

Special Issue

Modeling Positive Buoyant Material in Water for the Hydrogeological Risk Evaluation and Management

Message from the Guest Editors

The interest in hydraulic risk is continuously increasing due to both the increased human exposure and the rise of extreme events. Many hydraulic hazard phenomena of recent interest involve positively buoyant materials, both natural and human-made. For example, human access to remote areas has increased exposure to the risk of tsunamis generated by natural positive buoyancy materials, such as pyroclastic flow, snow avalanche, or iceberg calving. In addition, flood damage, especially in urban areas, is mainly due to the transport and impact of floating materials of various types, from lumber to vehicles to garbage. Finally, plastic pollution, by now present in all oceans and all the larger rivers worldwide, often consists of positively buoyant debris. Thus, appropriate knowledge and modeling of the interaction of positive buoyant materials with water is crucial for the study of such phenomena and, consequently, for the assessment and management of their impact.

Guest Editors

Dr. Gianluca Zitti

Department of Civil and Building Engineering, and Architecture, Università Politecnica delle Marche, Via Brecce Bianche, 60131 Ancona, Italy

Prof. Dr. Hung Tao Shen

Department of Civil and Environmental Engineering, Clarkson University, Potsdam, NY 13699-5710, USA

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Journal of Marine Science and Engineering
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
jmse@mdpi.com

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Editor-in-Chief

Prof. Dr. Charitha Pattiaratchi

School of Engineering, The UWA Oceans Institute, The University of Western Australia, Perth, WA 6009, Australia

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