IEEE ICUS 2021

Invited Session Summary

Title of Session USV Swarm Cooperation and Coordination: Theory, Technology and Applications
Name, Salutation, Affiliation and Email of Organizers **1. Prof. Yandong Tang** 　Shenyang Institute of Automation, Chinese Academy of Sciences 　ytang@sia.cn **2. Assoc. Prof. Decai Li** 　Shenyang Institute of Automation, Chinese Academy of Sciences 　lidecai@sia.cn **3. Prof. Yuqing He** 　Shenyang Institute of Automation, Chinese Academy of Sciences 　heyuqing@sia.cn
Details of Session(including aim and scope) 　　The ocean environment is complex and changeable under the influence of the uncertain environmental factors such as wind, wave, surge and current. These deteriorate the coordination performance of the USV swarm, and the stability and accuracy are difficult to be guaranteed. In order to realize efficient, stable, accurate and real-time coordination of USV swarm under complex sea conditions, it is urgent to study theory and technology of cooperative perception of ocean scene, mixed initiative interaction, coordinate control and decision making. This invited session intends to provide a platform for scholars to discuss the most recent researching work in the related fields. The session includes but not limited to the following theme: 　　(1)　Cooperative perception of USV swarm under rough sea conditions; 　　(2)　Autonomous interaction of USV swarm under rough sea conditions; 　　(3)　Cooperative cognition of USV swarm under rough sea conditions; 　　(4)　Intelligent coordinate control and decision making of USV swarm; 　　(5)　Technology and test of USV swarm; 　　(6)　Real applications of USV swarm.