Volume 1 Number 1 - December 2021





Publisher: Departemen Teknik Perkapalan Universitas Hasanuddin



The International Journal of Metacentre (*e*ISSN XXXX-XXXX) is published two times per year by Departemen Teknik Perkapalan, Universitas Hasanuddin. Copyright © 2021 by Departemen Teknik Perkapalan, Universitas Hasanuddin.

All rights are reserved with the Publisher.

Publisher: Departemen Teknik Perkapalan Universitas Hasanuddin

Address:

Jl. Poros Malino km. 6, Bontomarannu Kabupaten Gowa, Sulawesi Selatan,

Indonesia, 92171

Email: ijm-nasp@unhas.ac.id

Website: www.ijm.unhas.ac.id/journals

Telp/Fax: +62-411-5860

www.ijm-nasp.unhas.ac.id

Editor-In-Chief:

Dr.Eng. Suandar Baso

Naval Architecture Department, Faculty of Engineering, Hasanuddin University, Indonesia

Associate Editors:

Moh. Rizal Firmansyah, ST., MT., M.Eng

Naval Architecture Department, Faculty of Engineering, Hasanuddin University, Indonesia **Andi Dian Eka Anggriani, ST., MT**

Naval Architecture Department, Faculty of Engineering, Hasanuddin University, Indonesia **Muhammad Akbar Asis, ST., MT**.

Naval Architecture Department, Faculty of Engineering, Hasanuddin University, Indonesia **Fadhil Rizki Clausthaldi, ST.,B.Eng.,M.Sc**.

Naval Architecture Department, Faculty of Engineering, Hasanuddin University, Indonesia

Editors:

Prof. Hidemi Mutsuda

Transportation and Environmental System Engineering, Faculty of Advanced Science and Engineering, Hiroshima University, Japan

Prof. Decheng Wang

Science and Technology Development Institute, Shanghai Jiao Tong University, China

Prof. Naved Md. Golam Zakaria

Department of Naval Architecture and Marine Engineering, Bangladesh University of Engineering and Technology (BUET), Bangladesh

Prof. Dr. Muniyandy ELANGOVAN

Research Park, Departement of Mechanical Engineering, Vel Tech University, India

Deniz Gedikli, PhD

Department of Ocean and Resources Engineering, University of Hawaii, United States of America (USA)

Assoc. Prof. Dr. Yodchai Tiaple

Department of Maritime Engineering, Faculty of International Maritime Studies, Kasetsart University, Thailand.

Assc. Prof. Ahmad Fitriadhy, Ph.D

Programme of Maritime Technology, School of Ocean Engineering, Universiti Malaysia Terengganu, Malaysia

Prof. Ir. I Ketut Aria Pria Utama, M.Sc, Ph. D

Department of Naval Architecture, Faculty of Marine Technology, Sepuluh Nopember Institute of Technology, Indonesia

Dr. Eng. Ahmad Fauzan Zakki

Department of Naval Architecture, Faculty of Engineering, Diponegoro University, Indonesia

www.ijm-nasp.unhas.ac.id

Dr. Eng. Deddy Chrismianto

Department of Naval Architecture, Faculty of Engineering, Diponegoro University, Indonesia.

Dr.Ir. Ganding Sitepu, Dipl-Ing

Naval Architecture Department, Faculty of Engineering, Hasanuddin University, Indonesia

Dr.Ir. Misliah, MSTr

Naval Architecture Department, Faculty of Engineering, Hasanuddin University, Indonesia

Dr.Ir. Syamsul Asri, MT

Naval Architecture Department, Faculty of Engineering, Hasanuddin University, Indonesia

Muhammad Zubair Muis Alie, ST, MT, Ph.D-Eng

Department of Ocean Engineering, Engineering Faculty, Hasanuddin University, Indonesia

Rahimuddin, ST., MT, Ph.D

Department of Marine System Engineering, Faculty of Engineering, Hasanuddin University, Indonesia

www.ijm-nasp.unhas.ac.id

FOREWORD

Dear Authors and Readers of IJM,

The International Journal of Metacentre (IJM) is addressed to scientists and professionals in order to share their experience, expert knowledge and research results concerning all aspects of the maritime application, technology, engineering, science, and transportation.

The IJM was founded in January 2021. The IJM continues as regularly two times per year (June and December) published by Departemen Teknik Perkapalan, Universitas Hasanuddin.

The IJM is an Open Access journal and does not charge readers or their institutions for access to the journal articles. The open-access supports the rights of users to read, download, copy, distribute, print, search, or link to the full texts of these articles provided they are properly acknowledged and cited. Also, the IJM maintains a standard double-blind peer-review process.

The IJM has started to publish the articles in June 2021. For this first edition, there are five original articles that have been published, including the article topics of ship production, ship hydrodynamics, ship structure, and ship transportation.

I appreciate the contribution of the authors in this first edition highly. Also, I would like to express my gratitude to editors and reviewers for their outstanding help and professionalism. I hope that the editors will bring further improvement and contribute to the development of the IJM.

Suandar Baso **Editor-In-Chief**

Volume 1, Number 1 - December 2021

Table of Contents

ARTICLES

The Effect of Immersion on Tensile Strength of Fiberglass-Polyester Composites for	
Shipbuilding Materials	
Andika Dwi Prasetio, Alamsyah, Taufik Hidayat, Amalia Ika Wulandari, Andi Mursid	
Nugraha Arifuddin, Muhammad Uswah Pawara	1-11
Identifying and Formulating Information System of Ship Production Process for an Indonesian Small Shipyard	
Mohammad Rizal Firmansyah, Syamsul Asri, Farianto Fachruddin, Wahyuddin,	12-23
Fadhil Rizki Clausthaldi	
An Experimental Study of Hydrodynamic Performance of a Planing Hull Due to the Improvement of Stern Flap: The Effects of Form and Angle	
Rosmani, Suandar Baso, Andi Dian Eka Anggriani, Lukman Bochary, Wahyuddin, Muhammad Akbar Asis, Andi Ardianti	24-35
Hinge and Pin Stress Analysis as a Function of Barge Opening Angle on Split Hoppe Barge	r
Andi Ardianti, Ganding Sitepu, Hamzah, Muh. Alif Fhady Akbar	36-48
Potential Track in North Maluku as an Alternative Rerouting Ex Ferry of the Bakaul Merak Track	heni
Andi Sitti Chairunnisa Mappangara, Misliah Idrus, Wihdat Djafar, Haris Djalante,	49-54
Rifkah Fitria	