

**COASTAL  
ENGINEERING  
2024**

Proceedings of the 38th International Conference

# COASTAL ENGINEERING 2024

8 September –14 September, 2024  
Rome, Italy

Edited by

**Daniel Cox**

Oregon State University, Oregon, USA

**Abstract:** This *Proceedings* contains 702 abstracts and papers from the 38<sup>th</sup> International Conference on Coastal Engineering, which was held at the Pontifical Gregorian University in Rome, Italy, from September 8th to 14th, 2024. The *Proceedings* is divided into seven parts: Plenary Speakers; Full Length Papers; Waves; Swash, Nearshore Currents, and Long Waves; Sediment Transport and Morphology; Coastal Structures; and Coastal Management, Environment, and Risk. The Full Length Papers section includes the optional, full length Proceedings papers, covering a broad range of topics including theory, numerical and physical modeling, field measurements, case studies, design, and management. The other sections include abstracts and references, as submitted and presented at the conference. These submissions provide engineers, scientists, and planners state-of-the-art information on coastal engineering and coastal processes.

## Foreword

The 38<sup>th</sup> International Conference on Coastal Engineering (ICCE) was held at Pontifical Gregorian University in Rome, Italy, from 8 September to 14 September, 2024. This in-person conference followed the ICCE of 2022 held in Sydney, Australia, and successfully brought together over 900 people from 57 countries to discuss research and applications in coastal engineering. The members of the ASCE/COPRI Coastal Engineering Research Council (CERC) and the Local Organizing Committee reviewed nearly 1,000 abstracts and accepted 60% of these submittals to be presented orally at the conference and another 30% to be presented as posters. The dedication of the Council members is reflected in the continued high quality and esteemed regard of the International Conference of Coastal Engineering. We gratefully acknowledge the hard work of the 34-person Local Organizing Committee led by conference chair Leopoldo Franco and assisted by the LOC coordinator Giorgio Bellotti, LOC review coordinator Giuseppe Roberto Tomasicchio, and secretaries Claudia Cecioni and Alessandro Romano. All of whom, in addition to countless others, hosted a successful conference in Rome. Thank you to Leo and team for a memorable ICCE!

Preparation of these proceedings was made possible with the assistance of many colleagues. Thank you to Pat Lynett, CERC Chair, and the entire CERC for their commitment to this effort. The authors of the papers in these proceedings provide us with state-of-the art contributions, as reflected in this volume that catalogs their commitment to studying and solving coastal engineering challenges. We encourage readers to engage with the exciting developments in coastal engineering!

Daniel Cox  
Oregon State University  
dan.cox@oregonstate.edu

## **Acknowledgments**

### **LOCAL ORGANIZING COMMITTEE**

#### **Conference Chair**

**Leopoldo Franco**, Roma Tre University

#### **LOC Coordinator**

**Giorgio Bellotti**, Roma Tre University

#### **LOC Members**

**Renata Archetti**

**Felice Arena**

**Francesco Aristodemo**

**Giuseppe Barbaro**

**Giorgio Bellotti (LOC Coordinator)**

**Giovanni Besio**

**Paolo Blondeaux**

**Riccardo Briganti**

**Maurizio Brocchini**

**Mariano Buccino**

**Mario Calabrese**

**Lorenzo Cappietti**

**Claudia Cecioni (Secretary)**

**Felice D'Alessandro**

**Leonardo Damiani**

**Paolo De Girolamo**

**Fabio Dentale**

**Marcello Di Risio**

**Carla Faraci**

**Enrico Foti**

**Leopoldo Franco (Conference Chair)**

**Alberto Lamberti**

**Sandro Longo**

**Luca Martinelli**

**Giuseppe Passoni**

**Alessandro Romano (Secretary)**

**Alessandra Romolo**

**Piero Ruol**

**Paolo Sammarco**

**Giuseppe Roberto Tomasicchio (LOC Reviewer Coordinator)**

**Paolo Veltri**

**Diego Vicinanza**

**Giovanna Vittori**

**Barbara Zanuttigh**

#### **LOC Organizing Secretariat**

**Partizia Pasolini (CEO)**

**Francesca Del Duca (Event Manager)**

**Federica Natalizio (Organizing Secretariat)**

**Constanza Pelissero (Scientific Secretariat and Communication Officer)**

**Lorenzo Salamone (Communication Officer)**

#### **ASCE COPRI Coastal Engineering Research Council (CERC) Members**

**Christopher Bender**, Taylor Engineering

**Patricio Catalan**, Technical University Federico Santa Maria

**Daniel Cox (Secretary)**, Oregon State University

**Ap van Dongeren**, Deltares

**Shih-Chun Hsiao**, National Cheng Kung University

**Jennifer Irish (Vice-Chair)**, Virginia Technical University

**Javier Lopez Lara**, University of Cantabria

**Patrick Lynett (Chair)**, University of Southern California

**Nobuhito Mori**, Kyoto University

**Robert Nicholls**, University of East Anglia

**Ioan Nistor**, University of Ottawa

**Ad Reniers**, Technical University Delft

**Ian Turner**, University of New South Wales

**Barbara Zanuttigh**, University of Bologna

## **Sponsorship**

The Local Organizing Committee of the 38<sup>th</sup> International Conference on Coastal Engineering is pleased to acknowledge the significant financial, organizational, and administrative support from the **American Society of Civil Engineers**.

The ICCE 2024 Local Organizing Committee also expresses sincere gratitude to all the organizations represented in the technical exhibition.