

Preface

SENTA is an annual seminar on marine technology, organized by the Faculty of Marine Technology, Institut Teknologi Sepuluh Nopember (ITS), Surabaya, Indonesia. Initially, SENTA was a national seminar, the first being organized in 2001, but since 2016 it becomes an international seminar as a response to the need of ITS to be an internationally reputable research institute and as a support in positioning Indonesia as a global maritime axis.

As part of the vision of ITS, marine technology takes a prominent place among most outstanding research fields of the institute. By having this seminar and gathering research institutions, industries and academicians, it is expected that new ideas and concepts can be conceived and developed for the future of marine technology.

Indonesia, particularly, where two-third of its territory is water, depends heavily on marine transportation for domestic and international trade. It is therefore of great importance for the country to master state-of-the-art marine technology, which accompanied by other essential knowledges, can be utilized to manage the marine natural resources sustainably.

This proceeding documents selected, peer-reviewed manuscripts which were presented at SENTA 2016 held in Surabaya, Indonesia, on 15-16 December 2016. The topics cover coastal and natural resources management, marine energy development and exploration, marine transportation and logistics, marine machinery and system, ship design, construction, production and recycling as well as offshore structures.

The seminar would not have run successfully without the support of various parties. First, we would like to convey our sincere gratitude to the Rector and Senior Officers of ITS for their continuous support and advices. Furthermore, thanks are due to the keynote speakers, invited speakers, authors and presenters. Finally, we are indebted to the reviewers and the International Scientific Committee for their invaluable contributions.

We hope this book can be of great value for researchers, academicians and engineers in the field of marine technology and can contribute to a sustainable marine technology development.

Editors

Surabaya, October 2017

Committees

Patron

Prof. Ir. Daniel M. Rosyid, Ph.D
Sutopo Purwono Fitri, ST., M.Eng., Ph.D
Ir. Wasis Dwi Aryawan, M.Sc., Ph.D

Advisors

Dr. Eng. Muhammad Badrus Zaman, ST., MT
Dr. Eng. Rudi Waluyo P., ST., MT
Ir. Tri Achmadi, Ph.D

Chairman

Aries Sulisetyono, ST., MA.Sc., Ph.D

Secretary

Teguh Putranto, MT

Treasury

Gita Marina Ahadyanti, MT

Ceremonial, Culture & Attraction

Imam Baihaqi, MT.

Sponsorship

Sufian Imam Wahidi, M.Sc

Web & Promotion

M. Sholikhhan Arif, MT

Exhibition

Ardi Nugroho Yulianto, MT

Food & Beverage

Sri Rejeki W. Pribadi, MT

Accommodation & Transportation

Dedi Budi Purwanto, MT

Documentation

Dhimas Widhi Handani, Ph.D

Logistic & Technical

Agro Wisudawan, MT
Prof. Dr. Adi Maimun (UTM, Malaysia)
Prof. Dr. Omar bin Yaakob (UTM, Malaysia)
Prof. Dr. Wan Mohd Norsani (UMT, Malaysia)
Prof. Dr. M Rafiqul Islam (BUET, Bangladesh)
Prof. Dr. Takeshi Shinoda (Kyushu-U, Japan)
Prof. Dr-Eng. Nobumasa Sekishita (Toyohashi-UT, Japan)
Prof. Dong Myung Bae (PKNU, Korea)
Prof. Dr. Neil Bose (AMC-UTAS, Australia)
Prof. Dr. Richard W Birmingham (Newcastle Univ, UK)
Prof. Philip A Wilson, DSc (Southampton Univ, UK)
Prof. Dr.rer.nat. Norbert Gruenwald (Wismar Univ, Germany)
Prof. Dr. Rob Zuidwijk (RSM, the Netherlands)
Dr-Ing. Wolfgang Busse (Wismar Univ, Germany)

International Scientific Committee

Sponsors

Special thanks to our sponsors,
Your support made this event possible

