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

















**VOLUME 17** Issue 61 & 62 September - October 2019

# International Journal of GEOMATE

(Geotechnique, Construction Materials and Environment)





THE GEOMATE INTERNATIONAL SOCIETY

http://www.geomatejournal.com/

## (Geotechnique, Construction Materials & Environment) ISSN: 2186-2982(Print), 2186-2990(Online)

<u>International Journal of GEOMATE is Abstracted/Indexed in</u>: 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 the 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. Valeriy Perminov, Tomsk Polytechnic University, Russia

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. Mark Jaksa, University of Adelaide, Australia

Prof. Dr. Kaneco Satoshi, Mie University, Japan

Prof. Dr. Junichiro Takeuchi, Kyoto University, Japan

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

Prof. Dr. Kingshuk Roy, Nihon University, Japan

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

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

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

Prof. Dr. Suksun Horpibulsuk, Suranaree University of Technology, Thailand

Prof. Dr. Musharraf Zaman, University of Oklahama, USA

Prof. Dr. Rafiqul Tarefder, University of New Mexico, USA

A/Prof. Dr. John Victor Smith, RMIT University, Australia

Prof. Dr. Basir Mir, National Institute of Technology Srinagar, India

Prof. Dr. Lily Surayya Eka, State Islamic University Syarif Hidayatullah Jakarta, Indonesia

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

\_\_\_\_\_

#### Copyright @ 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 database 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 integration 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

## (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 a peer-reviewed journal that is published quarterly. All articles published in this journal are available online. 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.

## (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. List of references must be translated into English if other languages (both should be written).

The page limit is 8 pages for ordinary manuscript and 10 pages for the 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 800 USD as regular fees. Any page or fraction thereof exceeding page limit will be charged 100 USD per page. Extra author fee is 100 USD/author if exceeding 5 authors.

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.

#### Submission Method:

Submit full manuscript online using "Submission" menu. We accept online submission only.

Copyright release form to be e-mailed separately along with the 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):  $\square$  Prof.  $\square$  A/Prof.  $\square$  Dr.  $\square$ Mr.  $\square$ 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

(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

<u>A decision on the Publication of Article:</u> 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 has 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.

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

<u>Confidentiality:</u> 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.

<u>Disclosure and Conflicts of Interest:</u> 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**

<u>The contribution of Double-Blind Peer Review:</u> 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.

<u>Punctuality:</u> 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.

<u>Confidentiality:</u> 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.

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

<u>Acknowledgment of Sources:</u> 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 the Chief Editor/Associate Editors.

<u>Conflict of Interest:</u> 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 Editors prompt.

### DUTIES OF AUTHORS

<u>Reporting Standards:</u> 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.

<u>Data Access and Retention:</u> 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.

<u>Originality and Plagiarism</u>: 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. The paper that is found to have been plagiarized from a manuscript by other authors, whether published or unpublished, will incur plagiarism sanctions.

## (Geotechnique, Construction Materials & Environment) ISSN: 2186-2982(Print), 2186-2990(Online)

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

<u>Acknowledgment of Sources:</u> 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.

<u>Manipulation of Citations</u>: 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.

<u>Authorship:</u> 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

<u>Corresponding Author</u>: 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.

<u>Disclosure and Conflicts of Interest:</u> 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.

<u>Fundamental Errors in Published Works:</u> 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.
- •The 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.

## (Geotechnique, Construction Materials & Environment) ISSN: 2186-2982(Print), 2186-2990(Online)

## Volume 17, Issue 61

NONLINEAR BEHAVIOR AND THERMAL DAMAGE OF THERMAL LAGGING IN CONCENTRIC LIVING TISSUES SUBJECTED TO GAUSSIAN DISTRIBUTION SOURCE Hamdy M. Youssef and Najat A. Al-Ghamdi	1-7
OPTIMUM RATIOS OF OKRA AND TANGERINE ON PRODUCTION OF MIXED JUICE WITH LYCOPENE SUPPLEMENTATION Wattana Wirivutthikorn	8-13
THE EFFECTS OF THAI MASSAGE ON LEG MUSCLE OXYGENATION AND TIME TO FATIGUE IN HEALTHY MALE SUBJECTS Wirapong Sucharit, Wichai Eungpinichpong, Uraiwan Chatchawan and Punnee Peungsuwan	14-20
THE APPLICATION OF WATER FOOTPRINT AND SIX-SIGMA METHOD TO REDUCE THE WATER CONSUMPTION IN AN ORGANIZATION Karin Kandananond	21-27
HOLE ACCUMULATION EFFECT OF InGaAs HIGH-ELECTRON-MOBILITY TRANSISTORS WITH A 1550-nm WAVELENGTH FEMTOSECOND PULSE LASER Taiki Kozakai, Itsuki Takagi, Shun Nakajima and Hirohisa Taguchi	28-34
DEVELOPING FINE PARTICLE FILTERING SYSTEM FOR MOTORCYCLE EXHAUST USING COCO FIBERS Arinto Yudi Ponco Wardoyo, Firdy Yuana and Selly Y. A. Elbasari	35-40
FIELD PERFORMANCE OF THE CAPILLARY WICK IRRIGATION (CAPILLARIGATION) SYSTEM FOR RICE-BASED CROPS Ricardo F. Orge and Derose A. Sawey	41-49
THE EFFECTS OF SOIL DEPTH ON THE GROWTH OF THE CLOVER FERN AND THE USES OF THE CLOVER FERN ON THE GERMINATION OF FERN SPORES Sawat Pimsuwan and Yaowarat Wongsrisakulkaew	50-55
A PRELIMINARY STUDY OF THE UTILIZATION OF CU(II) MODIFIED LIQUID SMOKE TO INHIBIT THE ACTIVITY OF WHITE-ROT FUNGI (SCHIZOPHYLLUM COMMUNE FR) IN A PINEWOOD IN-VITRO Muhammad Faisal, Shara Utari, Zammera Hayvia and Ilham Maulana	56-61
ASSESSMENT OF STRENGTH PARAMETERS OF URM BLOCKS IN HERITAGE STRUCTURES IN THE PHILIPPINES Lessandro Estelito Garciano, Darlene Clarice Campado, Nitchell Andrei Castillo, Mary Grace Odiamar and Marcelino Tongco	62-67
OPTICAL EMISSION SPECTROSCOPY STUDIES DURING NITROGEN PLASMA OF POLYSTYRENE SURFACES MODIFICATION  Masruroh, Dionysius J. D. H. Santjojo, Heraniawati, Muhamad A. Abdillah, Tyas N Zafirah, Eka Maulana and Setyawan P. Sakti	68-73
THE AWARENESS OF ENVIRONMENT CONSERVATION BASED ON OPINION DATA MINING FROM SOCIAL MEDIA Kunyanuth Kularbphettong	74-79
EFFECTS OF SEED PREPARATION, SOWING MEDIA, SEED SOWING RATE AND HARVESTING PERIOD ON THE PRODUCTION OF CHIA MICROGREENS Anjana Junpatiw and Akarapon Sangpituk	80-85
EFFECTS OF LOW INTENSITY EXERCISES ON BODY BALANCE AND MUSCLE STRENGTH OF COMMUNITY ELDERLY PEOPLE Worawut Chompoopan, Warangkana Chompoopan, Wichai Eungpinichpong and Wilai Eungpinichpong	86-90
INVESTIGATION OF CATHEPSIN B (CTSB) and CATHEPSIN L (CTSL) POLYMORPHISM FOR CARCASS AND MEAT QUALITY IN SWINE  Doungnapa Promket, Kajorngiat Nabundit and Khanitta Ruangwittayanusorn	91-96
STRESS TOLERANCE YEAST STRAIN FROM PAPAYA WASTES FOR BIOETHANOL PRODUCTION Gemilang Lara Utama, Tyagita, Ita Krissanti, Dwi Wahyudha Wira and Roostita L. Balia	97-103
EFFECT OF HARVESTING STAGES ON JELLY SEED SYMPTOM OF PLANGO (Bouae burmanica) CV. THUNL KLAO FRUITS Pattarawan Wattanakeeboot and Usawadee Chanasut	104-108

(Geotechnique, Construction Materials & Environment) ISSN: 2186-2982(Print), 2186-2990(Online)

## Volume 17, Issue 61

PRODUCTION OF ETHYL ESTER BIODIESEL FROM USED COOKING OIL WITH ETHANOL AND ITS QUICK GLYCEROL-BIODIESEL LAYER SEPARATION USING PURE GLYCEROL Mallika Tapanwong and Vittaya Punsuvon	109-114
AN INTEGRATED APPROACH FOR SUSTAINABILITY IN THE APPLICATION OF INDUSTRIALISED BUILDING SYSTEM (IBS) Riduan Yunus Abdul Rahim Abdul Hamid and Siti Rahimah Mohd Noor	115-121
PRODUCTION OF HIGH PURITY Cu MICROPARTICLES AND DEVELOPMENT OF CONDUCTIVE PAINTS USING ELECTROSTATIC COLLOID SOLUTION Junya Kuroda, Risa Uda, Honoka Tanabe, Kimihiro Yamanaka and Hirohisa Taguchi	122-128
FOREST ROADS CAUSE EDGE EFFECTS ON PLANT SPECIES DIVERSITY IN ARTIFICIAL FORESTS Hiroki Kohmori, Tetsuoh Shirota, Tetsuo Okano and Teruo Arase	129-134
FINITE DIFFERENCE METHOD FOR SOLVING HEAT CONDUCTION EQUATION OF THE GRANITE Dalal Adnan Maturi, Amal Ibrahem Aljedani and Eman Salem Alaidarous	135-140
FORECAST OF PRODUCTIVE AND BIOLOGICAL EFFECTS OF METAL NANOPARTICLES ACCORDING TO TOLERANCE INDEX  Bena Sizova, Sergey Miroshnikov and Nikolai Balakirev	141-148
DEFECT-DRIVEN DEVELOPMENT: A NEW SOFTWARE DEVELOPMENT MODEL FOR BEGINNERS Wacharapong Nachiengmai, Sakgasit Ramingwong, Kenneth Cosh, Lachana Ramingwong and Narissara Eiamkanitchat	149-155
IMPACT OF 2016 WEAK LA NIÑA MODOKI EVENT OVER THE INDONESIAN REGION Deni Okta Lestari, Edy Sutriyono, Sabaruddin Kadir and Iskhaq Iskandar	156-162
INTEGRATION OF SPATIAL CHARACTERISTIC TO HEALTH SERVICES FOR IMPROVEMENT OF CHILDREN HEALTH Irene Sondang Fitrinitia, Esty Suyanti, Purnawan Junadi and Hardya Gustada	163-168
IRON OXYHYDROXIDE EFFECT ON ROOTING OF CUTTINGS OF RIBES NIGRUM AND RIBES RUBRUM S. A. Suchkova, M. S. Yamburov, T. P. Astafurova and E. E. Sirotkina	169-173
THE ROLE OF RIZOBACTERIA PSEUDOMONAS ALCALIGENES, BACILLUS SP. AND MYCORRHIZAL FUNGI IN GROWTH AND YIELD OF TOMATO PLANTS  I Ketut Widnyana, I Made Sukerta, I Gusti Ngurah Alit Wiswasta and Lily Montarcih Limantara	174-180
HYDROPOWER GENERATED FROM WASTEWATER FLOW OF SEWAGE SYSTEM IN MOUNTAIN CITIES: TAIF CITY AS A CASE STUDY Abdulrazak Homidi Almaliki	181-186
KINETIC MODELS FOR PHYCOCYANIN PRODUCTION BY FED-BATCH CULTIVATION OF THE SPIRULINA PLATENSIS Sakawduan Kaewdam, Somkiat Jaturonglumlert, Jaturapatr Varith, Chanawat Nitatwichit and Kanjana Narkprasom	187-194
DESIGN AND APPLICATION OF PORTABLE HEART RATE AND WEIGHT MEASURING TOOL FOR PREMATURE BABY WITH MICROCONTROLLER BASE Muhammad Irmansyah1, Era Madona and Anggara Nasution	195-201
DESIGN AND NEED ANALYSIS OF COMPUTER DEVICES' EXPERT SYSTEM USING FORWARD CHAINING METHOD Nizwardi Jalinus, Fahmi Rizal, Rizky Ema Wulansari, Mahesi Agni Zaus and Syaiful Islami	202-207

(Geotechnique, Construction Materials & Environment) ISSN: 2186-2982(Print), 2186-2990(Online)

## Volume 17, Issue 61

STRUCTURE-BASED VIRTUAL SCREENING OF INDONESIAN NATURAL PRODUCT COMPOUNDS AS EBOLA VIRUS VP30 PROTEIN INHIBITORS Givan Andris Tio, Andrei Bernadette, Mochammad Arfin Fardiansyah Nasution, Puteri Aprilia Sitadevi and Usman Sumo Friend Tambunan	208-214
THE EFFECTS OF VERMICOMPOST MIXED WITH TRICHODERMA ASPERELLUM ON THE GROWTH AND PYTHIUM ROOT ROT OF LETTUCES Phraomas Charoenrak, Chiradej Chamswarng, Wanwilai Intanoo and Naowarat Keawprasert	215-221
BIOETHANOL PRODUCTION FROM AGRICULTURALPRODUCTS AND FRUITS OF BANGLADESH Md. Abul Kalam Azad and Mst. Nilufa Yesmin	222-227
DIFFUSION OF MERCURY FROM ARTISANAL SMALL-SCALE GOLD MINING (ASGM) SITES IN MYANMAR Tomonori Kawakami, Misa Konishi, Yuki Imai and Pyae Sone Soe	228-235
ANTIMICROBIAL RESISTANCE SALMONELLA ISOLATED FROM BEEF IN UPPER NORTHEASTERN THAILAND Nathamon Tangjitwattanachai and Denpong Sakhong	236-241
PADDY FIELD MAPPING USING UAV MULTI-SPECTRAL IMAGERY Rokhmatuloh, Supriatna, Tjiong Giok Pin, Revi Hernina, Ronni Ardhianto, Iqbal Putut Ash Shidiq and Adi Wibowo1	242-247
ENVIRONMENTAL AND ECONOMIC PROBLEMS RELATED TO RATIONALIZING THE USE OF AGRICULTURAL LANDS IN THE IRTYSH LAND Irina Vladimirovna Khorechko, Yuri Mikhailovich Rogatnev, Marina Nikolaevna Veselova, Tatyana Anatolievna Filippova and Elena Vilevna Kotsur	248-256

## (Geotechnique, Construction Materials & Environment) ISSN: 2186-2982(Print), 2186-2990(Online)

## Volume 17, Issues 62

A TYPOLOGY MODEL OF POPULATION GROWTH CHARACTERISTICS AND LAND LIMITATIONS IN REGENCY AND CITY, WEST SUMATRA PROVINCE - INDONESIA Yurni Suasti, Ahyuni, Eri Barlian, Bustari Muchtar, Nurhasan Syah, Ratna Wilis, Widya Prarikeslan, Sri Mariya and Lailatur Rahmi	1-8
DNA BARCODING STUDY OF SHELLED GASTROPODS IN THE INTERTIDAL ROCKY COASTS OF CENTRAL WAKAYAMA PREFECTURE, JAPAN, USING TWO GENE MARKERS Davin H. E. Setiamarga, Nagisa Nakaji, Shoma Iwamoto, Shinnosuke Teruya and Takenori Sasaki	9-16
GAP COMPETENCY ANALYSIS FOR EMPLOYEE OF ANIMAL FEED WAREHOUSE DEPARTMENT Siti Rochaeni, Siska Nurita, Eny Dwiningsih and Farahdita Soeyatno	17-22
THE MODIFIED DECOMPOSITION METHOD FOR SOLVING VOLTERRA INTEGRAL EQUATION OF THE SECOND KIND USING MAPLE Dalal Adnan Maturi	23-28
INTERNATIONAL WATER MODEL UNDER PRODUCTIVITY CONDITIONS: THE CASE OF THE TIGRIS AND THE EUPHRATES Abdulamir Hussein Qasim	29-34
FRAGMENT-BASED DRUG DESIGN TO INHIBIT DNA METHYLTRANSFERASE 1 (DNMT1) FOR BREAST CANCER THERAPY Ade Hanna Natalia, Ahmad Husein Alkaff, Mutiara Saragih, Ina Nur Istiqomah and Usman Sumo Friend Tambunan	35-40
DISCOVERY OF NOVEL DNMT-1 INHIBITOR BY FRAGMENT-BASED DRUG DESIGN AS A POTENTIAL BREAST CANCER TREATMENT Mutiara Saragih, Ahmad Husein Alkaff, Ade Hanna Natalia, Ina Nur Istiqomah and Usman Sumo Friend Tambunan	41-46
EFFECT OF OZONE MICROBUBBLES WITH VARIOUS TEMPERATURES ON THE CHLORPYRIFOS INSECTICIDE REMOVAL IN TANGERINE CV. SAI NAM PHUENG Wirin Singtoraj, Jamnong Uthaibutra and Kanda Whangchai	47-52
ESTIMATION OF AMMONIUM SOURCES IN INDONESIAN COASTAL ALLUVIAL GROUNDWATER USING CI- AND GIS Anna Fadliah Rusydi, Mitsuyo Saito, Seiichiro Ioka, Rizka Maria and Shin-ichi Onodera	53-58
WILLINGNESS TO PAY (WTP) BY CONTINGENT VALUATION METHOD (CASE STUDY: WASTE MANAGEMENT SERVICES)  Marselina Djayasinga and Ria Virsa	59-64
USING BEEF MORPHOLOGY TO PREDICT CARCASS WEIGHT WHICH CUTTING IN THAI-ISAAN STYLE Khanitta Ruangwittayanusorn, Doungnapa Promket, Songsak Chumpawadee, Jaturaput Muapkunton, Ornicha Sriboon and Kewalin Pukkawan	65-70
REMOVING ARSENIC AND FLUORIDE FROM HOT SPRING WATER BY ELECTROLYSIS Yuki Imai, Misa Konishi and Tomonori Kawakami	71-76
FLOW INVESTIGATIONS WITHIN A CONCENTRIC CYLINDERS OF GAS SENSOR MODULE FOR I.C. ENGINES Tatsuya Kawaguchi, Yoona Jeong, Takushi Saito and Isao Satoh	77-83
AN ALTERNATIVE INTEGRATED OCCUPATIONAL HEALTH, SAFETY AND ENVIRONMENTAL MANAGEMENT SYSTEM FOR SMALL AND MEDIUM-SIZED ENTERPRISES (SMES) IN THAILAND Thepporn Jaroenroy and Chutarat Chompunth	84-91
RAINWATER HARVESTING AND ELECTRICITY SAVING ON HOUSEHOLD SCALE Tri Budi Prayogo and Gatot Eko Susilo	92-100

## (Geotechnique, Construction Materials & Environment) ISSN: 2186-2982(Print), 2186-2990(Online)

## Volume 17, Issues 62

Supriatna, Rokhmatuloh, Adi Wibowo, Iqbal Putut Ash Shidiq, Glen Putra Pratama and Laju Gandharum  EFFECTS OF ADDING LOCAL MATERIALS ON DEMULSIFIER PERFORMANCE FOR OIL-WATER EMULSIONS Tomi Erfando, Novia Rita and Irma Elfradina  EFFECT OF SURFACTANT CONCENTRATION AND NANOSILICA ADDITIVE TO RECOVERY FACTOR WITH SPONTANEOUS IMBIBITION TEST METHOD Novia Rita, Tomi Erfando and Sigit Aris Munandar  THE RELATIONSHIP BETWEEN COGNITIVE SELF-REGULATED LEARNING AND COMPUTER ARCHITECTURE	101-106 107-112 113-118 119-124
Tomi Erfando, Novia Rita and Irma Elfradina  EFFECT OF SURFACTANT CONCENTRATION AND NANOSILICA ADDITIVE TO RECOVERY FACTOR WITH SPONTANEOUS IMBIBITION TEST METHOD Novia Rita, Tomi Erfando and Sigit Aris Munandar  THE RELATIONSHIP BETWEEN COGNITIVE SELF-REGULATED LEARNING AND COMPUTER ARCHITECTURE ACHIEVEMENT	113-118
SPONTANEOUS IMBIBITION TEST METHOD Novia Rita, Tomi Erfando and Sigit Aris Munandar  THE RELATIONSHIP BETWEEN COGNITIVE SELF-REGULATED LEARNING AND COMPUTER ARCHITECTURE ACHIEVEMENT	
ACHIEVEMENT	119-124
EXTRACTION OF TEMPORAL AND SPATIAL PROPERTIES ON HABITAT OF RIVER SNAIL BY MEANS OF STATISTICAL APPROACH Masaaki Kondo	125-132
APPLYING MATHEMATICAL MODELING TO PREDICT ROAD TRAFFIC NOISE IN PHUKET PROVINCE, THAILAND Withida Patthanaissaranukool, Kulnapa Bunnakrid and Tanasri Sihabut	133-139
OPERATING CONDITIONS EFFECTS OF AN ELECTRODIALYSIS MODULE ON HYDROCHLORIC ACID AND SODIUM HYDROXIDE FORMATION Medina Juan, Diaz Zoila and Rojas Jorge	140-146
THE STUDY OF SOIL WATER INFILTRATION UNDER HORTICULTURAL AT THE UPSTREAM OF SUMANI WATERSHED Aprisal, Bambang Istijono, Juniarti and Mimin Harianti	147-152
INVESTIGATION OF CATHEPSIN B (CTSB) and CATHEPSIN L (CTSL) POLYMORPHISM FOR CARCASS AND MEAT QUALITY IN SWINE Doungnapa Promket, Kajorngiat Nabundit and Khanitta Ruangwittayanusorn	153-157
CHARACTERISTIC OF WATER CHEMISTRY FOR ARIMA TYPE DEEP THERMAL WATER IN THE KINOKAWA RIVER CATCHMENT, KII PENINSULA, JAPAN Hiroyuki Ii, Hiroki Kitagawa, Takuma Kubohara and Isao Machida	158-166
IMPACT OF CAR-FREE DAY ON AIR POLLUTION AND ITS MULTIFARIOUS ADVANTAGES IN SUDIRMAN-THAMRIN STREET, JAKARTA Heidy Octaviani Rachman and Lita Sari Barus	167-172
2D INVERSION AND STATIC SHIFT OF MT AND TEM DATA FOR IMAGING THE GEOTHERMAL RESOURCES OF SEULAWAH AGAM VOLCANO, INDONESIA Marwan, M. Yanis, Rinaldi Idroes and Nazli Ismail	173-180
A FIELD IMAGE MONITORING SYSTEM BASED ON EMBEDDED LINUX Ryoei Ito and Chiaki Yamaguchi	181-187
DIAZINON ABSORPTION AND BIOACCUMULATION IN THE GARDEN RADISH (RAPHANUS RAPHANISTRUM SSP. SATIVUS) Haruki Shimazu	188-194
A HYBRID SELF ORGANIZING MAP IMPUTATION (SOMI) WITH NAÏVE BAYES FOR IMPUTATION MISSING DATA CLASSIFICATION Bain Khusnul Khotimah, Miswanto and Herry Suprajitno	195-202

(Geotechnique, Construction Materials & Environment) ISSN: 2186-2982(Print), 2186-2990(Online)

## Volume 17, Issues 62

AQUATIC ORGANIC MATTER CHARACTERISTICS AND THMFP OCCURRENCE IN A TROPICAL RIVER Mohamad Rangga Sururi, Suprihanto Notodarmojo and Dwina Roosmini	203-211
THE MYTH AND LEGEND OF SADAI AND GASPAR STRAIT BANGKA BELITUNG (BANCA-BILLITON) AND OCEANOGRAPHIC CONDITIONS Agus Hartoko, Arief Febrianto, Aditya Pamungkas, Irvani Fachruddin, Muhammad Helmi and Hariyadi	212-218
CAR OWNERSHIP DEMAND MODELING USING MACHINE LEARNING: DECISION TREES AND NEURAL NETWORKS Patiphan Kaewwichian, Ladda Tanwanichkul and Jumrus Pitaksringkarn	219-230
NUMERICAL INVESTIGATION OF THE EFFECT ON FOUR BOW DESIGNS FLAT HULL SHIP Syahril and Rahmat Azis Nabawi	231-236
LAND SURFACE EFFECTS AND THERMAL PERFORMANCE IN HOT-HUMID CLIMATE AREA Mustamin Rahim and Baharuddin Hamzah	237-243
FORMULATION OF THE BODY SCRUB CREAM CONTAINING MORINGA SEED POWDER (Moringa oleifera) AND ITS EXAMINATION DERMAL ACUTE IRRITATION Hendrawati, Annita Karunia Savitri, Nina Fitriyati and Aulia Andi Mustika	244-249
INFLUENCE OF USING AUTOMATIC IRRIGATION SYSTEM AND ORGANIC FERTILIZER TREATMENTS ON FABA BEAN WATER PRODUCTIVITY Hani A. Mansour, Hu Jiandong, Ren Hongjuan, Abdalla N. O. Kheiry and Sameh K. Abd-Elmabod	250-259
COMMUNAL SEPTIC TANKS AS APPROPRIATE TECHNOLOGY TO ACHIEVE SURABAYA OPEN DEFECATION FREE (ODF) Nurina Fitriani, Dwi Ratri Mitha Isnadina, Muhammad Yufansyah, Dwi Agustiang Ningsih and Eddy Setiadi Soedjono	260-265
PHYSICAL PROPERTIES ANALYSIS OF GASES EMISSION OF BLEND BIODIESEL BURNING PROCESS IN A FIRE TUBE BOILER Winny Andalia, Pramadhony and Susila Arita	266-272