

ISSN: 2186-2990

DOI: <http://dx.doi.org/10.21660/geomate>



Scopus

EBSCO

CENGAGE Learning



GIF GLOBAL IMPACT FACTOR



**VOLUME 13**

**Issue 37 & 38**

**September-October 2017**

# International Journal of GEOMATE

**(Geotechnique, Construction Materials and Environment)**



**Tsu, Japan**

**THE GEOMATE INTERNATIONAL SOCIETY**

<http://www.geomatejournal.com/>

# **INTERNATIONAL JOURNAL OF GEOMATE**

## **(Geotechnique, Construction Materials & Environment)**

### **ISSN: 2186-2982(Print), 2186-2990(Online)**

*International Journal of GEOMATE is Abstracted/Indexed in:* SCOPUS, Web of Science Emerging Sources Citation Index (ESCI), EBSCO, Global Impact Factor (GIF), Gale (a Cengage Learning Company), ULRICHSWEB, Global Serials Directory, etc.

Impact Factor (by GIF): 2015: 1.009; 2014: 0.987; 2013: 0.825; 2012: 0.714

Paper acceptance rate: 2015: 35.28%; 2014: 37.5%; 2013: 38.71%; 2012: 46.66%; 2011: 61.53%

#### Honorary Editor

Prof. Dr. Shoji Inoue, Professor Emeritus, Mie University, Japan

#### Editor-in-Chief:

Prof. Dr. Zakaria Hossain, Mie University, Japan

#### Assistant to Editor-in-Chief:

Dr. Jim Shiau, University of Southern Queensland, Australia

#### Associate Editors:

Prof. Dr. Fumio Tatsuoka, Tokyo University of Science, Japan

Prof. Dr. Sai Vanapalli, University of Ottawa, Canada

Prof. Dr. Ian Jefferson, University of Birmingham, United Kingdom

Prof. Dr. Mounir Bouassida, National School of Engineering of Tunis

Prof. Dr. Bujang B.K. Huat, University Putra Malaysia, Malaysia

Prof. Dr. Nemy Banthia, University of British Columbia, Canada

Prof. Dr. Toshinori Sakai, Mie University, Japan

Prof. Dr. A.S.M. Abdul Awal, University Technology Malaysia, Malaysia

Prof. Dr. Jing-Cai Jiang, University of Tokushima, Japan

Prof. Dr. Lilia Robles Austriaco, Angles University Foundation, Philippines

Prof. Dr. Muhammad Ibn Ibrahimy, International Islamic University, Malaysia

Prof. Dr. Shamsul I. Chowdhury, Roosevelt University, USA

Prof. Dr. Isabel Pinto, University of Coimbra, Portugal

Prof. Dr. Kaneco Satoshi, Mie University, Japan

Prof. Dr. Mohammad Shariful Islam, BUET, Bangladesh

Prof. Dr. Mark Jaksa, University of Adelaide, Australia

Prof. Dr. Kingshuk Roy, Nihon University, Japan

Prof. Dr. Md. Shahin Hossain, Islamic University of Technology, Bangladesh

Prof. Dr. Ranjith Pathegama Gamage, Monash University, Australia

Prof. Dr. Pedro Arrua, Universidad Tecnológica Nacional, Argentina

Prof. Dr. Miguel A. Pando, University of North Carolina, USA

Full list of sub-editors and editorial assistants are given in the web page.

-----  
Copyright © 2017 by International Journal of GEOMATE

All rights reserved. In principle, no part of this publication or the information contained herein may be reproduced in any form or by any means, translated in any language, stored in any data base or retrieval system, or transmitted in any form or by any means without prior permission in writing from the publisher.

Disclaimer: The editors and the publisher have tried their best effort to ensure integrate and the quality of this publication and information herein. However, they give no warranty of any kind, expressed or implied with regard to the material contained in this journal, and will not be liable in any event for the consequences of its use.

Publisher: The GEOMATE International Society

Place of publication: Tsu city, Mie, Japan

Contact: Editor-in-Chief, Dr. Zakaria Hossain, Professor, Graduate School of Bioresources,

Mie University, 1577 Kurimamachiya, Tsu city, Mie 514-8507, Japan

E-mail: editor@geomatejournal.com, URL: <http://www.geomatejournal.com/>

Tel & Fax: +81-59-231-9578

# **INTERNATIONAL JOURNAL OF GEOMATE**

## **(Geotechnique, Construction Materials & Environment)**

### **ISSN: 2186-2982(Print), 2186-2990(Online)**

Founded in 2011, *The "International Journal of GEOMATE"* is a Scientific Journal of the GEOMATE International Society that encompasses a broad area in Geotechnique, Construction Materials and Environment. The key objective of this journal is to promote interdisciplinary research from various regions of the globe. The editorial board of the journal is comprised of extensively qualified researchers, academicians, scientists from Japan and other countries of the world. It is peer-reviewed journal that is published quarterly. All articles published in this journal are available on line. Contributors may download the manuscript preparation template for submitting paper or contact to the Editors-in-Chief [editor@geomatejournal.com].

#### Aims and Scopes:

The journal aims to become an efficient mean of publishing and distributing high quality information from the researchers, scientists and engineers. The main scopes are as follows:

- Advances in Composite Materials
- Computational Mechanics
- Foundation and Retaining Walls
- Slope Stability
- Soil Dynamics
- Soil-Structure Interaction
- Pavement Technology
- Tunnels and Anchors
- Site Investigation and Rehabilitation
- Ecology and Land Development
- Water Resources Planning
- Environmental Management
- Earthquake and Tsunami Issues
- Safety and Reliability
- Geo-Hazard Mitigation
- Case History and Practical Experience
- Others

#### Review Policy:

- The paper which meets the editorial criteria will be assigned to at least two anonymous reviewers for peer-review.
- Authors may recommend some reviewers - however, Editors are entitled to consider them or not.
- The Editorial Board consists of an outstanding group that is responsible for the review process of the submitted manuscripts and will guarantee the quality of the publication.
- The manuscript will be published as soon as it is accepted and all the modifications recommended by the reviewers are made.
- The review procedure is as strict as in the most prestigious journals, but publication time is minimized.
- Based on the reviewers' comments, the Editors will make a decision on a paper as one of the following four conditions:
  1. Accept without revision
  2. Accept with minor revision
  3. Encourage to resubmit with major revision
  4. Reject

In case of acceptance with either minor or major revisions, the authors will be advised to revise the manuscript according to the reviewers' comments.

# **INTERNATIONAL JOURNAL OF GEOMATE**

## **(Geotechnique, Construction Materials & Environment)**

**ISSN: 2186-2982(Print), 2186-2990(Online)**

### **Instruction to Author:**

- The manuscript to be submitted should be prepared using the manuscripts submission template.
- Download the manuscript formatting template from download files menu.
- The manuscript to be submitted adheres to the rules and guidelines given in manuscript template.
- The manuscript should be written in English according to the manuscript template.
- The page limit is 8 pages for ordinary manuscript and 10 pages for invited manuscript.
- The references inside the text and in the bibliographic list should follow the formats as per the manuscript template.
- All figures, graphs and tables must follow the font-style of the text. Ensure clear and good quality picture in the first submission.
- Selected manuscript from "GEOMATE Conference Presentation" will be reprinted in the journal with nominal charges (40% discount of regular fees) based on the agreement of the authors.
- Accepted papers which were not presented in "GEOMATE Conference" need publication charges of 600 USD as regular fees. Any page or fraction thereof exceeding page limit will be charged 100 USD per page.
- This is required for its maintenance such as managing article submission and peer review, typesetting, tagging and indexing of articles, hosting articles on dedicated servers, supporting sales and marketing costs to ensure global dissemination via different databases, and permanently preserving the published journal article.
- Copyright: GEOMATE required to obtain copyright of papers from authors for the term of copyright by signing and returning the publishing agreement.

### **Manuscript Submission Method:**

- Submit full manuscript online using "Submission" menu. We accept online submission only.
- Copyright release form to be e-mailed separately along with manuscript submission. Download it from the "Download Files Menu".
- Abolition of printed version: Considering environmental conservation, the paper version has been discontinued since June 2016.
- For any questions: Contact us [editor@geomatejournal.com].

**Membership Fees:** Regular Member 100USD/year; Life Member 900USD only.

### **Membership Benefits:**

- Receive Membership ID/Card
- Use M.G. or L.M.G. after your name (M=Member, G=Geomate, L=Life)
- Be involved in GEOMATE technical committees and activities
- Be up-to-date on the current development in the field
- Priority right to participate in international conferences with 20% discount
- 20% discount for Journal paper publication
- Vote in the election of GEOMATE officers
- Access to the Journal webpage

### **Membership Application (send the related items below using online form):**

- Full Name:
- Title/Position (check one):  Prof.  A/Prof.  Dr.  Mr.  Ms.
- Membership Category (check one):  Regular Member  Life Member  Others
- Address:
- Tel & Fax:
- E-mail (co-authors email separated by comma):
- Research Area (check one):  Geotechnique  Construction Materials  Environment  Others

# INTERNATIONAL JOURNAL OF GEOMATE

## (Geotechnique, Construction Materials & Environment)

### ISSN: 2186-2982(Print), 2186-2990(Online)

#### STATEMENT ON PUBLICATION ETHICS AND PUBLICATION MALPRACTICE (1/2)

The International Journal of GEOMATE is a double blind peer-reviewed journal. All parties involved in the act of publishing an article for this journal, i.e.: the editors, the author, the peer-reviewers and the publisher must follow the ethical behavior indicated in the COPE's Best Practice Guidelines for Journal Editors. In order to warrant high-quality scientific publications, public trust in scientific findings, and that people receive credit for their ideas, the ethical standards for publication are followed.

#### DUTIES OF EDITORS

Decision on the Publication of Article: Based on the double blind peer review of a paper, the Chief Editor and the Associate Editor are responsible for deciding which of the articles accepted for publication. Neither the Chief Editor nor the Associate Editor have the authority to influence the reviewers who are conducting the blind review of the articles submitted for peer review. The Chief Editor and the Associate Editor may be guided by the policies of the journal's Editorial Board and subjected to such legal requirements regarding libel, copyright infringement and plagiarism.

Honest Play: Manuscripts submitted to GEOMATE shall be exclusively evaluated based mainly on their intellectual quality and significance. GEOMATE will not give any consideration on authors' race, gender, sexual orientation, religious beliefs, ethnic origin, citizenship, or political philosophy.

Confidentiality: The Chief Editor, the Associate Editor and any editorial staff must not disclose any information about a submitted manuscript to anyone other than the corresponding author, reviewers, potential reviewers, other editorial advisers, and the publisher.

Disclosure and Conflicts of Interest: Unpublished materials disclosed in a submitted manuscript must not be used by anyone who has a view of the manuscript (while handling it) in his or her own research without the express written consent of the author.

#### DUTIES OF REVIEWERS

Contribution of Double Blind Peer Review: Any identifying information will be stripped out from the submitted paper so that the reviewers do not know any information about the authors and vice versa i.e.: reviewers' comments to the editors are confidential and before passing on to the authors, it will be made anonymous. The Double Blind Peer review assists the reviewers in making editorial decisions, while editorial communications with the author may also assist the author in improving the manuscript. The names of the reviewers known only to the Chief Editor and the Associate Editor and it remains strictly confidential to authors.

Punctuality: Any selected referee who feels unqualified to review the assigned manuscript or unable to provide a prompt review should notify the Chief Editor and the Associate Editor and excuse himself/herself from the review process.

Confidentiality: Private information or ideas obtained through double blind peer review must be kept confidential and not used for personal advantage. Manuscripts received for review must be treated as confidential documents. Without any authorization by the Chief Editor and the Associate Editor, the information of the submitted manuscript must not be shown to, or discussed with, others.

Standards of Objectivity: There shall be no personal criticism of the author. Reviewers should express their views clearly with supporting arguments and reviews should be conducted objectively.

Acknowledgment of Sources: Authors should cite relevant references and corresponding citation if any statement in the submitted paper had been previously published or reported elsewhere. Reviewers should identify relevant published work that has not been cited by the authors. If a reviewer finds any substantial similarity or overlap between the submitted manuscript and any other published works, s/he should inform to the Chief Editor/Associate Editor's.

Conflict of Interest: In any reviewers find that the submitted manuscript has conflicts of interest resulting from competitive, collaborative, or other relationships or connections with any of the authors, companies, or institutions, s/he should not review that manuscripts and notify to the Chief Editor/Associate Editor's promptly.

#### DUTIES OF AUTHORS

Reporting Standards: Authors of papers of original research should present an accurate account of the work performed as well as an objective discussion of its significance. Underlying data should be represented accurately in the paper. A manuscript should contain sufficient detail and references to permit others to replicate the work. Fraudulent or knowingly inaccurate statements constitute unethical behavior and are unacceptable.

Data Access and Retention: Authors may be asked to provide the raw data in connection with a paper for editorial review, and should be prepared to provide such data for public access or for access to the readers of the journal.

Originality and Plagiarism: The authors should ensure that they have written entirely original works, and if the authors have used the work and/or words of others, this must be appropriately cited or quoted. All papers published by International Journal of GEOMATE are committed to publishing only original material, i.e., material that has neither been published elsewhere, nor is under review elsewhere. Paper that are found to have been plagiarized from a manuscript by other authors, whether published or unpublished, will incur plagiarism sanctions.

# INTERNATIONAL JOURNAL OF GEOMATE

## (Geotechnique, Construction Materials & Environment)

ISSN: 2186-2982(Print), 2186-2990(Online)

### STATEMENT ON PUBLICATION ETHICS AND PUBLICATION MALPRACTICE (2/2)

Acknowledgment of Sources: Proper acknowledgment of the work of others must always be given. Authors should cite publications that have been influential in determining the nature of the reported work.

Manipulation of Citations: Submitted papers that are found to include citations whose primary purpose is to increase the number of citations to a given author's work, or to articles published in a particular journal, will incur sanctions for manipulation of citations.

Falsification and Fabrication: Submitted papers that are found to have either falsified or fabricated numerical/experimental results, including the manipulation of images, will incur data fabrication and falsification sanctions.

Authorship: The authorship of a paper should be limited to those who have made a significant contribution to the conception, design, execution, or interpretation of the reported study. All those who have made significant contributions should be listed as co-authors. Where there are others who have participated in certain substantive aspects of the research project, they should be acknowledged or listed as contributors.

Scientific Contribution: All listed authors must have made a significant scientific contribution to the research in the manuscript and approved all its claims. It is important to list everyone who made a significant scientific contribution, including students and laboratory technicians.

Corresponding Author: Corresponding Author is the author responsible for communicating with the journal for publication. The corresponding author should ensure that all appropriate co-authors and no inappropriate co-authors are included on the paper, and that all co-authors have seen and approved the final version of the paper and have agreed to its submission for publication.

Acknowledgment of Funding Sources: Funding sources for the research reported in the manuscript should be duly acknowledged after the conclusion and before the list of references.

Disclosure and Conflicts of Interest: All sources of financial support for the project or any substantive conflict of interest that might be interpreted to influence the results of the paper should be disclosed.

Fundamental Errors in Published Works: It is the author's responsibility to promptly notify the Chief Editor/Associate Editor if s/he discovers a significant error or inaccuracy in his/her own published work to retract or correct the paper.

Redundant, Concurrent or Multiple Publications: An author should not in general publish manuscripts describing essentially the same research in more than one journal or primary publication. Manuscripts that are found to have been published elsewhere, or to be under review elsewhere, will incur duplicate submission/publication sanctions. If authors have used their own previously published work, or work that is currently under review, as the basis for a submitted manuscript, they are required to cite the previous work and indicate how their submitted manuscript offers novel contributions beyond those of the previous work. Submitting the same manuscript to more than one journal concurrently constitutes unethical publishing behavior and is unacceptable. Redundant publications involve the inappropriate division of study outcomes into several articles.

### SANCTIONS

In the event that there are documented violations of any of the above mentioned policies in any journal, regardless of whether or not the violations occurred in a journal published by GEOMATE, the following sanctions will be applied:

- *Immediate rejection of the infringing manuscript.*
- *Immediate rejection of every other manuscript submitted to GEOMATE by any of the authors of the infringing manuscript.*
- *Prohibition against all of the authors for any new submissions to GEOMATE, either individually or in combination with other authors of the infringing manuscript, as well as in combination with any other authors. This prohibition will be imposed for a minimum of five years.*
- *Prohibition against all of the authors from serving on the Editorial Board of the International Journal of GEOMATE*

In cases where the violations of the above policies are found to be particularly outrageous, the publisher reserves the right to impose additional sanctions beyond those described above.

# INTERNATIONAL JOURNAL OF GEOMATE

## (Geotechnique, Construction Materials & Environment)

### ISSN: 2186-2982(Print), 2186-2990(Online)

*Volume 13, Issues 37 Special Issue*

REFERENCE EVAPOTRANSPIRATION BORDERS MAPS OF EGYPT BASED ON KRIGING SPATIAL STATISTICS METHOD Mohammed A. El-Shirbeny and Bassam Abdellatif	1-8
ENSEMBLE MLP NETWORKS FOR VOICES COMMAND CLASSIFICATION TO CONTROL MODEL CAR VIA PIFACE INTERFACE OF RASPBERRY PI Narissara Eiamkanitchat, Nontapat Kuntekul and Phasit Panyaphruek	9-15
SOME PROPERTIES OF THE PRODUCT OF (P,Q) – FIBONACCI AND (P,Q) - LUCAS NUMBER Alongkot Suvarnamani and Mongkol Tatong	16-19
ONLINE TRACER STUDY OF BUNG HATTA UNIVERSITY Karmila Suryani, Khairudin and Eril Syahmaidi	20-27
ANTIOXIDANT PROPERTIES AND INHIBITORY EFFECTS OF TRIGONA HONEY AGAINST Staphylococcus aureus PLANKTONIC AND BIOFILM CULTURES Wen Jie Ng, Yek Jia Chan, Zhi Khoon Lau, Ping Ying Lye and Kah Yaw Ee	28-33
A COMPARATIVE STUDY ON STRUCTURE IN BUILDING USING DIFFERENT PARTITION RECEIVING EXPENSE EARTHQUAKE Sutrisno, Rusnardi Rahmat Putra and Ganefri	34-39
ELECTROCHEMICAL TECHNIQUE FOR 1, 3-DICHLORO-2-PROPANOL ANALYSIS Kanokwan Rudisirisak and Nittaya Ngowattana	40-43
QUANTUM PARTICLE SWARM OPTIMIZATION FOR ECONOMIC DISPATCH PROBLEM USING CUBIC FUNCTION CONSIDERING POWER LOSS CONSTRAINT Fahad Parvez Mahdi, Pandian Vasant, M. Abdullah-Al-Wadud, Junzo Watada, Vish Kallimani and Patrick Yeoh Siew Fai	44-50
AN EVALUATION OF ELECTRICITY CONSTRUCTION SERVICE INDUSTRIAL NEEDS-BASED ELECTRICAL INSTALLER Sukardi and M. Giatman	51-59
VIRTUAL SCREENING OF COMMERCIAL CYCLIC PEPTIDES AS $\beta$ -OG POCKET BINDER INHIBITOR IN DENGUE VIRUS SEROTYPE 2 Usman Sumo Friend Tambunan, Arli Aditya Parikesit, Vincentia Cheryl Adam, Mochammad Arfin Fardiansyah Nasution, Ratih Dyah Puspitasari and Djati Kerami	60-68
A SIMULATION OF RISK MANAGEMENT IN INFORMATION SYSTEM PROJECTS FOR INDUSTRIAL ENGINEERING POSTGRADUATES Sakgasit Ramingwong and Lachana Ramingwong	69-74
THE ROLE OF LOCUS CONTROL AND LEARNING STYLES IN THE DEVELOPMENT OF THE BLENDED LEARNING MODEL AT PSU Z Mawardi Effendi, Hansi Effendi and Hastria Effendi	75-80
ETHICS ON SOCIAL NETWORKING: A PRELIMINARY SURVEY IN THAILAND Lachana Ramingwong and and Sakgasit Ramingwong	81-86
IMPROVEMENT OF THE TRANSFER PATH USING A MOVING FLOW SEPARATION SYSTEM AND A TRANSPORTATION VULNERABLE ESCALATOR SYSTEM Minjung Shin, Jinho Hur, Youngsam Moon, Jinho Kim and Heekyu Kim	87-92

**INTERNATIONAL JOURNAL OF GEOMATE**  
**(Geotechnique, Construction Materials & Environment)**  
**ISSN: 2186-2982(Print), 2186-2990(Online)**

*Volume 13, Issues 37 Special Issue*

CONSTRUCTION OF GRAPHIC DESIGN INTERACTIVE CD FOR LEARNING ACHIEVEMENT USING FREQUENCY DISTRIBUTION OF RESPONDENTS Asrul Huda, Kasman Rukun and Yeka Hendriyani	93-97
EFFICACY OF STINGLESS BEE LEPIDOTRIGONA TERMINATA AS INSECT POLLINATOR OF F1 HYBRID CUCUMBER Anchalee Sawatthum, Piyaporn Jitake, Orapin Rangyai, Rattana Prangprayong, Piyaporn Pimboon and Kanokporn Suparit	98-102
REDUCING CHEESE-MAKING BY-PRODUCT DISPOSAL THROUGH ETHANOL FERMENTATION AND THE UTILIZATION OF DISTILLERY WASTE FOR FERTILIZER Gemilang Lara Utama, Tb. Benito A. Kurnani, Sunardi and Roostita L. Balia	103-107
EVALUATION OF METAL CONTAMINATION FOR RIVER USING BRYOPHYTE IN THE KINOKAWA RIVER CATCHMENT Takuma Kubohara and Hiroyuki Ii	108-115
A PRELIMINARY STUDY OF THE UTILIZATION OF LIQUID SMOKE FROM PALM KERNEL SHELLS FOR ORGANIC MOUTHWASH M. Faisal, Asri Gani, Husni and Hiroyuki Daimon	116-120
ADSORPTION OF Cd AND Pb USING BIOMASS OF MICROALGAE SPIRULINA PLATENSIS Lily Surayya Eka Putri, Putri Sintya Dewi and Dasumiati	121-126
GEOTHERMAL AND HOT SPRING WATER ORIGIN DETERMINATION USING OXYGEN AND HYDROGEN STABLE ISOTOPE IN THE TOYOHIRAKAWA CATCHMENT, HOKKAIDO, JAPAN Hiroyuki Ii, Hiroshi Kanbara and Yohei Kawabata	127-132
SPATIAL ANALYSIS OF EROSION AND LAND CRITICALITY OF THE UPSTREAM CITARUM WATERSHED Ana Nurganah Chaidar, Indratmo Soekarno, Agung Wiyono and Joko Nugroho	133-140
RESTRAINT EFFECTS OF 2-MIB CONCENTRATION INCREASES DUE TO TOTAL PHOSPHORUS MANAGEMENT IN THE UPPER KINOKAWA WATERSHED Ryota Hino, Nobuyuki Egusa, Yasuhiro Wada, Masahide Ishizuka and Tatemasa Hirata	141-148



**INTERNATIONAL JOURNAL OF GEOMATE**  
**(Geotechnique, Construction Materials & Environment)**  
**ISSN: 2186-2982(Print), 2186-2990(Online)**

*Volume 13, Issues 38*

TEMPORAL VARIATIONS IN PERCHED WATER AND GROUNDWATER QUALITIES AT AN OPEN SOLID WASTE DUMPSITE IN SRI LANKA Udayagee Kumarasinghe, Y. Inoue, T. Saito, M. Nagamori, Y. Sakamoto, M.I.M. Mowjood, and K. Kawamoto	1-8
HE ESTIMATED BEARING CAPACITY AND SWELL POTENSIAL OF DEEP SOIL MIXING ON EXPANSIVE SOIL BY SMALL SCALE MODEL LABORATORIUM Yulvi Zaika, Arief Rachmansyah	9-15
INFLUENCE OF DEFORMATION MODULI ON THE SETTLEMENT OF EARTH DAMS Smail Nadia and Rouissat Bouchrit	16-22
EVALUATION OF VARIOUS INTERPOLATION TECHNIQUES FOR ESTIMATION OF SELECTED SOIL PROPERTIES R. S. Morgan, M. Abd El-Hady, I. S. Rahim, J. Silva, S. Ribeiro	23-30
GREEN SUPPLY CHAIN IMPLEMENTATION IN MANUFACTURING INDUSTRY: A CASE STUDY Alina Shamsuddin, Eta Wahab, Nor Hazana Abdullah and Fawad Habib Qazi	31-37
ASSESSING THE EFFECT OF PREDICTED CLIMATE CHANGE ON SLOPE STABILITY IN NORTHERN THAILAND: A CASE OF DOI PUI Thapthai Chaithong, Suttisak Soralump, Damrong Pungsuwan, and Daisuke Komori	38-48
SLOPE STABILITY ANALYSIS USING MINI PILE: A CASE STUDY IN CIGEMPOL RIVER, KARAWANG, WEST JAWA Niken Silmi Surjandari, R. Harya Dananjaya, and Etika Cahyaning Utami	45-53
EFFECT OF GRAVEL CONTENT ON SOIL SUCTION Yaxu Liu <sup>1</sup> , Ivan Gratchev, Somayeh Saeidi and Sameera Pitawala	54-58
OEDOMETRIC STUDY OF DREDGED MARINE SOILS ADMIXED WITH SAND FOR SETTLEMENT REDUCTION Siti Farhanah S.M Johan and Chee-Ming Chan	59-62
MEASUREMENT OF THE NATURAL FREQUENCY AND DEFLECTION OF THE WIDESPAN-FLOOR SYSTEM DUE TO DYNAMIC LIVE LOAD Bambang Supriyadi	63-68
ON THE NAILED SOIL SLOPES RESEARCH DEVELOPMENT As'ad Munawir	69-78
TUNNEL CONSTRUCTION IMPACT ON GROUNDWATER CHARACTER OVER 25 YEARS OF OBSERVATION AT MATSUMOTO TUNNEL, MATSUMOTO CITY, JAPAN Hiroyuki Ii	79-88
PRIMARY POLLUTANT SELECTION AND DETERMINATION OF WATER QUALITY INDEX IN CLASS DISCHARGE DIVISION BASED ON THREE CLASS MARKOV MODEL Mariana Marselina, Arwin Sabar, Indah R S S Salami, and Dyah Marganingrum	89-96
THE COMPARATION OF BACK PROPAGATION METHOD AND KOHONEN METHOD FOR GAS IDENTIFICATION Riki Mukhaiyar	97-103

**INTERNATIONAL JOURNAL OF GEOMATE**  
**(Geotechnique, Construction Materials & Environment)**  
**ISSN: 2186-2982(Print), 2186-2990(Online)**

*Volume 13, Issues 38*

SETTLEMENT REDUCTION OF DREDGED MARINE SOILS (DMS) ADMIXED WITH CEMENT & WASTE GRANULAR MATERIALS (WGM): 1-D COMPRESSIBILITY STUDY Mohammad Zawawi Rosman and Chan Chee-Ming	104-110
ADSORPTION OF NATURAL ORGANIC MATTER (NOM) IN PEAT WATER BY LOCAL INDONESIA TROPICAL CLAY SOILS Suprihanto Notodarmojo, Mahmud and Amanda Larasati	111-119
ASSESSING THE IMPACTS OF CLIMATE CHANGE ON ROAD INFRASTRUCTURE Zeshen Shao, Graham Jenkins and Erwin Oh	120-128
EFFECT OF RUBBER POWDER PARTICLE ON THE STRENGTH OF FOAMED CONCRETE Siti Radziah Abdullah, Akhtar Izzaty Riwayat, A.S.M. Abdul Awal and M. Zakaria Hossain	129-134
ESTIMATION OF VS30 BASED ON SOIL INVESTIGATION BY USING MICROTREMOR OBSERVATION IN PADANG, INDONESIA Rusnardi Rahmat Putra	135-140
LATERAL AND UPLIFT STATIC LOAD TESTS OF PRECAST CONCRETE PILE Jialin Zhou, Erwin Oh, Xin Zhang, Hongsheng Jiang, Peisen Wang, Wei Liu and Shuangli Wei	141-148
EFFECT OF LATERAL BOUNDARY CONDITION ON CONFINED -REINFORCED EARTH SUBJECTED TO DIFFERENTIAL SETTLEMENT Ho Manh Hung, Jiro Kuwano and Shinya Tachibana	149-156
STABILITY OF SLOPES ON HOMOGENEOUS CLAYS OF VARIABLE STRENGTH BY THE LIMIT EQUILIBRIUM AND FINITE ELEMENT ANALYSIS METHODS Abdul Karim M. Zein and Waleed Abdel Karim	157-164
INTERNAL EROSION OF VOLCANIC COARSE GRAINED SOILS AND ITS EVALUATION Dao Minh Hieu, Shima Kawamura and Satoshi Matsumura	165-172
ELECTROKINETIC PHENOMENA OF CATION EXCHANGE AND ITS EFFECT ON THE BEHAVIOUR OF EXPANSIVE CLAYS Nahesson Panjaitan and Ahmad Andi	173-177
STRENGTH CHARACTERISTICS OF COMPACTED SOIL WITH PARTICULAR REFERENCE TO SOIL STRUCTURE AND ANISOTROPY Shunzo Kawajiri, Takayuki Kawaguchi, Shintaro Yamasaki, Dai Nakamura, Satoshi Yamashita and Satoru Shibuya	178-185
BEHAVIOUR OF PILE SUPPORTED WHARF IN LIQUEFIED SOILS Mohamed Faizur Rahaman Khazi and Mahmood Vazeer	186-193