

Electrical & Computer Engineering Seminar

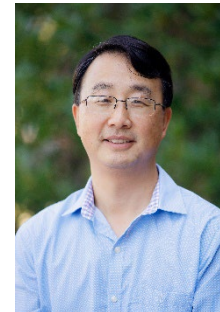
Acoustic communications, mobile sampling, and swarming in the ocean

Aijun Song

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Abstract: The oceans and other aquatic resources are vital to human societies. In recent decades, various autonomous marine vehicles have emerged, posing as a revolutionary force to change how scientists monitor the ocean and water resources. Underwater wireless technologies are indispensable for operating robots for scientific exploration and resource management in the aquatic realm. This talk presents our research efforts in underwater wireless communications and mobile sampling. High challenges exist in integrating underwater wireless technologies with robotics. However, for both fields, the integration leads to great benefits. Underwater wireless may find its killer applications in underwater robotics. Underwater robots connected by wireless links can perform sophisticated adaptive group behaviors. Therefore, this talk also covers our effort to integrate wireless communications with underwater robotics.

Bio: Aijun Song is an Associate Professor with the Department of Electrical and Computer Engineering, University of Alabama, Tuscaloosa, AL, USA. He received a Ph.D. in electrical engineering from the University of Delaware, Newark, DE, USA 2005. From 2005 to 2008, he was also an Office of Naval Research (ONR) Postdoctoral Fellow, supported by the Special Research Award in the ONR Ocean Acoustics program. He was a Research Professor at the University of Delaware from 2008 to 2015. His research interests include underwater wireless communications and networking, underwater robotics, community-shared open infrastructure for underwater applications, and integrated communications, navigation, and sensing. Dr. Song was the General Co-Chair of the 2018 March NSF Workshop on Underwater Wireless Communications and Networking and the 2018 November NSF Workshop on Underwater Wireless Infrastructure. He was the General Co-Chair of the 14th International Conference on Underwater Networks & Systems. He was a recipient of the NSF CAREER Award (2021). He is the Associate Editor of the Journal of Acoustical Society of America (JASA).



CAMP 176

Wednesday, Sept 13, 2023, 4pm

Also on Zoom:

<https://clarkson.zoom.us/j/99689458746?pwd=eVowa1RleDRwdWNNT1pyUS82eUpmdz09>

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