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313 S. Braeside Court
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28803, U.S.A.

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Luciana S. Esteves
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Dorset, England, U.K.
lesteves@bournemouth.ac.uk

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Coastal Education and Research Foundation, Inc. [CERF]

Editorial Offices:

7570 NW 47th Avenue

Coconut Creek, FL

33073, U.S.A.

(Editorial Office, Coconut Creek)

CERF/JCR Website: <http://www.CERF-JCR.org>

e-mail: cfinkl@cerf-jcr.com

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Coastal Education and Research
Foundation, Inc. [CERF]
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cmakowski@cerf-jcr.com

EDITORIAL ASSISTANT

Barbara Russell
Coastal Education and Research
Foundation, Inc. [CERF]
7570 NW 47th Avenue
Coconut Creek, FL 33073, U.S.A.
barbara@cerf-jcr.com

WEB DESIGN & DEVELOPMENT

Jon Finkl
Media Mine
17600 River Ford Drive
Davidson, NC 28036, U.S.A.
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MITHERAUSGEBER

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The journal encourages the dissemination of knowledge and understanding of the coastal zone by promoting cooperation and communication between specialists in different disciplines. Natural scientists, for example, are encouraged to collaborate with professionals in other fields to prepare contributions relating to the coastal zone that foster increased appreciation of coastal environments and processes. By means of this journal, with its scholarly and professional papers, systematic review articles, book and symposia reviews, communications and news, and special topical issues, an international forum for the development of integrated coastal research is provided.

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COVER PHOTOGRAPH



Gold Coast, Australia. Gold Coast is a coastal city in the Australian state of Queensland, approximately 66 kilometres (41 mi) south-southeast of the state capital Brisbane and immediately north of the border with New South Wales. With truly epic theme parks, Gold Coast and its surrounding area are key holiday resort in Queensland. There are beautiful sunshine, continuous white beach, clear blue sea water, and romantic palm forest. People coming here for a holiday add a lot of vitality and dynamic for it. Australian who love surfing call it the “Surfers Paradise”. Q1 Building is the tallest building in the southern hemisphere and the tallest pure residential apartment building in the world. Its appearance was inspired by the Sydney Olympic torch. SkyPoint Observation Deck at the top is a must for all visitors to the Gold Coast. When the weather is fine, from Brisbane to Byron Bay, from the Pacific Ocean to the inland national park, you can enjoy a breathtaking 360-degree panoramic view.

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PREFACE



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Advances in Sustainable Port and Ocean Engineering

As the important support of regional export-oriented economy, port has played guidance role during urbanization process, sustainable development of port may directly influence regional urban orientation, resource allocation and industrial structure layout, and it not only includes establishment of port urban system, formation of urban transportation network and coordination of general port layout planning, but also includes promotion of port function, formation of regional coordination mechanism, strengthening of regional cooperation, and emphasis of environmental protection etc.

Sustainable development is the inevitable choice that ports keep competitiveness. As for the existing international shipping center ports in the world, industrial policies concerning sustainable development have been formulated, including diversified investment policies, complete land resource utilization policies, to promote sustainable development through policy guidance; while on the other hand, comprehensive transportation ability, service level and value-added service volume of the port have been improving, port information construction has been strengthening, and port functions have been improving to wholly improve benefits, safety, environmental protection and market competitiveness etc., and economic development in surrounding area has been driving through port development, thus forming synergistic and co-developmental interactive pattern.

Ocean engineering, for the purpose of development, utilization, protection and recovery of ocean resources, is the newly building, rebuilding and expanding project of which the subject is located at seaward side of the coastline. It specifically contains sea reclamation, marine dam construction, man-made island, marine and subsea material storage facilities, sea-spanning bridge, subsea tunnel project, subsea pipeline, subsea cable (optical cable) projects, marine mineral resource exploration and development as well as ancillary projects, marine tidal power plant, wave power station, differential temperature power station etc. projects concerning development and utilization of ocean energy resources, large marine farms, salt pan and sea water desalination etc. multi-purpose marine projects, landscape exploitation projects etc.

In the 21st Century, it has been the critical period for development of marine affairs by coastal countries in the world and for realization of marine power. As it has turned out that development of ocean engineering manufacturing industry is the important path to realize marine power, and ocean engineering together with equipment project has been of increasing importance during marine development by each country, besides, development of ocean engineering has been the general international trend and the strategic choice of coastal countries.

The aim of the special issue is to provide a platform for scholars, researchers and engineers to share their achievements during long-term research on development of ocean engineering and equipment. In such special issue, there are 8 specific

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topics classified as per the different contents of papers, including Ocean Science and Engineering, Inshore and Offshore Dynamic, Marine Geology, Marine Science and Chemistry, Port Engineering, Ocean Information Science, Climate Change and Environments, and Shipping Industry. The decisions on selection of qualified papers are strict based on originality, technical contribution, practical contributions and relevance. And the accepted papers must be formatted strictly according to the journal style.

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COASTAL EDUCATION AND RESEARCH FOUNDATION

4750 NW 47th Avenue
Coconut Creek, FL 33073, U.S.A.

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The Coastal Education and Research Foundation [CERF] is a nonprofit society dedicated to the advancement of the coastal sciences. The Foundation is devoted to the multi-disciplinary study of the complex problems of the coastal zone. The purpose of CERF is to help translate and interpret coastal issues for the public and to assist professional research and public information programs. The Foundation specifically supports and encourages field and laboratory studies on a local, national, and international basis. Through printed scientific publications, online content, and international symposiums, CERF brings accurate information to the public and coastal specialists on all aspects of coastal issues in an effort to maintain or improve the quality of shoreline resources.

Because CERF is concerned with broad environmental issues, our efforts concentrate on significant problems such as maintenance of good quality (potable) water with adequate supply, and hazards associated with potential beach erosion, flooding, and susceptibility of developed shorelines to storm surge and wave attack. By focusing attention on these potential man-made and natural hazards, it is hoped that our research efforts will help others improve the quality of life in diverse coastal areas. CERF thus aims to stimulate awareness of coastal (marine and freshwater shorelines) land and water problems; initiate and foster research and innovation to promote long-term coastal productivity; establish an educational forum for the debate of contentious coastal issues; and develop new principles and approaches for enlightened coastal management, and encourage their adoption and use.

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Editor-in-Chief

Charles W. Finkl Ph.D., CSci, CMarSci, FIMarEST, CPGS, CPSSc, PWS, M.ASCE

Dr. Charles W. Finkl is President and Executive Director of the Coastal Education and Research Foundation [CERF], publisher of the JCR. Charlie, a founding editor of the *Journal of Coastal Research*, has served as Editor-in-Chief for the past 34 years. He is a Research Professor in the Department of Geosciences at Florida Atlantic University in Boca Raton, Florida. He received his Bachelor and Master of Science degrees from Oregon State University and the Ph.D. from the University of Western Australia. He is a member of more than 20 professional societies and has published more than 200 professional papers, books, and reports. He is a Chartered Marine Scientist (CMarSci) [Institute of Marine Engineering, Science and Technology], Certified Professional Geological Scientist (CPGS) [American Institute of Professional Geologists (AIPG)], Certified Professional Soil Scientist (CPSSc) [American Registry of Certified Professionals in Agronomy, Crops, and Soils], and a Professional Wetland Scientist (PWS) [Society of Wetland Scientists]. Charlie has field experience in parts of the USA, Caribbean area, Brazil, Honduras, Russia, South Africa, Western Europe, Australasia, and South Pacific islands. He is also the Series Editor of the Encyclopedia of Earth Sciences Series that is published by Springer (Germany). There are more than twenty-eight volumes in the Series and about twenty-five are available online. Charlie also serves on the Editorial Board of the *International Journal of Environmental Studies* (Routledge) and is an occasional peer reviewer for many other professional journals.

Charlie has interests and expertise in the general areas of surficial geology, coastal and marine geomorphology (including coastal classification), coastal/marine biophysical environments, exploration geochemistry, soils and weathering (regolith geology), coastal zone management and engineering applications or impacts on natural systems (including erosion control and shore protection), coastal hydrology including submarine freshwater and mineralized seeps, subaerial and marine structural geology, natural hazard mitigation in coastal zones, marine environments and coastal wetland protection and restoration, and remote sensing (e.g., land cover classification in coastal wetlands, advection-diffusion turbidity plumes in coastal waters, delineation of bottom types and sand resources), effluent disposal and pollution of wetlands and estuaries, water resources mapping and conservation, time series studies of wetland hydroperiod and soil moisture.

International Coastal Symposium (ICS) Official Meeting of CERF

The International Coastal Symposium (ICS) was originally set up by Per Bruun (deceased) and Charlie Finkl as the official meeting of the Coastal Education and Research Foundation (CERF), with one of the first meetings being held in Hilton Head, South Carolina, in 1993. After the repeated success of these meetings, CERF moved the ICS to the international scene holding these conferences in conjunction with local sponsors in Australia, Brazil, Iceland, New Zealand, Northern Ireland, Poland, Portugal, and South Korea. The ICS brings together delegates from all over the world to collaborate and discuss the most current coastal research studies and projects. During the ICS 2014, which was held in Durban, South Africa, a grand celebration took place to mark the 30th Anniversary of CERF and the JCR. Our next ICS meeting is scheduled for April of 2020 in Seville, Spain. For more information, please visit www.cerf-jcr.org.

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