Proposal: **Cooperative Guidance and Control of Multiple Flight Vehicles**

Organizers:
Jianan Wang (Beijing Institute of Technology), wangjianan@bit.edu.cn
Chunyan Wang (Beijing Institute of Technology), chunyan.wang@bit.edu.cn
Jiayuan Shan (Beijing Institute of Technology), sjy1919@bit.edu.cn

In recent years, cooperative control of a group of agents has been extensively investigated due to its high potential in many applications [1-5], such as cooperative guidance, cooperative monitoring, formation control and so on. Different strategies, including centralized, decentralized, and distributed ones, have been used for controlling such systems. Compared with centralized systems, multi-agent systems with distributed control strategy have preferred flexibility and robustness. By using local neighbor-to-neighbor interaction, distributed multi-agent systems can reduce the signal communication and computational workload efficiently.

In this session, our primal interest is to further explore the possible applications of cooperative guidance and control in different areas. With the recent advances in measurements and communication, we are now facing with an information-rich world, and the use of large-scale multi-agent systems is becoming possible. Furthermore, the distributed cooperative control theory, especially consensus control, has attract many attentions and has been well developed over last ten years. How to put the distributed cooperative control theory and the real application together is an interesting and important topic. We believe that this session will help to increase the interest of the community on these topics by introducing more researchers to this fascinating area.

References

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The biography of the organizers

Jianan Wang is currently an Associated Professor in the School of Aerospace Engineering at Beijing Institute of Technology, China. He received his B.S. and M.S. in Control Science and Engineering from the Beijing Jiaotong University and Beijing Institute of Technology, Beijing, China, in 2004 and 2007, respectively. He received his Ph.D. in Aerospace Engineering at Mississippi State University, Starkville, MS, USA in 2011. His research interests include cooperative control of multiple dynamic systems, UAV formation control, obstacle/collision avoidance, trustworthy networked system, and estimation of sensor networks. He is a senior member of both IEEE and AIAA.

Chunyan Wang was born in Shandong, China. He received the M.Sc. degree in electrical and electronic engineering from the University of Greenwich, London, U.K., in 2012, and the Ph.D. degree in control systems from the University of Manchester, Manchester, U.K., in 2016. He was a Research Associate at the University of Manchester from 2016 to 2018. He is currently an Associate Professor with the School of Aerospace Engineering, Beijing Institute of Technology (BIT). His current research interests include cooperative control, UAVs, and Robotics. He is a member of the IEEE and Chinese Association of Automation (CAA).

Jiayuan Shan is a Professor in the School of Aerospace Engineering at Beijing Institute of Technology, China. He received the B.S. degree from Huazhong University of Science and Technology in 1988, and the M.S. and Ph.D. degrees from Beijing Institute of Technology, in 1991 and 1999, respectively. He is currently a Professor at Beijing Institute of Technology. His research interests include guidance, navigation and control of the aircraft and hardware-in-the loop simulation. He is the Director of Department of Flight Vehicles Control and the Deputy Director of Flight Dynamics and Control Key Laboratory of Ministry of Education.