

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

Suprijanto
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

Heri Andreas,
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 Industrial
Technology Universitas
Pertamina, Indonesia

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

Afriyanti Sumboja
Faculty of Mechanical
and Aerospace
Engineering, ITB,
Indonesia

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

Publication assistant: Yuliah Qotimah. Address: *ITB Journal Secretariat*, LPPM ITB, Center for Research and Community Services (CRCS) Building 7th Floor, Jl. Ganessa 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. 30/E/KPT/2018 (Vol. 50 No.1, 2018 - Vol. 54 No.6, 2022)

Published by 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. Global Inversion of Grounded Electric Source Time-domain Electromagnetic Data Using Particle Swarm Optimization Cahyo Aji Hapsoro, Wahyu Srigutomo, Acep Purqon, Warsa Warsa, Doddy Sutarno & Tsuneomi Kagiyama	210101
2. Site Test Performance and Numerical Study of Vertical Axis Hydrokinetic Turbine Straight Blade Cascaded (VAHTSBC) Ridho Hantoro, Sarwono Sarwono, Fernando Parsaulian Panjaitan, Erna Septyaningrum & Nuril Hidayati	210102
3. Experimental Study and Numerical Model of Spruce and Teak Wood Strength Properties Under Compressive High Strain Rate Loading Ediansjah Zulkifli, Patria Kusumaningrum & Diah Puspita Rahmi	210103
4. Effectiveness of Oil Palm Frond Activated Carbon for Removing COD, Color and Fe from Landfill Leachate Mohd Suffian Yusoff, Nor Hana Adam, Kameleswary Watalinggam, Hamidi Abdul Aziz & Motasem Y.D. Alazaiza	210104
5. Study of Constrained Velocity Inversion of Seismic Data in North Sumatra Basin Tabah Fatchur Rubiyana & Budi Eka Nurcahya	210105
6. Synthesis of Bio-hexane and Bio-Hexene from Sorbitol Using Formic Acid as Reducing Agent Michael Gunawan, Tedi Hudaya & Tatang Hernas Soerawidjaja	210106
7. Production of Biodegradable Sulfonated Methyl Ester by a Falling Film Reactor for ASP Flooding in EOR Retno G. Dewi, Megawati Zunita, Permata A. Priyadi, Michael D.M. Sitompul, Annisa N. Shabrina, Faiq I. Akhiroti & Johnner Sitompul	210107

8. Extraction of Free Fatty Acid Mixtures from Rice Bran Oil by Aqueous Renewable Alcohols: Liquid-liquid Equilibrium Diagram and Number of Equilibrium Stages
I Dewa Gede Arsa Putrawan, Menur Widiasih & Rani Wulantari 210108
9. Gene Family Abundance Visualization based on Feature Selection Combined Deep Learning to Improve Disease Diagnosis
Hai Thanh Nguyen, Tai Tan Phan, Tinh Cong Dao, Phuc Vinh Dang Ta, Cham Ngoc Thi Nguyen, Ngoc Huynh Pham & Hiep Xuan Huynh 210109
10. Extreme Significant Wave Height Map of Indonesia Based on SEAFINE and ERA5 Database
Andojo Wurjanto, Julfikhsan Ahmad Mukhti & Hijir Della Wirasti 210110
11. Bond Strength Behavior for Deformed Steel Rebar Embedded in Recycled Aggregate Concrete
Aseel AbdulAzeez AbdulRidha, Raad Abdulkhudhur & Hussein Al-Quraishi 210111
12. Pollution Load Allocation on Water Pollution Control in the Citarum River
Mitta Ratna Djuwita, Djoko M. Hartono, Setyo S. Mursidik & Tri Edhi Budhi Soesilo 210112