The 8th International Conference on
Control, Automation and Robotics (ICCAR 2022)
April 8-10, 2022 | Xiamen

Lecture by

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Speech Title: Formation Control of Unmanned Marine Vehicles

Abstract: The last two decades have witnessed the booming development of formation control for multiagent systems due to its potential applications, ranging from mobile agents localization to robot team search and rescue, target enclosing, and surveillance. The main task of formation control is to manipulate a team of mobile agents to operate in a desired geometrical shape or pattern. Unmanned marine vehicles (UMVs) are typical multiagent systems, and the formation control of UMVs has attracted much attention. This speech will introduce some recent advances regarding formation control of UMVs, including event-triggered dynamic positioning for mass-switched UMVs, H_∞ cluster formation control of multiple UMVs with stochastic sampling, cooperative target tracking of multiple UMVs under switching interaction topologies, and the practical applications, etc.

About the author

CV: Yulong Wang received the B.S. degree in Computer Science and Technology from Liaocheng University, Liaocheng, China, in 2000, and the M.S. and Ph.D. degrees in Control Science and Engineering from Northeastern University, Shenyang, China, in 2006 and 2008, respectively. He was a Post-doctoral Research Fellow and a Research Fellow with Central Queensland University, North Rockhampton, QLD, Australia, an Academic Visitor with the University of Adelaide, Adelaide, SA, Australia, and a Professor with Jiangsu University of Science and Technology, Zhenjiang, Jiangsu, China. In 2017, he was appointed as an Eastern Scholar by the Municipal Commission of Education, Shanghai, China, and joined Shanghai University, Shanghai, China, where he is currently a professor. His current research interests include networked control systems, deep reinforcement learning, and the motion control for marine vehicles.