Full Name (English):	Zemin Zhou	
Affiliated Institution and Title (English):	College of Meteorology and Oceanology, National University of Defense Technology. Associate research fellow.	

Biography
(Please provide in paragraph form within 500 words.)

Zemin Zhou was born in Yongzhou, China, in 1986. He received his B.S. degree in electronics engineering from Harbin Engineering University, Harbin, in 2007, and the M.S. degree in underwater acoustic engineering and Ph.D. degrees in acoustics from National University of Defense Technology, Changsha, in 2009 and 2014, respectively. He is an Associate research fellow with the College of Meteorology and Oceanology, National University of Defense Technology, Changsha, China. His research interests include active and passive sonar detection, localization and tracking, sonar simulation, and adaptive control technology.

Speech Title (English):

Underwater Acoustic Signal Denoising with Diffusion-based Generative Models

Speech Abstract
(Please provide in paragraph form within 500 words.)

Recently we proposing a novel generative denoising framework for underwater acoustic denoising based on the diffusion model. Underwater acoustic signal denoising is a challenging task due to the complex, non-stationary, and often non-Gaussian nature of ambient ocean noise. Unlike conventional deep learning approaches that rely heavily on supervised learning and prior knowledge of noise distributions, our method leverages a score-based diffusion model formulated through stochastic differential equations, enabling purely generative training without explicit noise assumptions. Furthermore, we extend the diffusion process and score-matching objective into the complex domain to incorporate phase information, which is essential for reconstructing high-fidelity underwater signals.