香港科技大學
THE HONG KONG UNIVERSITY OF SCIENCE AND TECHNOLOGY

土木及環境工程學系
DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING

SEMINAR

COMPUTATIONAL FLUID DYNAMICS (CFD) APPLICATIONS TO COASTAL PROTECTION

Speaker

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Abstract

In this presentation, our past efforts of developing in-house 2D and 3D CFD codes for simulation of wave-structure interaction are briefly introduced. A few typical applications of these models to various problems of coastal hydrodynamics and coastal defenses are then discussed. Next, our recent work of extending the early models to simulate flexible vegetation under wave action are detailed. The new model is validated against extensive laboratory and field data. Finally, this model is employed to study the performance of an ecological sea dike system, which is composed of traditional hard structure of seawall and planted mangroves, under super-typhoon condition.

Biography

Prof. Pengzhi Lin is a member of European Academy of Sciences and Arts. He obtained his Ph. D. degree from Cornell University in 1998. He conducted postdoctoral research at Cornell and Hong Kong Polytechnic University from 1998-2000. In 2000, he joined National University of Singapore as an assistant professor and became a tenured associate professor in 2005. Now he is a Changjiang Distinguished Professor at Sichuan University, China. His research interests cover hydraulic, coastal and ocean engineering. He is an expert in computational hydrodynamics and its applications in various water-related problems. He is the author of the books "Numerical Modeling of Water Waves" and "Water Environment Modeling". He has published over 150 peer-reviewed journal papers, which receive over 10,000 citations. He is the Chief Editor of Applied Ocean Research and the Associate Editor for Journal of Hydraulic Research, Journal of Hydro-environment Research, Journal of Hydraulic Engineering, Journal of Ocean Engineering and Marine Energy, and Water Science and Engineering.

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Zoom Link
Meeting ID: 934 6933 7183
Passcode: 372379

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