

IEEE ICUS 2021

Invited Session Summary

Title of Session

Key Technologies on Autonomous Cooperation of Swarm Systems

Name, Salutation, Affiliation and Email of Organizers

1. Prof. Xiwang Dong

Beihang University, China
xwdong@buaa.edu.cn

2. Prof. Wenrui Ding

Beihang University, China
ding@buaa.edu.cn

3. Assoc. Prof. Jinli Suo

Tsinghua University, China
jlsuo@tsinghua.edu.cn

4. Assoc. Prof. Jie Li

National University of Defense Technology, China
leonlee2009@163.com

5. Prof. Hui Xia

Beijing Institute of Electronic System Engineering, China
xhderek@sina.com

Details of Session(including aim and scope)

Unmanned swarm systems have broad application prospects in both military and civil fields, such as micro satellite swarm cooperative detection, UAV swarm cooperative interference, UGV swarm cooperative transportation, and so on. Distributed cooperative technology is a hot and difficult research topic in the field of swarm intelligence and has important application value in swarm system cooperative task execution. How to design distributed collaborative approaches to realize the organic collaboration of communication and networking, perception and cognition, decision and planning, guidance and control, and evaluation and verification is a hot topic of the current academia and industry.

This invited session focuses on the latest research results for the key technologies of autonomous collaboration of unmanned swarm system. In particular, papers related to swarm communication and networking, perception and cognition, decision and planning, guidance and control, evaluation and verification are welcome.