

LEMBAR
HASIL PENILAIAN SEJAWAT SEBIDANG ATAU PEER REVIEW
KARYA ILMIAH : JURNAL ILMIAH
(BUKTI ARTIKEL C-2)

Judul Jurnal Ilmiah (Artikel)	:	Mathematical Modeling Regime Steady State for Domestic Wastewater Treatment Facultative Stabilization Ponds. Penulis : Sunarsih , Purwanto, Wahyu Setia Budi			
Jumlah Penulis	:	3 orang			
Status Pengusul :	:	Penulis pertama/ penulis kedua /penulis korespondensi			
Identitas Jurnal Ilmiah	:	a.	Nama Jurnal	:	Journal of Urban and Environmental Engineering
	:	b.	Nomor ISSN	:	19823932
	:	c.	Volume, nomor, bulan tahun	:	Volume 7, No.2, p. 293-301 December 2013
	:	d.	Penerbit	:	Universidade Federal da Parana Brazil
	:	e.	DOI artikel (jika ada)	:	https://doi.org/10.4090/juee.2013.v7n2 .
	:	f.	Alamat web jurnal	:	
URL JURNAL : https://periodicos.ufpb.br/ojs2/index.php/juee/article/view/15986/					
URL ARTIKEL : https://periodicos.ufpb.br/ojs2/index.php/juee/article/view/15986/10402					
	:	g.	Indexed by:		
			<ul style="list-style-type: none"> • Scopus indexed; 		

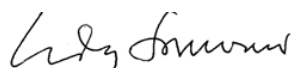
Kategori Publikasi Jurnal Ilmiah : Jurnal Ilmiah Internasional
(beri ✓ pada kategori yang tepat)

Jurnal Ilmiah Nasional Terakreditasi
 Jurnal Ilmiah Nasional Tidak Terakreditasi

Hasil Penilaian *Peer Review* :

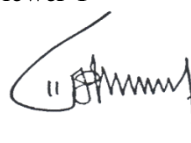
Komponen Yang Dinilai	Nilai Reviewer		Nilai Rata-rata
	Reviewer I	Reviewer II	
a. Kelengkapan unsur isi buku (10%)	2,75	3	2,875
b. Ruang lingkup dan kedalaman pembahasan (30%)	7,75	7,5	7,625
c. Kecukupan dan kemutakhiran data/informasi dan metodologi (30%)	7,37	7,5	7,435
d. Kelengkapan unsur dan kualitas penerbit (30%)	8,87	9	8,93
Total = (100%)	26,74	27	26,865
Nilai Pengusul = 60% x	16,04	16.2	16,12

Reviewer 2



Prof. Dr. Edy Soewono
NIP. 195206261980031003
Unit kerja : Departemen Matematika FMIPA ITB

Semarang, 24-9- 2018
Reviewer 1



Prof. Dr. Widowati, MSi
NIP. 196902141994032002
Unit kerja : Departemen Matematika, FSM UNDIP

**LEMBAR
HASIL PENILAIAN SEJAWAT SEBIDANG ATAU PEER REVIEW
KARYA ILMIAH : JURNAL ILMIAH
(BUKTI ARTIKEL C-2)**

Judul Jurnal Ilmiah (Artikel)	:	Mathematical Modeling Regime Steady State for Domestic Wastewater Treatment Facultative Stabilization Ponds. Penulis : Sunarsih , Purwanto, Wahyu Setia Budi			
Jumlah Penulis	:	3 orang			
Status Pengusul :	:	Penulis pertama/ penulis kedua /penulis korespondensi			
Identitas Jurnal Ilmiah	:	a.	Nama Jurnal	:	Journal of Urban and Environmental Engineering
	:	b.	Nomor ISSN	:	19823932
	:	c.	Volume, nomor, bulan tahun	:	Volume 7, No.2, p. 293-301 December 2013
	:	d.	Penerbit	:	Universidade Federal da Parana Brazil
	:	e.	DOI artikel (jika ada)	:	https://doi.org/10.4090/juee.2013.v7n2 .
	:	f.	Alamat web jurnal	:	
URL JURNAL : https://periodicos.ufpb.br/ojs2/index.php/juee/article/view/15986/					
URL ARTIKEL : https://periodicos.ufpb.br/ojs2/index.php/juee/article/view/15986/10402					
	:	g.	Indexed by:		
			• Scopus indexed;		

Kategori Publikasi Jurnal Ilmiah : Jurnal Ilmiah Internasional
(beri ✓ pada kategori yang tepat) Jurnal Ilmiah Nasional Terakreditasi
 Jurnal Ilmiah Nasional Tidak Terakreditasi

Hasil Penilaian *Peer Review* :

Komponen Yang Dinilai	Nilai Maksimal Jurnal Ilmiah			Nilai Akhir Yang Diperoleh
	Internasional <input checked="" type="checkbox"/>	Nasional Terakreditasi <input type="checkbox"/>	Nasional Tidak Terakreditasi <input type="checkbox"/>	
a. Kelengkapan unsur isi jurnal (10%)	3,00			2,75
b. Ruang lingkup dan kedalaman pembahasan (30%)	9,00			7,75
c. Kecukupan dan kemutakhiran data/informasi dan metodologi (30%)	9,00			7,37
d. Kelengkapan unsur dan kualitas terbitan/jurnal (30%)	9,00			8,87
Total = (100%)	30,00			26,74
Nilai Pengusul = 60% x 26,74 = 16,04				

Catatan Penilaian artikel oleh Reviewer :

1. **Kesesuaian dan kelengkapan unsur isi jurnal:**

Unsur isi makalah baik.

2. **Ruang lingkup dan kedalaman pembahasan:**

Ruang lingkup dan kedalaman pembahasan metode quasi Newton dan validasi cukup baik.

3. **Kecukupan dan kemutakhiran data/informasi dan metodologi :**

Data cukup baik, namun referensi yang digunakan untuk diskusi kurang up to date. Dari 21 referensi 13 referensi kedaluwarsa (lebih dari 10 tahun).

4. **Kelengkapan unsur dan kualitas terbitan:**

Kelengkapan unsur dan kualitas penerbit baik.

Semarang, 14-8- 2018

Reviewer 1



Prof. Dr. Widowati, MSi

NIP. 196902141994032002

Unit kerja : Dept. Matematika FSM Undip

**LEMBAR
HASIL PENILAIAN SEJAWAT SEBIDANG ATAU PEER REVIEW
KARYA ILMIAH : JURNAL ILMIAH
(BUKTI ARTIKEL C-2)**

Judul Jurnal Ilmiah (Artikel)	:	Mathematical Modeling Regime Steady State for Domestic Wastewater Treatment Facultative Stabilization Ponds. Penulis : Sunarsih , Purwanto, Wahyu Setia Budi		
Jumlah Penulis	:	3 orang		
Status Pengusul :	:	Penulis pertama/ penulis kedua /penulis korespondensi		
Identitas Jurnal Ilmiah	:	a.	Nama Jurnal	: Journal of Urban and Environmental Engineering
	:	b.	Nomor ISSN	: 19823932
	:	c.	Volume, nomor, bulan tahun	: Volume 7, No.2, p. 293-301 December 2013
	:	d.	Penerbit	: Universidade Federal da Parana Brazil
	:	e.	DOI artikel (jika ada)	: https://doi.org/10.4090/juee.2013.v7n2 .
	:	f.	Alamat web jurnal	:
URL JURNAL : https://periodicos.ufpb.br/ojs2/index.php/juee/article/view/15986/				
URL ARTIKEL : https://periodicos.ufpb.br/ojs2/index.php/juee/article/view/15986/10402				
	:	g.	Indexed by: • Scopus indexed;	

Kategori Publikasi Jurnal Ilmiah : Jurnal Ilmiah Internasional (Bereputasi)
(beri ✓ pada kategori yang tepat) Jurnal Ilmiah Nasional Terakreditasi
 Jurnal Ilmiah Nasional Tidak Terakreditasi

Hasil Penilaian *Peer Review* :

Komponen Yang Dinilai	Nilai Maksimal Jurnal Ilmiah			Nilai Akhir Yang Diperoleh
	Internasional <input checked="" type="checkbox"/>	Nasional Terakreditasi <input type="checkbox"/>	Nasional Tidak Terakreditasi <input type="checkbox"/>	
e. Kelengkapan unsur isi jurnal (10%)	3,00			3
f. Ruang lingkup dan kedalaman pembahasan (30%)	9,00			7.5
g. Kecukupan dan kemutakhiran data/informasi dan metodologi (30%)	9,00			7,5
h. Kelengkapan unsur dan kualitas terbitan/jurnal (30%)	9,00			9
Total = (100%)	30,00			27
Nilai Pengusul = 60% x 27 = 16,2				

Catatan Penilaian artikel oleh Reviewer :

2. **Kesesuaian dan kelengkapan unsur isi jurnal:**

Topik kajian sesuai judul artikel. Metodologi s/d konklusi telah ditulis secara rinci.

2. **Ruang lingkup dan kedalaman pembahasan:**

Makalah mengkaji model dinamik WWTP yang diterapkan di Sewon Bantul. Model interaksi 10 state merepresentasikan interaksi komponen organik dan non organik di aliran WWTP.

3. **Kecukupan dan kemutakhiran data/informasi dan metodologi :**

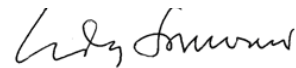
Kajian memuat kebaruan, khususnya dalam menampilkan fenomena aliran di tempat kajian.

4. **Kelengkapan unsur dan kualitas terbitan:**

Makalah diterbitkan di jurnal di jurnal yang terindeks di scopus.

Semarang, 24/9/ 2018

Reviewer 2



Prof. Dr. Edy Soewono
NIP. 195206261980031003

Unit kerja : Dept. Matematika FMIPA ITB



Document details

< Back to results | < Previous 34 of 34

↗ Export ↴ Download 🖨 Print ✉ E-mail 📄 Save to PDF ☆ Add to List More... >

View at Publisher

Journal of Urban and Environmental Engineering [Open Access](#)
Volume 7, Issue 2, 2013, Pages 293-301

Mathematical modeling regime steady state for domestic Wastewater Treatment facultative stabilization ponds (Article)

Sunarsih, S.^a ✉, Purwanto, P.^{a,b}, Budi, W.S.^c 👤

^a Diponegoro University, Semarang 50241, Indonesia

^b Chemical Engineering Departement, Diponegoro University, Semarang 50275, Indonesia

^c Diponegoro University, Semarang 50275, Indonesia

Abstract

↕ View references (21)

This paper presents a model for natural systems used in Wastewater Treatment Plant (WWTP) Sewon Bantul. The model is modeling development, derived from the physical and biochemical phenomena involved in the biological treatment process. The numerical solution of the resulting on 13 simultaneous systems of nonlinear equations by the Quasi-Newton. Data validation is measured by facultative pond at the inlet and outlet of the pond to the concentration of bacteria, algae, zooplankton, organic matter, detritus, organic nitrogen, NH₃, organic phosphor, dissolved phosphorus, Dissolved Oxygen (DO), total coliform, faecal coliform and Biochemical Oxygen Demand (BOD). A simulation model is presented to predict performance regime steady state of domestic wastewater treatment facultative stabilization pond. The high degree of significant of at least 10% indicates that the effluent parameters can be reasonably accurately predicted. © 2013 Journal of Urban and Environmental Engineering (JUEE). All rights reserved.

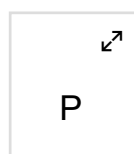
SciVal Topic Prominence ⓘ

Topic: Stabilization ponds | Pond | Stabilization

Prominence percentile: 81.889 ⓘ

Chemistry database information ⓘ

Substances



Author keywords

Domestic wastewater Facultative stabilization ponds Regime steady state

Metrics ⓘ View all metrics >

9 Citations in Scopus
33rd percentile



PlumX Metrics

Usage, Captures, Mentions,
Social Media and Citations
beyond Scopus.

Cited by 9 documents

Parameter estimation on two-dimensional advection-dispersion model of biological oxygen demand in facultative waste water stabilization pond: Case study at sewon wastewater treatment facility

Sunarsih, S., Sutrisno, S. (2020) *Advances in Science, Technology and Engineering Systems*

Algal Concentration Dynamical Model Simulation in Sewon, Bantul, Yogyakarta Facultative Wastewater Treatment Pond

Sunarsih, Widowati, Kartono (2019) *E3S Web of Conferences*

Multi-period Quadratic Programming Model for Sewon-Bantul Facultative Ponds Optimization

Sunarsih, Sutrisno (2019) *Advances in Science, Technology and Engineering Systems*

View all 9 citing documents

Inform me when this document is cited in Scopus:

Set citation alert >

Set citation feed >

Related documents

Modeling of domestic wastewater treatment facultative stabilization ponds

ISSN: 19823932

Source Type: Journal

Original language: English

DOI: 10.4090/juee.2013.v7n2.293301

Document Type: Article

Publisher: Universidade Federal da Paraiba

All Export Print E-mail Save to PDF Create bibliography

- 1 Baca, R.G., Arnett, R.C.
(1976) *A limnological model for eutrophic lakes and experiments*, p. 376. Cited 38 times.
Richland, Washington. Batelle, Pasific Northwest Laboratories

Sunarsih , Purwanto , Budi, W.S.
(2015) *International Journal of Technology*

Mathematical Analysis for the Optimization of Wastewater Treatment Systems in Facultative Pond Indicator Organic Matter
Sunarsih , Widowati , Kartono
(2018) *E3S Web of Conferences*

- 2 Beran, B., Kargi, F.
A dynamic mathematical model for wastewater stabilization ponds

(2005) *Ecological Modelling*, 181 (1), pp. 39-57. Cited 49 times.
doi: 10.1016/j.ecolmodel.2004.06.022

[View at Publisher](#)

Distribution model 1-D of concentration on chemical oxygen Demand in waste stabilization ponds

Sunarsih , Sasongko, D.P. , Sutrisno
(2017) *Advanced Science Letters*

[View all related documents based on references](#)

- 3 Chen, C.W.
Concepts and utilities of ecological model
(1970) *ASCE J. Sanit. Eng. Div.*, 96. Cited 52 times.
SAS

[Find more related documents in Scopus based on:](#)

[Authors >](#) [Keywords >](#)

- 4 Fardiaz, S.
(1992) *Polusi Air dan Udara*. Cited 10 times.
Penerbit Kanisius, Yogyakarta

- 5 Fritz, J.J., Middleton, A.C., Meredith, D.D.
Dynamic process modeling of wastewater stabilization ponds
(1979) *Journal of the Water Pollution Control Federation*, 51 (11), pp. 2724-2743. Cited 53 times.

- 6 Jorgensen, S.E.
Fundamentals of ecological modelling. 2nd edition
(1994) *Fundamentals of ecological modelling. 2nd edition*. Cited 195 times.
ISBN: 0444815724; 0444815783; 978-044481572-9; 978-044481578-1

- 7 Kayombo, S., Mbwette, T.S.A., Mayo, A.W., Katima, J.H.Y., Jorgensen, S.E.
Diurnal cycles of variation of physical-chemical parameters in waste stabilization ponds
(2002) *Ecological Engineering*, 18 (3), pp. 287-291. Cited 50 times.
doi: 10.1016/S0925-8574(01)00086-6

[View at Publisher](#)

- 8 Kayombo, S., Mbwette, T.S.A., Katima, J.H.Y., Jorgensen, S.E.
Effects of substrate concentrations on the growth of heterotrophic bacteria and algae in secondary facultative ponds

(2003) *Water Research*, 37 (12), pp. 2937-2943. Cited 48 times.
www.elsevier.com/locate/watres
doi: 10.1016/S0043-1354(03)00014-9

[View at Publisher](#)

- 9 Puspita, L., Ratnawati, E., Suryadiputra, I.N.N.
(2005) *Lahan Basah Buatan di Indonesia. Wetlands International Indonesia Programme*. Cited 10 times.
Ditjen PHKA. Bogor

- 10 Mahida, U.N.
(1993) *Pencemaran Air dan Pemanfaatan Limbah Industri*
PT. Raja Grafindo Persada, Jakarta
-
- 11 Mara, D.
(2004) *Domestic Wastewater Treatment in Developing Countries*. Cited 237 times.
First Published by Earthscan in the UK and USA
-
- 12 Sugeng, M.
(1987) *Dampak Limbah Terhadap Lingkungan*
Bahan Kursus Singkat Penyaringan Limbah Secara Hayati, Yogyakarta
-
- 13 Metcalf, Eddy
(1979) *Wastewater Engineering Treatment Disposal Reuse*. Cited 3904 times.
McGraw Hill Comp. New York
-
- 14 Moreno-Grau, S., García-Sánchez, A., Moreno-Clavel, J., Serrano-Aniorte, J., Moreno-Grau, M.D.
A mathematical model for waste water stabilization ponds with macrophytes and microphytes

(1996) *Ecological Modelling*, 91 (1-3), pp. 77-103. Cited 24 times.
www.elsevier.com/inca/publications/store/5/0/3/3/0/6
doi: 10.1016/0304-3800(95)00168-9

View at Publisher
-
- 15 Orlob, G.T.
(1982) *One-dimensional models for simulation of water quality in lakes and reservoirs*, p. 518.
In: G.T. Orlob (Editor), *Mathematical Modeling of Water Quality: Stream, Lakes and Reservoirs*. John Wiley and Sons, Chichester
-
- 16 Petterson, D.J.
(1996) *Free-Living Freshwater Protozoa*. Cited 166 times.
New York: John Wiley and Sons
-
- 17 Purwanto
(2005) *Permodelan Rekayasa Proses dan Lingkungan*. Cited 4 times.
Badan Penerbit Universitas Diponegoro, Semarang
-
- 18 Reynold, C.S.
(1993) *The Ecology of Freshwater Phytoplankton*. Cited 2164 times.
Cambridge University Press. England
-
- 19 Situma, L.M., Etiegni, L., Shitote, S.M., Oron, B.O.
Biochemical Modeling of Pan African Paper mills aerated Lagoons, Webuye, Western Kenya. African Pulp and Paper Week
(2002) *Adding Value in a Global Industry' International Convention Centre*
Durban, 8-11 October
-

□ 20 Sudharto, P.H., Samekto, A.
(2007) *Dimensi Lingkungan Dalam Bisnis Tanggung Jawab Sosial Perusahaan pada Lingkungan*
Badan Penerbit Universitas Diponegoro, Semarang

□ 21 Yang, W.Y., Cao, W., Chung, T.-S., Morris, J.
Applied Numerical Methods Using MATLAB®

(2005) *Applied Numerical Methods Using MATLAB®*, pp. 1-502. Cited 379 times.

<http://onlinelibrary.wiley.com/book/10.1002/0471705195>

ISBN: 0471698334; 978-047169833-3

doi: 10.1002/0471705195

[View at Publisher](#)

🔍 Sunarsih, S.; Diponegoro University, Indonesia; email:narsih_pdil@yahoo.com

© Copyright 2017 Elsevier B.V., All rights reserved.

[< Back to results](#) | [< Previous](#) 34 of 34

[^ Top of page](#)

About Scopus

[What is Scopus](#)
[Content coverage](#)
[Scopus blog](#)
[Scopus API](#)
[Privacy matters](#)

Language

[日本語に切り替える](#)
[切换到简体中文](#)
[切换到繁體中文](#)
[Русский язык](#)

Customer Service

[Help](#)
[Contact us](#)

ELSEVIER

[Terms and conditions ↗](#) [Privacy policy ↗](#)

Copyright © Elsevier B.V. All rights reserved. Scopus® is a registered trademark of Elsevier B.V.

We use cookies to help provide and enhance our service and tailor content. By continuing, you agree to the use of cookies.

 RELX



Source details

Journal of Urban and Environmental Engineering

Open Access ⓘ

Scopus coverage years: from 2007 to 2019

Publisher: Universidade Federal do Parana

ISSN: 1982-3932

Subject area: [Social Sciences: Urban Studies](#) [Environmental Science: Environmental Engineering](#)[View all documents >](#)[Set document alert](#)[Save to source list](#) [Journal Homepage](#)

CiteScore 2018

0.46 ⓘ

SJR 2018

0.148 ⓘ

SNIP 2018

0.528 ⓘ

[CiteScore](#) [CiteScore rank & trend](#) [CiteScore presets](#) [Scopus content coverage](#)

CiteScore 2018 ▾

Calculated using data from 30 April, 2019

CiteScore rank ⓘ

$$0.46 = \frac{\text{Citation Count 2018}}{\text{Documents 2015 - 2017}^*} = \frac{26 \text{ Citations} >}{56 \text{ Documents} >}$$

*CiteScore includes all available document types

[View CiteScore methodology >](#)[CiteScore FAQ >](#)

Category	Rank	Percentile
Social Sciences		
Urban Studies	#86/160	46th
Environmental Science	#98/118	16th
Environmental Engineering		

CiteScoreTracker 2019 ⓘ

Last updated on 09 April, 2020
Updated monthly

$$0.40 = \frac{\text{Citation Count 2019}}{\text{Documents 2016 - 2018}} = \frac{34 \text{ Citations to date} >}{86 \text{ Documents to date} >}$$

[View CiteScore trends >](#)[Add CiteScore to your site ↗](#)

Metrics displaying this icon are compiled according to Snowball Metrics ↗, a collaboration between industry and academia.

About Scopus

[What is Scopus](#)
[Content coverage](#)
[Scopus blog](#)
[Scopus API](#)
[Privacy matters](#)

Language

[日本語に切り替える](#)
[切换到简体中文](#)
[切换到繁體中文](#)
[Русский язык](#)

Customer Service

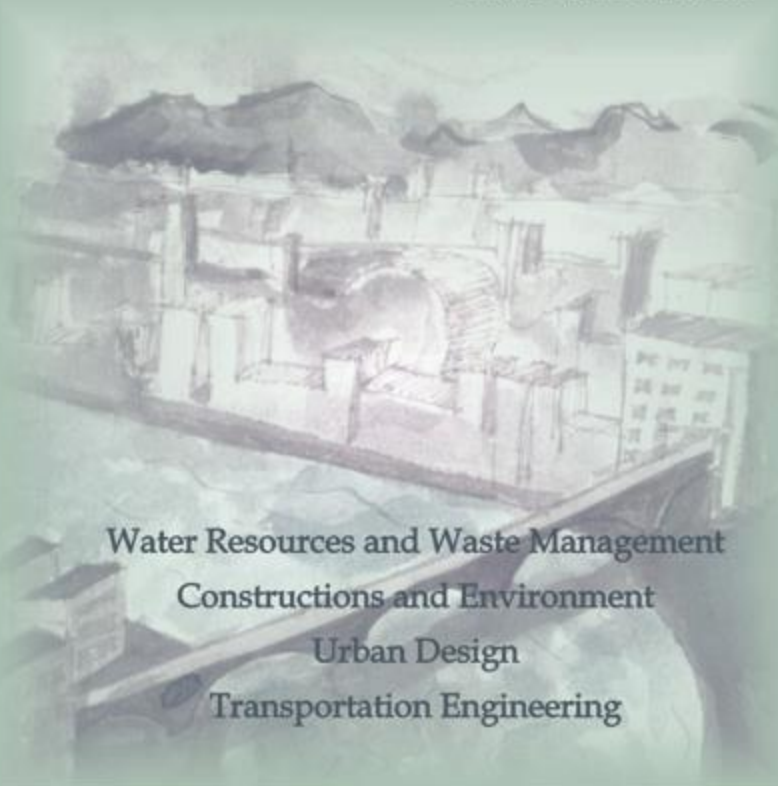
[Help](#)
[Contact us](#)

JUE Journal of Urban and
Environmental Engineering

www.journal-uee.org

ISSN 1982-3932
doi 10.4090/juee

Vol. 7, n. 2 - July to December 2013



Water Resources and Waste Management
Constructions and Environment
Urban Design
Transportation Engineering

Watercolor design: D.K. Anisiz

JOURNAL OF URBAN AND ENVIRONMENTAL ENGINEERING

[HOME](#)[CURRENT](#)[ARCHIVES](#)[ABOUT](#) ▾

[HOME](#) / [Editorial Team](#)

Editors

[Celso Augusto Guimarães Santos, Brazil](#)

[Masuo Kashiwadani, Japan](#)

[Vicente L. Lopes, United States](#)

[Richarde Marques Silva, Brazil](#)

Associate Editors

[Koichi Suzuki, Japan](#)

[Hafzullah Aksoy, Turkey](#)

[António Pais Antunes, Portugal](#)

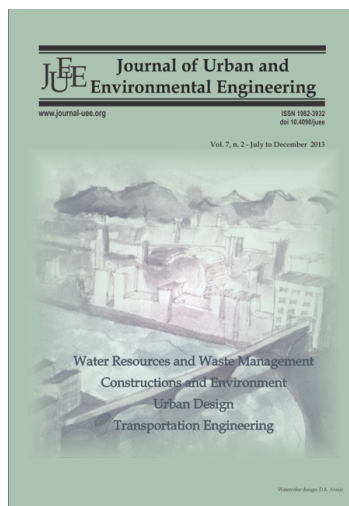
[Roberto Leal Pimentel, Brazil](#)

[Max Billib, Germany](#)

[Bernardo Arantes do Nascimento Teixeira, Universidade Federal de São Carlos, Brazil](#)

[Generoso de Angelis Neto, Brazil](#)

[HOME](#) / [ARCHIVES](#) / Vol 7, N. 2 (2013)



DOI: <https://doi.org/10.4090/juee.2013.v7n2>

PUBLISHED: 2014-04-04

ARTICLES

TERRASAR-X DINSAR FOR LAND DEFORMATION DETECTION IN JAKARTA URBAN AREA, INDONESIA

Ratih Fitria Putri, Luhur Bayuaji, Josaphat Tetuko Sri Sumantyo, Hiroaki Kuze
195-205

 PDF

AN EXPERIMENTAL EVALUATION OF SUSTAINABLE DRAINAGE SYSTEMS

Alexandros Tsavdaris, John B. Williams, Steve Mitchell

206-214

 PDF**STUDY ON AMMONIA STRIPPING PROCESS OF LEACHATE FROM THE PACKED TOWERS**

Aldre Jorge Morais Barros, Valderi Duarte Leite, Shiva Prasad, Wilton Silva Lopes, José Tavares de Sousa
215-222

 PDF**COLLOID RELEASE FROM DIFFERENT SOIL DEPTH**

Gang Chen, Yue Niu, Boya Wang, Kamal Tawfiq
223-230

 PDF**PROFILE SURVEY OF WASTE PICKERS IN BRAZIL: REQUIREMENTS FOR THE DEVELOPMENT OF A COLLECTION VEHICLE AND OPTIMIZED ROUTING**

Naiara Francisca Ramos, Armando Borges de Castilhos Junior, Fernando Antonio Forcellini, Odacir Dionísio Graciolli
231-246

 PDF**EVALUATION OF L-MOMENT AND PPCC METHOD TO DETERMINE THE BEST REGIONAL DISTRIBUTION OF MONTHLY RAINFALL DATA (CASE STUDY: NORTHWEST OF IRAN)**

Babak Amirataee, Majid Montaseri
247-252

 PDF**SEDIMENT TRANSPORT AND RAINFALL EROSIVITY EVOLUTION IN TWELVE BASINS IN CENTRAL AND WESTERN ALGERIA**

Mohamed Meddi
253-263

 PDF**REUSE OF TREATED SEWAGE EFFLUENT IN AIRPORTS: IRRIGATION OF ORNAMENTAL PLANT NURSERY**

Eduardo de Aguiar do Couto, Paula Peixoto Assemany, Maria Lúcia Calijuri, Aníbal da Fonseca Santiago, Luna Gripp Simões Alves
264-273



DEGRADATION OF AROMATIC PETROLEUM HYDROCARBONS (BTEX) BY A SOLVENT TOLERANT BACTERIAL CONSORTIUM

Payel Sarkar, Andrew Roysten Rai, Shilpi Ghosh

274-279



URBAN CITIES AND WASTE GENERATION IN DEVELOPING COUNTRIES: A GIS EVALUATION OF TWO CITIES IN BURKINA FASO

Lydie Sompogda Adissa Yiougo, Temitope D. Timothy Oyedotun, Corentin Yélésomin Stephane Some, Evariste Dapola Constant Da

280-285



VERIFICATION OF THE INFLUENCE OF URBAN GEOMETRY ON THE NOCTURNAL HEAT ISLAND INTENSITY

Camila Mayumi Nakata, Léa Cristina Lucas de Souza

286-292



MATHEMATICAL MODELING REGIME STEADY STATE FOR DOMESTIC WASTEWATER TREATMENT FACULTATIVE STABILIZATION PONDS

Sunarsih Sunarsih, Purwanto Purwanto, Wahyu Setia Budi

293-301



MODELLING AND MAPPING OF SOIL EROSION ON THE OUED EL MALLEH CATCHMENT USING REMOTE SENSING AND GIS

Omar El Aroussi

302-307



MONITORING AND ANALYSIS OF LANDSLIDE HAZARD USING DINSAR TECHNIQUE APPLIED TO ALOS PALSAR IMAGERY: A CASE STUDY IN KAYANGAN CATCHMENT AREA, YOGYAKARTA, INDONESIA

Ratih Fitria Putri, Sunu Wibirama, Ilham Alimuddin, Hiroaki Kuze, Josaphat Tetuko Sri Sumantyo

308-322

**ECOLOGICAL RISK ASSESSMENT OF A TROPICAL LAKE SYSTEM**

K. Swarnalatha, J. Letha, S. Ayooob

323-329

**MODELLING OF SEDIMENTS CONCENTRATION DISTRIBUTION IN DREDGED CANALS OF THE NIGER DELTA ESTUARINE REGION, NIGERIA**

Charles Chizom Dike, J. C. Agunwamba

330-339

**URBAN PLANNING AND LAND MANAGEMENT CHALLENGES IN EMERGING TOWNS OF ETHIOPIA: THE CASE OF ARBA MINCH**

Engida Esayas Dube

340-348



ISSN 1982-3932
DOI: 10.4090/juee

Sponsor:



This title is
now indexed
in Scopus

refine your research
SCOPUS

TERRASAR-X DINSAR FOR LAND DEFORMATION DETECTION IN JAKARTA URBAN AREA, INDONESIA

Ratih Fitria Putri^{1*}, Luhur Bayuaji², Josaphat Tetuko Sri Sumantyo^{1,3} and Hiroaki Kuze^{1,3}

¹Graduate School of Advanced Integration Science, Chiba University, Chiba, 263-8522, Japan

²Faculty of Computer Systems and Software Engineering, Universiti Malaysia Pahang, Kuantan, 26300, Malaysia

³Center for Environmental Remote Sensing (CEReS), Chiba University, 263-8522, Japan

Received 27 June 2013; received in revised form 6 September 2013; accepted 7 September 2013

Abstract:

The X-band synthetic aperture radar (SAR) on board the TerraSAR-X satellite is useful for land subsidence detection and monitoring, since the sensor provides high spatial resolution data with a relatively short repetition cycle of 11 days. Jakarta is one of the largest cities in the world with population more 10 million as of 2011. The area has been suffering from significant effects of land subsidence that causes damages to public facilities, buildings, and other public and private properties. In this work, we exploit the capability of TerraSAR-X for detecting land subsidence in Jakarta during a four year period between 2010 and 2013 using differential interferometry SAR (DInSAR) technique. Our analysis reveals that two northern areas in the city exhibit clear indications of land subsidence varying from 8.5 to 17.5 cm/year, mostly caused by intensive human activities in addition to the vulnerability due to geological structures of these areas.

Keywords: Land deformation; urban area; TerraSAR-X; differential interferometry SAR

© 2013 Journal of Urban and Environmental Engineering (JUEE). All rights reserved.

* Correspondence to: Ratih Fitria Putri. E-mail: ratih_nabila@yahoo.co.id

AN EXPERIMENTAL EVALUATION OF SUSTAINABLE DRAINAGE SYSTEMS

Alexandros Tsavdaris*, John B. Williams and Steve Mitchell

School of Civil Engineering and Surveying, University of Portsmouth, Portsmouth, United Kingdom

Received 7 October 2013; received in revised form 7 December 2013; accepted 7 December 2013

Abstract:

This paper investigates the behaviour of certain water and sediment quality indicators of a vegetated detention pond system located at Waterlooville, Hampshire, UK. The period of study was 2 years (March 2011-March 2013) with sampling carried out once a month. Statistical analysis was performed using Minitab™. The aim of the study was to examine the changes in quality of various constituents with time and possible linear associations between them. Pond sediments and pond water quality were monitored for a range of variables at each monthly visit. Results indicate that the system demonstrates low levels of pollution while not having a direct impact on the oxygen balance of the receiving water-body. Oxygen demanding substances along with suspended matter and certain metals/elements were found to accumulate in the system with time. Significant linear associations were observed for road salts (containing Na, Cl, Mg) and certain pollutants, suggesting that road salts have a major impact on SuDS water/sediment quality. Sorption characteristics of specific metals were also evaluated by means of adsorption isotherm equations. Three widely used sorption isotherms were employed in this study. It was found that the sorption behaviour of metals is highly variable. This study highlights the dynamic nature of vegetated ponds and the importance of understanding the behaviour of different pollutants for SuDS design.

Keywords: vegetated ponds, road runoff, road salts, pollution, SuDS, sorption isotherm models

© 2013 Journal of Urban and Environmental Engineering (JUEE). All rights reserved.

* Correspondence to: Alexandros Tsavdaris. E-mail: alexandros.tsavdaris@port.ac.uk

COLLOID RELEASE FROM DIFFERENT SOIL DEPTH

Gang Chen^{1*}, Yue Niu², Boya Wang¹ and Kamal Tawfiq¹

¹Department of Civil Engineering and Environmental Engineering, FAMU-FSU College of Engineering, United States

²Qingdao Drainage Management Bureau, Qingdao, P.R. China

Received 04 February 2013; received in revised form 2 September 2013; accepted 6 September 2013

Abstract:

Naturally occurring clay colloidal particles are heavily involved in sediment processes in the subsurface soil. Due to the importance of these processes in the subsurface environment, the transport of clay colloidal particles has been studied in several disciplines, including soil sciences, petrology, hydrology, etc. Specifically, in environmental engineering, clay colloid release and transport in the sediments have been extensively investigated, which are motivated by environmental concerns such as colloid-facilitated contaminant transport in groundwater and the subsurface soil. Clay colloid release is resulted from physical alteration of subsurface sediments. Despite the potential importance of clay colloid activities, the detailed mechanisms of release and transport of clay colloidal particles within natural sediments are poorly understood. Pore medium structure, properties and flow dynamics, etc. are factors that affect clay colloid generation, mobilization, and subsequent transport. Possible mechanisms of clay colloid generation in the sediments include precipitation, erosion and mobilization by changes in pore water chemistry and clay colloid release depends on a balance of applied hydrodynamic and resisting adhesive torques and forces. The coupled role of pore water chemistry and fluid hydrodynamics thus play key roles in controlling clay colloid release and transport in the sediments. This paper investigated clay colloidal particle release and transport, especially the colloidal particle release mechanisms as well as the process modeling in the sediments. In this research, colloidal particle release from intact sediment columns with variable length was examined and colloidal particle release curves were simulated using an implicit, finite-difference scheme. Colloidal particle release rate coefficient was found to be an exponential function of the sediment depth. The simulated results demonstrated that transport parameters were not consistent along the depth of the sediment profile.

Keywords: Colloidal particle release; capillary force; water content; air-water interface

© 2013 Journal of Urban and Environmental Engineering (JUEE). All rights reserved.

* Correspondence to: Gang Chen, Tel.: +1 850 410 6303; Fax: +1 850 410 6142.
E-mail: gchen@eng.fsu.edu

STUDY ON AMMONIA STRIPPING PROCESS OF LEACHATE FROM THE PACKED TOWERS

Valderi D. Leite¹, Shiva Prasad², Wilton S. Lopes¹, José T. de Sousa¹ and Aldre J. M. Barros³

¹Department of Environmental Engineering, *State University of Paraíba, Brazil*

²Academic Unit of Education, *Federal University of Campina Grande, Brazil*

³Academic Unit of Technology Development, *Federal University of Campina Grande, Brazil*

Received 21 January 2013; received in revised form 18 September 2013; accepted 18 September 2013

Abstract:

About 245 thousand tones of municipal solid waste are collected daily in Brazil. Nearly 32 thousand tones of the collected amount are treated in sanitary landfill, which generates biogas and leachate as byproduct. The leachate resulting from sanitary landfill contains high concentration of carbonaceous and nitrogenized material. The crucial question is that the biodegradation of the carbonaceous material is difficult as long as the nitrogenized material is present in the form of ammoniacal nitrogen (NH_4^+), which compromises performance of biological treatment process. Therefore, a physical and chemical treatment of the leachate should be done before its biological treatment, especially for reduction of ammoniacal nitrogen concentration and for propitiating the realization of application of biological treatment. The treatment of leachate requires specific consideration, which is not needed for other types of waste. In the specific case in this study, where ammoniacal nitrogen concentration was about $2,200 \text{ mgN L}^{-1}$ and the BOD_5/COD ratio was 0.3, the study of ammonia stripping process was performed. Ammonia stripping process was studied in packed towers of 35 L capacity each and the parameters investigated were pH, ratio of contact area/leach volume and the aeration time. One of the parameters that influenced most in efficiency of ammonia stripping process was pH of the leachate since it contributes in conversion of ammoniacal nitrogen from NH_4^+ to NH_3 .

Keywords: leachate, ammonia, pH, packed tower, stripping.

© 2013 *Journal of Urban and Environmental Engineering (JUEE)*. All rights reserved.

¹Correspondence to: Valderi D. Leite, Tel.: +55-83-33153333, Fax: +55-83-33153356
E-mail: valderileite@uol.com.br