



海岸和近海工程国家重点实验室
STATE KEY LABORATORY OF COASTAL AND OFFSHORE ENGINEERING

海岸和近海工程国家重点实验室 学术讲堂

题目: Surface gravity waves and their interaction with ambient environment: theory, formation mechanism of rogue waves, and wave models

报告人: Dr. Yan LI (李艳)



时间: 2022年04月29日 15:30-16:30

地点: 腾讯会议房间号: 966 2798 6502

内容简介:

Dr. Yan Li was appointed as an Associate Professor of (Applied) Fluid mechanics by the Department of Mathematics at the University of Bergen (UiB), Norway in January 2021. She is currently a FRIPRO-mobility fellow at the Norwegian University of Science and Technology (NTNU). Since she obtained her PhD certificate in 2017, she has worked both as a postdoc (Aug.2018-Sep.2019) and an international visiting researcher (Dec.2019-Dec.2021) in the group of environmental fluid mechanics at the university of Oxford. Her research interests include (not limited to) the formation mechanism of rogue waves; the NLS- and FFTs-based wave modelling; the interaction between surface waves and their ambient environment, e.g., a shear current and a varying bathymetry. She is the sole/first leading author of six publications on the Journal of Fluid Mechanics (or JFM RAPIDS) out of in total ~30 papers. She is a co-convener and guest editor of the EGU-NH5.2 session (2022) and the special issue 'Wave-Induced Particle Motions in the Ocean' in the Frontiers in Marine Science, respectively.

Abstract: This talk will include three main parts. The speaker will start with a formation mechanism of rogue waves which she and her collaborators proposed due to waves experiencing abrupt depth transitions. Following this, she will introduce her sole work associated with a new NLS-equation derived and published in one of her JFM papers. This newly derived NLS-equation relaxes the narrowband approximation widely employed for a NLS-based model for the evolution of deepwater surface gravity waves. In the third part, she will talk about a new framework for surface waves propagating in a depth dependent flow where potential flow theory is not applicable.

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联系人: 乔东生 qiaods@dlut.edu.cn