

**Volume 1 No. 1, April 2023**

# **MICSE : Maritime in Community Service and Empowerment**

**E-ISSN :**

**ADVISORY EDITOR**

Prof. Jinglu Hu, (Waseda University)  
Prof. Ken Takagi. (The University of Tokyo)  
Annas Singgih Setiyoko, S.T., M.T. (Politeknik Perkapalan Negeri Surabaya)

**EDITOR IN CHIEF**

Dr. Catur Rakhmad Handoko, S.T., M.T. (Politeknik Perkapalan Negeri Surabaya)

**Co-EDITOR**

Evi Nafiatus Sholikhah, S.Tr.T., M.Tr.T. (Politeknik Perkapalan Negeri Surabaya)

**MANAGING EDITOR**

Mustika Kurnia Mayangsari, S.Kom., M.Tr.Kom. (Politeknik Perkapalan Negeri Surabaya)  
Ir. Anggara Trisna Nugraha, S.T., M.T., IPM. (Politeknik Perkapalan Negeri Surabaya)  
Eva Inaiyah Agustin, S.T., M.T. (Universitas Airlangga)

**ASSOCIATE EDITOR**

Prof. Dani Harmanto (Derby University)  
Dr. Taufiq Asyhari, (Cranfield University)  
Anggarjuna Puncak Pujiputra, S.T., M.T. (Politeknik Perkapalan Negeri Surabaya)

**EDITORIAL BOARD MEMBER**

Dr. Mohammad Yanuar Hariyawan, S.T., M.T., Universitas Telkom Surabaya  
Feby Agung Pamuji, S.T., M.T., Ph.D., Institut Teknologi Sepuluh Nopember  
Nilar Thein, Ph.D. (Yangon Technological University)  
Abdillah Aziz Muntashir, S.Tr.T., M.Tr.T. (Politeknik Astra)  
Aulia Rahma Annisa, S.ST., M.T. (Politeknik Perkapalan Negeri Surabaya)  
Alief Nur Aisyi Maulidhia, S.T., M.T. (Politeknik Perkapalan Negeri Surabaya)

**TIM REVIEWER PENGABDIAN MASYARAKAT**

Mohammad Basuki Rahmat, S.T., M.T. (Politeknik Perkapalan Negeri Surabaya)  
Afif Zuhri Arfianto (Politeknik Perkapalan Negeri Surabaya)  
Dr. Megan Koontz, Midwives College of Utah  
Vivin Setiani (Politeknik Perkapalan Negeri Surabaya)  
Dr. Lukman Handoko (Politeknik Perkapalan Negeri Surabaya)  
Farizi Rachman (Politeknik Perkapalan Negeri Surabaya)

e-ISSN :

Dr. Eng. I Putu Sindhu Asmara (Politeknik Perkapalan Negeri Surabaya)  
Denny Dermawan (Politeknik Perkapalan Negeri Surabaya)  
Dr. Eng. Teguh Hady Ariwibowo (Politeknik Elektronika Negeri Surabaya)  
Prof. AYKUT I. ÖLCER, (World Maritime University)  
Aliridho Barakbah (Politeknik Elektronika Negeri Surabaya)  
Dr. Viv Djanat Prasita, (Hangtuah University)  
D.Sc, Ph.D. Janusz Kozak, (Gdańsk University of Technology)  
Prof. Dr. Ing. Philippe RIGO, (University of Liege)  
Prof. Hui-Ming Wee, (Chung Yuan Christian University)  
Prof. Philipp Thies, (University of Exeter)

# **MICSE : Maritime in Community Service and Empowerment**

## **TABLE OF CONTENTS**

**Volume 1 No. 1, April 2023**

1. **Optimization of DC Motor 80BL Using LQR Methods on MATLAB Simulink for Community Empowerment Applications**  
Anisa Fitri Santosa, Rama Arya Sobhita, Anggara Trisna Nugraha
2. **Optimization of Application Control Using LQR and LQT Approaches: A Study on Community-Based Development Programs**  
Rachma Prilian Eviningsih, Anggara Trisna Nugraha, Rama Arya Sobhita
3. **A Study on the Application of One-Phase Controlled Wave Rectifiers for Full Resistive Load in Community**  
Bambang Gunanto
4. **Application of Alternating Current (AC) Generators in Turbine Systems for Sustainable Lighting Solutions in Rice Fields Near Beron Reservoir**  
Avada Rifqi Insani
5. **Evaluation of the Effectiveness of the Use of LQR-LQT Control System on DC Motor Dunkermotor GR30X10 for Energy Efficiency Improvement in Technology-Based Community Empowerment Program in Village X with SISO Approach Using MATLAB Simulink**  
Mochammad Nawal Gibran
6. **Comparative Evaluation of the Performance of LQR and LQT Methods in Limited Actualized Mechanical System Control for Technology Empowerment in Local Communities**  
Naufal Rendra Saputra
7. **Implementation of LQR and LQT to Improve Energy Efficiency and Performance of DC Motor Control Systems in Support of Community Empowerment Programs**  
Naufal Hariz
8. **LQR and LQT System Optimization Models to Improve the Output Response Performance of Brushless DC Motors (BLDC) in the Context of Maritime Community Empowerment**  
Ilham Akbar Syafa'atulla