

Journal of Engineering and Technological Sciences

Journal of Engineering and Technological Sciences welcomes full research articles in the area of Engineering Sciences from the following subject areas: Aerospace Engineering, Biotechnology, Chemical Engineering, Civil Engineering, Electrical Engineering, Engineering Physics, Environmental Engineering, Industrial Engineering, Information Engineering, Mechanical Engineering, Materials Science and Engineering, Manufacturing Processes, Microelectronics, Mining Engineering, Petroleum Engineering, and other application of physical, biological, chemical and mathematical sciences in engineering. Authors are invited to submit articles that have not been published previously and are not under consideration elsewhere.

Starting from Vol. 35, No. 1, 2003, full articles published are available online at <http://journals.itb.ac.id/index.php/jets>, and indexed by Scopus, Web of Science (Emerging Source Citation Index)-Clarivate Analysis, Ei Compendex, Google Scholar, Index Copernicus, DOAJ, ASEAN Citation Index, The Elektronische Zeitschriftenbibliothek EZB by University Library of Regensburg, EBSCO Open Science Directory, Chemical Abstract Service (CAS), Zurich Open Repository and Archive Journal Database, Indonesian Publication Index (IPI) and Science and Technology Index (SINTA),.

Publication History

Currently known as:

Journal of Engineering and Technological Sciences

Formerly known as:

- ITB Journal of Engineering Science (2007 - 2012)
- Proceedings ITB on Engineering Science (2003 - 2006)
- Proceedings ITB (1961 - 2002)

Editorial board of Journal of Engineering and Technological Sciences

Chief Editor

Tjandra Setiadi
Faculty of Industrial
Technology, ITB,
Indonesia

Deddy Kurniadi
Faculty of Industrial
Technology, ITB, Indonesia

Suwarno
School of Electrical
Engineering and
Informatics, ITB,
Indonesia

Jeong-Guon Ih
Korea Advanced
Institute of Science and
Technology, South
Korea

Editorial Board

Aiqin Wang
Center for Eco-material
and Green Chemistry,
Lanzhou Institute of
Chemical Physics,
Chinese Academy of
Sciences, P.R. China

Dudy Darmawan Wijaya,
Faculty of Earth Science
and Technology, ITB,
Indonesia

Tobias Nilsson
GFZ German Research
Centre for
Geosciences,
Potsdam, Germany

M Akbar Rhamdhani
Department of
Mechanical and
Product Design
Engineering, Swinburne
University of Technology,
Australia

Satria Bijaksana,
Faculty Mining and
Petroleum Engineering,
ITB, Indonesia

Judha Purbolaksono
Faculty of Engineering,
Universiti Teknologi Brunei,
Brunei Darussalam

Mark van Loosdrecht
Faculty of Applied
Sciences, Delft
University of
Technology, The
Netherlands

Chien Ming Wang
School of Civil
Engineering, The
University of
Queensland, Australia

Masyhur Irsyam
Faculty of Civil and
Environmental
Engineering, ITB,
Indonesia

Indah Rachmatiah S.
Salami
Faculty of Civil and
Environmental
Engineering, ITB, Indonesia

Taufik
CalPoly, Department
of Electrical
Engineering, San Luis
Obispo, United States

Shuren Wang
School of Civil
Engineering, Henan
Polytechnic University,
China

Publication assistant: Dini Sofiani Permatasari & Yuliah Qotimah. Address: *ITB Journal Publisher*, LPPM ITB, Center for Research and Community Services (CRCS) Building 6th & 7th Floor, Jl. Ganesha No. 10 Bandung 40132, Indonesia, Tel. +62-22-86010080, Fax.: +62-22-86010051; e-mail: jets@lppm.itb.ac.id.

Distribution: Distributed to other universities and research institutions for exchange publications, and to regular subscribers. Subscription per issue: Rp 100.000,- (domestic) and \$50 (overseas). Order form for subscription should be sent to the editorial office.

Reg. No. 691-SIC-UPPGT-SIT-1963, Accreditation No. 60/E/KPT/2016 (Nov 2016 - Nov 2021)

Published by *ITB Journal Publisher*, The Institute for Research and Community Services, Institut Teknologi Bandung, in collaboration with Indonesian Engineering Association (Persatuan Insinyur Indonesia - PII).

Cover Design by Chandra Tresnadi.

Table of Contents

1. A Novel Algorithm for Effective Vibration Control of Portal Frames Iraj Toloue, Mohd Shahir Liew, Indra Sati Hamonangan Harahap & Hsiu Eik Lee	315
2. Parameter Estimation for Class A Modeled Ocean Ambient Noise Xuebo Zhang, Wenwei Ying & Bo Yang	330
3. Vibration Parameter Optimization of a Linear Vibrating Banana Screen Using DEM 3D Simulation Xiaoqiu Wu, Zhanfu Li, Huihuang Xia & Xin Tong	346
4. Land Cover and Climate Change Impact on River Discharge: Case Study of Upper Citarum River Basin Arno Adi Kuntoro, Muhammad Cahyono & Edy Anto Soentoro	364
5. Experimental Assessment of Various Batteries and Propellers for Small Solar-Powered Unmanned Aerial Vehicle Parvathy Rajendran & Howard Smith	382
6. Prediction of Service Life Decline of Double Welded Wide Flanges due to Fatigue in Steel Arch Bridge under Excessive Loads Rusandi Noor & Muhammad Noor Asnan	392
7. Properties and Performance of Gas Diffusion Layer PEMFC Derived from Coconut Coir Fredina Destyorini, Yuyun Irmawati, Henry Widodo, Deni Shidqi Khaerudini & Nanik Indayaningsih	409
8. Analysis of Stress State of Bolts under Different Anchorage Qualities Sheng Zeng, Jie Zhou, Bing Sun & Xia Wen	420
9. Application of RBFNNs Incorporating MIMO Processes for Simultaneous River Flow Forecasting Joseph Tripura, Parthajit Roy & Abdul Karim Barbhuiya	434