

2nd International Conference on Tropical and Coastal Region Eco Development 2016

IOP Conference Series: Earth and Environmental Science
Volume 55

Bali, Indonesia
25 – 27 October 2016

Editor:

Hadiyanto

ISBN: 978-1-5108-3711-9
ISSN: 1755-1307

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2016) by the Institute of Physics
All rights reserved. The material featured in this book is subject to
IOP copyright protection, unless otherwise indicated.

Printed by Curran Associates, Inc. (2017)

For permission requests, please contact the Institute of Physics
at the address below.

Institute of Physics
Dirac House, Temple Back
Bristol BS1 6BE UK

Phone: 44 1 17 929 7481
Fax: 44 1 17 920 0979

techtracking@iop.org

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

Table of contents

Volume 55

**2nd International Conference on Tropical and Coastal Region Eco Development
2016**

25–27 October 2016, Bali, Indonesia

**Accepted papers received: 30 January 2017
Published online: 1 March 2017**

Preface

011001

OPEN ACCESS

[2nd International Conference on Tropical and Coastal Region Eco Development 2016](#)

011002

OPEN ACCESS

[Peer review statement](#)

Papers

012001

OPEN ACCESS

[Past and Future Ecosystem Change in the Coastal Zone](#)

P Gell.....1

012002

OPEN ACCESS

[Conserving endangered marine organisms: causes, trends and challenges](#)

Ambariyanto.....9

012003

OPEN ACCESS

[Population of *Aedes sp* in Highland of Wonosobo District and Its Competence as A Dengue Vector](#)

Martini Martini, Bagoes Widjanarko, Retno Hestningsih, Susiana Purwantisari and Sri Yuliawati.....19

012004

OPEN ACCESS

[Nutritional value content, biomass production and growth performance of *Daphnia magna* cultured with different animal wastes resulted from probiotic bacteria fermentation](#)

Vivi Endar Herawati, R A Nugroho, Pinandoyo and Johannes Hutabarat.....25

012005

OPEN ACCESS

[Symbiotic Fungus of Marine Sponge *Axinella sp.* Producing Antibacterial Agent](#)

A Trianto, S Widyaningsih, OK Radjasa and R Pribadi.....35

012006

OPEN ACCESS

[The Influence of Madden Julian Oscillation on the Formation of the Hot Event in the Western Equatorial Pacific](#)

Anindya Wirasatriya, Denny Nugroho Sugianto and Muhammad Helmi.....42

012007

OPEN ACCESS

[Sediment Transport Model In Sayung District, Demak](#)

Aris Ismanto, Muhammad Zainuri, Sahala Hutabarat, Denny Nugroho Sugianto, Sugeng Widada and Anindya Wirasatriya.....51

012008

OPEN ACCESS

[Resources Management Strategy For Mud Crabs \(*Scylla spp.*\) In Pemalang Regency](#)

Aristi Dian Purnama Fitri, Herry Boesono, Agus Sabdono and Nadia Adlina.....57

012009

OPEN ACCESS

[Development of Spore Protein of *Myxobolus koi* as an Immunostimulant for Prevent of Myxobolus on Gold Fish \(*Cyprinus carpio* Linn\) by Oral Immunisation](#)

Gunanti Mahasri.....63

012010

OPEN ACCESS

[The Effectiveness of Extracts Basil Leaves \(*Ocimum sanctum* Linn\) against *Saprolegnia* sp. by in Vitro](#)

Sudarno, Muhammad Luthfi Hakim and Rahayu Kusdarwati.....73

012011

OPEN ACCESS

[Developing groundwater conservation zone of unconfined aquifer in Semarang, Indonesia](#)

T T Putranto, W K Hidajat and N Susanto.....79

012012

OPEN ACCESS

[Understanding coastal processes to assist with coastal erosion management in Darwin Harbour, Northern Territory, Australia](#)

S.G. Tonyes, R.J. Wasson, N.C. Munksgaard, K.G. Evans, R. Brinkman and D.K. Williams.....88

012013

OPEN ACCESS

[Environmental and Risk Factors of Leptospirosis: A Spatial Analysis in Semarang City](#)

Silviana Nur Fajriyah, Ari Udiyono and Lintang Dian Saraswati.....96

012014

OPEN ACCESS

[Study of inundation events along the southern coast of Java and Bali, Indonesia \(case studies 4-9 June 2016\)](#)

I R Nugraheni, D P Wijayanti, D N Sugianto and A Ramdhani.....106

012015

OPEN ACCESS

[The Use of Water Exchange for Feeding Rate and Growth Promotion of Shortfin Eel *Anguilla bicolor bicolor* In Recirculating Water System](#)

N Taufiq-Spj, S Sunaryo, A Wirasatriya and D N Sugianto.....114

012016

OPEN ACCESS

[ASSOCIATION BETWEEN MACROMINERALS INTAKE AND CHANGES IN INTERNAL CAROTID ARTERY-INTIMA MEDIA THICKNESS IN POST ISCHEMIC STROKE PATIENTS](#)

Dwi Pudjonarko, Dodik Tugasworo and Rumintang Silaen.....122

012017

OPEN ACCESS

[Brain Gym To Increase Academic Performance Of Children Aged 10-12 Years Old \(Experimental Study in Tembalang Elementary School and Pedalangan Elementary School Semarang\)](#)

M G Marpaung, T P Sareharto, A Purwanti and D Hermawati.....129

012018

OPEN ACCESS

[Polymeric Membrane Made of Cellulose Isolated from Tropical Water Hyacinth Blended with Chitosan](#)

Titik Istirokhatun, Richa Rachmawaty, Metty Meriyani, Nur Rokhati and Heru Susanto.....136

012019

OPEN ACCESS

[Identification and Antibacterial Activity of Bacteria Isolated from Marine Sponge *Haliclona \(Reniera\)* sp. against Multi-Drug Resistant Human Pathogen](#)

Meezan Ardhanu Asagabaldan, D Ayuningrum, R Kristiana, A Sabdono, O K Radjasa and A Trianto.....143

012020

OPEN ACCESS

[COPE Method Implementation Program to Reduce Communication Apprehension Level in Full Day Junior High School Students](#)

A R Prasetyo.....154

012021

OPEN ACCESS

[Influence of ENSO and IOD to Variability of Sea Surface Height in the North and South of Java Island](#)

Ahmad Fadlan, Denny Nugroho Sugianto, Kunarso and Muhammad Zainuri.....166

012022

OPEN ACCESS

[The Roles of Macrobenthic Mollusks as Bioindicator in Response to Environmental Disturbance : Cumulative \$k\$ -dominance curves and bubble plots ordination approaches](#)

Sapto P. Putro, Fuad Muhammad, Amalia Aininnur, Widowati and Suhartana.....176

012023

OPEN ACCESS

[The Effect of Early Mosquito Insecticides Exposure on Sprague Dawley Rat Testis: A Histopathological Feature Towards Malignancy?](#)

Tri Indah Winarni, Milzam Auzan Aziman, Anindyo Abshar Andar and Ika Pawitra.....184

012024

OPEN ACCESS

[Analysis of heavy metal content of Cd and Zn in ballast water tank of commercial vessels in Port of Tanjung Emas Semarang, Central Java Province](#)

A Tjahjono, A N Bambang and S Anggoro.....189

012025

OPEN ACCESS

[Proteomics study of extracellular fibrinolytic proteases from *Bacillus licheniformis* RO3 and *Bacillus pumilus* 2.g isolated from Indonesian fermented food](#)

Diana Nur Afifah, Ninik Rustanti, Gemala Anjani, Dahrul Syah, Yanti and Maggy T. Suhartono.....198

012026

OPEN ACCESS

[Screening Antibacterial Agent from Crude Extract of Marine-Derived Fungi Associated with Soft Corals against MDR-*Staphylococcus haemolyticus*](#)

A Sabdaningsih, O Cristianawati, M T Sibero, H Nuryadi, O K Radjasa, A Sabdono and A Trianto.....207

012027

OPEN ACCESS

[Exploration of Fungal Association From Hard Coral Against Pathogen MDR *Staphylococcus haemolyticus*](#)

O Cristianawati, O K Radjasa, A Sabdono, A Trianto, A Sabdaningsih, M T Sibero and H Nuryadi.....215

012028

OPEN ACCESS

[Isolation, Identification And Screening Antibacterial Activity from Marine Sponge-Associated Fungi Against Multidrug-Resistant \(MDR\) *Escherichia coli*](#)

Mada Triandala Sibero, Aninditia Sabdaningsih, Olvi Cristianawati, Handung Nuryadi, Ocky Karna Radjasa, Agus Sabdono and Agus Trianto.....223

012029

OPEN ACCESS

[Isolation, Characterisation and Antagonistic Activity of Bacteria Symbionts Hardcoral *Pavona* sp. Isolated from Panjang Island, Jepara Against Infectious Multi-drug Resistant \(MDR\) Bacteria](#)

D. Ayuningrum, R. Kristiana, M.A. Asagabaldan, A. Sabdono, O.K. Radjasa, H. Nuryadi and A. Trianto.....235

012030

OPEN ACCESS

[Encapsulation of phycocyanin-alginate for high stability and antioxidant activity](#)

Hadiyanto, Meiny Suzery, Deny Setyawan, Dian Majid and Heri Sutanto.....243

012031

OPEN ACCESS

[The Correlation of Upwelling Phenomena and Ocean Sunfish Occurrences in Nusa Penida, Bali](#)

C K Tito and E Susilo.....251

012032

OPEN ACCESS

[Initial Study Of Potency Thermal Energy Using OTEC \(Ocean Thermal Energy Conversion\) As A Renewable Energy For Halmahera Indonesia](#)

Y O Andrawina, D N Sugianto and I Alifdini.....260

012033

OPEN ACCESS

[Effect of Reaction Temperature on Biodiesel Production from *Chlorella vulgaris* using CuO/Zeolite as Heterogeneous Catalyst](#)

Dianursanti, M Delaamira, S Bismo and Y Muharam.....269

012034

OPEN ACCESS

[*Annona muricata* modulate brain-CXCL10 expression during cerebral malaria phase](#)

Kis Djamiatun, Sumia M A Matug, Awal Prasetyo, Noor Wijayahadi and Djoko Nugroho.....275

012035

OPEN ACCESS

[SOCIO-ECONOMIC SPATIAL FOR THE SUSTAINABILITY OF THE ESTUARY ECOSYSTEM IN PELABUHANRATU COASTAL WEST JAVA](#)

L. Supriatna, J. Supriatna and D. Harmantyo.....286

012036

OPEN ACCESS

[The Effect of One-to-one Counseling to Pregnant Women's Knowledge about Anemia in Semarang](#)

N P R Egryani, F Saktini, N Susilaningsih, V D Puspitasari and A R Gumay.....295

012037

OPEN ACCESS

[Nutrient Content And Acceptability Of Snakehead-Fish \(*Ophiocephalus Striatus*\) And Pumpkin \(*Cucurbita Moschata*\) Based Complementary Foods](#)

Etika Ratna Noer, Aryu Candra and Binar Panunggal.....302

012038

OPEN ACCESS

[Isolation and Identification of *Aeromonas hydrophila* and *Saprolegnia* sp. on Catfish \(*Clarias gariepinus*\) in Floating cages in Bozem Moro Krembangan Surabaya](#)

Rahayu Kusdarwati, Kismiyati, Sudarno, Hendi Kurniawan and Yudha Teguh Prayogi.....309

012039

OPEN ACCESS

[The Thermocline Layer and Chlorophyll-a Concentration Variability during Southeast Monsoon in the Banda Sea](#)

Nikita Pusparini, Budi Prasetyo, Ambariyanto and Ita Widowati.....315

012040

OPEN ACCESS

[Identification of wave energy potential with floating oscillating water column technology in Pulau Baai Beach, Bengkulu](#)

I Alifdini, D N Sugianto, Y O Andrawina and A B Widodo.....327

012041

OPEN ACCESS

[Habitat characteristic of two selected locations for sea cucumber ranching purposes](#)

Retno Hartati, Agus Trianto and Widianingsih.....338

012042

OPEN ACCESS

[Social Relation between Businessman and Community in Management of Intensive Shrimp Pond](#)

Indra Gumay Febryano, James Sinurat and Messalina Lovinia Salampessy.....348

012043

OPEN ACCESS

[Designing Cognitive Intervention to Improve the Awareness Index of the Residents in the Landslide Area](#)

N. Susanto, T. T. Putranto and E. A. Ulfa.....355

012044

OPEN ACCESS

[Genetic diversity of the causative agent of ice-ice disease of the seaweed *Kappaphycus alvarezii* from Karimunjawa island, Indonesia](#)

E Syafitri, S B Prayitno, W F Ma'ruf and O K Radjasa.....364

012045

OPEN ACCESS

[Capacity Building Resource Management Of Coastal Areas To Improve The Local Economic Based By Cross-Cutting Partnerships: Case Study on Panjang Beach Bengkulu City](#)

Titi Darmi.....372

012046

OPEN ACCESS

[The Dynamics of Sea Surface Height and Geostrophic Current in the Arafura Sea](#)

Umaroh, Sutrisno Anggoro and Muslim.....384

012047

OPEN ACCESS

[Vulnerability Assessment: The Role of Coastal Informal Settlement Growth to Social Vulnerability in Genuk Sub-District, Semarang City](#)

Sariffuddin, Khristiana Dwi Astuti, Gustika Farhaeni and Lutfiyatul Wahdah.....392

012048

OPEN ACCESS

[Waves Induce Sediment Transport at Coastal Region of Timbuloko Demak](#)

Purnomo Hawati, Denny Nugroho Sugianto, Sutrisno Anggoro, Anindya Wirasatriya and Sugeng Widada.....404

012049

OPEN ACCESS

[Potential impact of climate variability on respiratory diseases in infant and children in Semarang](#)

Budiyono, Rismawati, S P Jati and P Ginandjar.....412

012050

OPEN ACCESS

[Early Childhood Environmental Education in Tropical and Coastal Areas: A Meta-Analysis](#)

D R Sawitri.....424

012051

OPEN ACCESS

[Diatoms and Water Quality of Telaga Warna Dieng, Java Indonesia](#)

Tri Retnaningsih Soeprbowati, Sri Widodo Agung Suedy and Hadiyanto.....432

012052

OPEN ACCESS

[Improvement of Stability and Antioxidant Activities by Using Phycocyanin - Chitosan Encapsulation Technique](#)

Meiny Suzery, Hadiyanto, Dian Majid, Deny Setyawan and Heri Sutanto.....438

012053

OPEN ACCESS

[Sea Water Intrusion in Kaligawe Semarang Based on Resistivity Data](#)

Agus Setyawan, Najib, Yoga Aribowo, Agnis Trihadini, Dhana Hastuti, Fitra Ramdhani, Fajar Waskito, Ganap Febrika and Galang Virgiawan.....445

012054

OPEN ACCESS

[In Search for Sustainable Coastal Management: A Case Study of Semarang, Indonesia](#)

Sudharto P Hadi.....452

012055

OPEN ACCESS

[Effect of economic growth and environmental quality on tourism in Southeast Asian Countries](#)

Firmansyah.....457

012056

OPEN ACCESS

[Isolation And Partial Characterization Of Bacteria Activity Associated With Gorgonian *Euplexaura* sp. Against Methicillin-Resistant *Staphylococcus aureus* \(MRSA\)](#)

R. Kristiana, D. Ayuningrum, M.A. Asagabaldan, H. Nuryadi, A. Sabdono, O.K. Radjasa and A. Trianto.....462

012057

OPEN ACCESS

[Antioxidant and antibacterial activity of solid-liquid and enzyme-assisted extraction of phenolic compound from three species of tropical *Sargassum*](#)

M Puspita, M Deniel, I Widowati, O K Radjasa, P Douzenel, G Bedoux and N Bourgougnon.....468

012058

OPEN ACCESS

[Low zinc serum levels and high blood lead levels among school-age children in coastal area](#)

Adriyan Pramono, Binar Panunggal, M.Zen Rahfiludin and Fronthea Swastawati.....481

012059

OPEN ACCESS

[The need of adequate information to achieve total compliance of mass drug administration in Pekalongan](#)

Praba Ginandjar, Lintang Dian Saraswati, Opik Taufik, Nurjazuli and Bagoes Widjanarko.....490

012060

OPEN ACCESS

[Physical characteristics of phycocyanin from spirulina microcapsules using different coating materials with freeze drying method](#)

E N Dewi, L Purnamayati and R A Kurniasih.....500

012061

OPEN ACCESS

[MJO \(Madden-Julian Oscillation\) Analysis of the Chlorophyll-a Distribution in Western Waters Bengkulu](#)

Y D Haryanto, N Fitrianti, A Hartoko, S Anggoro and M Zainuri.....507

012062

OPEN ACCESS

[Proximate Content of "Klekap" \(Microphytobenthos and Their Associated Meiofauna\) from Milk-Fish Pond](#)

Widianingsih, Muhammad Zainuri, Sutrisno Anggoro and Hermin Pancasakti Kusumaningrum.....517

012063

OPEN ACCESS

[Effects of Different Heat Processing on Fucoxanthin, Antioxidant Activity and Colour of Indonesian Brown Seaweeds](#)

Eko Susanto, A Suhaeli Fahmi, Tri Winarni Agustini, Septian Rosyadi and Ayunda Dita Wardani.....523

012064

OPEN ACCESS

[Determination and Radiocarbon Dating of Marine Mollusc Fossils in Ancient Sea Shelf of Central Java Indonesia](#)

S Aisyah, D Pringgenies, A Hartoko, J T S Sumantyo and H Matsuzaki.....533

012065

OPEN ACCESS

[Sustainable Eco Coastal Development Through Corporate Social Responsibility \(CSR\) Program](#)

Arsi Rakhmanissazly, Yong Mursito Ardy and Abdullah.....540

012066

OPEN ACCESS

[The effect of ENSO to the variability of sea surface height in western Pacific Ocean and eastern Indian Ocean and its connectivity to the Indonesia Throughflow \(ITF\)](#)

H A Rejeki, Munasik and Kunarso.....548

012067

OPEN ACCESS

[Antioxidant activity of three microalgae *Dunaliella salina*, *Tetraselmis chuii* and *Isochrysis galbana* clone Tahiti](#)

Ita Widowati, Muhammad Zainuri, Hermien Pancasakti Kusumaningrum, Ragil Susilowati, Yann Hardivillier, Vincent Leignel, Nathalie Bourgougnon and Jean-Luc Mouget.....555

012068

OPEN ACCESS

[Study on the effect of different concentration of *Spirulina platensis* paste added into dried noodle to its quality characteristics](#)

T W Agustini, W F Ma'ruf, Widayat, B A Wibowo and Hadiyanto.....561

012069

OPEN ACCESS

[Study on Anticancer Activity of Extracts of Sponges Collected from Biak Water, Indonesia](#)

A. Trianto, A. Ridhlo, D.W. Triningsih and J. Tanaka.....570

012070

OPEN ACCESS

[The Application of Ozone and Chitosan as Microbial Inhibitor Prawn Larvae Rearing](#)

Delianis Pringgenies, Muhammad Nur and Rosti Angelia.....575

012071

OPEN ACCESS

[Production of Chitosan from *Amusium sp* Scallop Shell Waste](#)

Nur Rokhati, Titik Istirokhatun, Dwi Titik Apriyanti and Heru Susanto.....591

012072

OPEN ACCESS

[Achieving Research University: Indonesian Case](#)

Yos Johan Utama and Ambariyanto.....597