shaping techniques". *IEEE Transactions on Power Electronics*, 35(4):4398-4410, April 2020.
- M. Colombino, D. Gross, J.S. Brouillon, and F. Dörfler. "Global phase and magnitude synchronization of coupled oscillators with application to the control of grid-forming power inverters". *IEEE Transactions on Automatic Control*, 64(11):4496 - 4511, February 2019.
- B.K. Poolla, S. Bolognani, and F. Dörfler, "Optimal placement of virtual inertia in power grids," *IEEE Transactions on Automatic Control*, 62(12):6209-6220, December 2017.
- A. Hauswirth, S. Bolognani, G Hug, and F. Dörfler. Timescale Separation in Autonomous Optimization. *IEEE Transactions on Automatic Control*, 2019. DOI 10.1109/TAC.2020.2989274.
- N. Pagan and F. Dörfler. "Game theoretical inference of human behavior in social networks". *Nature Communications*, 10(5507), 2019.