IEEE CSS Italy Chapter
Seminar Series

On the trajectory tracking control of autonomous vehicles

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Department of Mechanical and Aerospace Engineering
Meeting Room, 3rd Floor
11:20 AM – 12:10 PM

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Abstract:

The talk discusses the theoretical approaches and experiments on trajectory tracking control in autonomous vehicles using variable structure methods. Two study cases are presented: AutoNOMO (car-like robot) and a quadrotor.

Alejandra Ferreira de Loza (Senior IEEE) studied at the Universidad Nacional Autónoma de México (UNAM), where she got her Ms. Eng. and Ph.D. degrees in 2007 and 2010, respectively.Since 2014, she has held a CONACyT Research Fellow position at Instituto Politécnico Nacional in Tijuana, Mexico. Her research interests are the observation and control of uncertain systems using variable structure techniques, sensors/actuators fault detection and reconstruction, fault-tolerant control, control and observation of nonlinear systems using geometric approaches, and their application to emerging technologies: mobile robots, automotive systems, artificial pancreas, among others. She belongs to the IEEE Control Systems Society (CSS), the IEEE Women in Engineering (WIE), and the IEEE Technical Committee on Variable Structure Systems and Sliding Mode Control (VSS&SMC). She serves as Associate Editor of IEEE Transactions on Cybernetics, Associated Editor of the International Journal of Adaptive Control and Signal Processing, and Guest Editor of the International Journal of Robust and Nonlinear Control.