Table of Contents

Message from the Rector of Syiah Kuala University	i
Message from the Scientific Committee	ii
Message from the Dean of Faculty of Mathematics and Natural Science	iii
Message from the Conference Chair	iv
Organizers and Committees	٧
Table of Contents	vii
Oral Presentation	
H Analysis in Zircaloy Tube Using Laser Plasma Technique as a Inspection Tool to Monitor Zr-Tube Disintegration Upon Earthquake Shock	
Koo Hendrik Kurniawan, Syahrun Nur Abdulmadjid and Kiichiro Kagawa	1
Determination of Optimum Condition in Desalination of Brackish Water using Polyurethane Membrane after the Tsunami in Aceh Province, Indonesia	
Marlina, Hizir Sofyan, Sitti Saleha, Suhendrayatna	10
Analysis of Some Heavy Metals and Physico-Chemical Parameters in Community Shallow Wells in Krueng Raya Aceh Besar District Nanggroe Aceh Darussalam (NAD) after Tsunami Disaster	
Rinaldi Idroes, Marlina and Frida Oesman	15
Review on Distillery Wastewater Treatment Situation in Myanmar and its Potential Theingi Ye Myint	19
Development Mixed Matrix Membrane Absorbers for Removing Endotoxin in Water Saiful, Z. Borneman, M. Wessling	25
The Production of Biodiesel from Waste Chicken Fats using Heterogeneous Calcined Calcium Carbonate Catalyst	
Amir Awaluddin, T. Ariful Amri, Saryono, Ella Pandia, and Wahyuni	32
Proceeding of the International Conference on Natural and Environmental Sciences 2009 (ICONES '09), May 6-8, 2009	vii

Water, Sanitation and Hygiene (WASH) Knowledge, Attitude and Practice (KAP) Assessment of Acehnese People after Tsunami	
Tilaili, Sofia, Nurjannah	3
Heavy Metal Concentration Measurement in Natural Building Materials by Means of Laser Induced Breakdown Spectroscopy	
Francesco Colao, Nasrullah Idris, Roberta Fantoni and Maria Pilar Ortiz	4
Biosorption of Cd(II) and Cr(VI) by Dried Seagrass Biomass of <i>Thalassia hemprichii</i> Found in Barranglompo Island, South Sulawesi	
Nursiah La Nafie, Paulina Taba, Dahlia Indahsari, Andi Saidah Pratama The Affectivity of Phytoremediation using Ipomea Reptans in Reducing Cu, Cd and Pb Content Grown in Sludge Paper Waste	4
T. Ariful Amri and Amir Awaluddin	52
Development of Low Cost Soil Sensor Based on Impedance Spectroscopy for in-Situ Measurement	
Lazuardi Umar, Defrianto, Ari Sulistyo Rini	55
Variation on Growth, Genetic Gains and Biomass Productivity of Introduced Indonesian Timor Mountain Gum (Eucalyptus urophylla ST. Blake) in Thailand	
Indi Hendraswari and Suree Bhumibhamon	59
Impact of Mangrove Forests Degradation on Fisherman Income and Fish Catches Diversity in Eastern Coastal of North Sumatra, Indonesia Onrizal, Agus Purwoko, Mashhor Mansor	70
	/0
Development of Community Based Forest Management in Northern Thailand Case Study at Nong Chin Community Forest, Chiang Rai Province Dedy Hadriani and Suree Bhumibhamon	75
n n	13
The Condition of Disturbed Nipah Mangrove Forest (Nypa fruticans Wurmb.) Based on the Structure and Composition of Vegetation at Pulau Rimau District in Banyuasin Regency South Sumatra Province	
Dwi Puspa Indriani, Hanifa Marisa, Zakaria	83
Reef Fish Status in Northern Acehnese Reef Based on Management Type Edi Rudi, Syamsul Rizal, Sayyid Afdhal Elrahimi, Tasrif Kartawijaya, Yudi Herdiana, Fakhrizal Setiawan, Shinta	
T. Pardede, Stuart J. Campbell, Jerker Tamelander	90
The Community Structure of Mangrove in Bukit Batu Bengkalis, Riau	
Khairijon, Sugiarto, Dessy Hastuty	97

The Natural Regeneration Ability of Disturbed Nipah Mangrove Forest (Nypa Fruticans Wurmb.) Based on the Density and Distribution of Seedlings at Pulau Rimau District in Banyuasin, South Sumatra	
Dwi Puspa Indriani, Sarno, Rica Agustina	102
Effect of Counterions of Potasium Salts on Critical Micellization Concentration (CMC) of Saponin	
Ali Amran	107
Water Quality Assessment in the Tsunami-Affected Areas of Meulaboh Suhendrayatna, Muhammad Zaki, and Elvitriana	110
Phylogenetic Study of Mangifera laurina and its Related Species Using cpDNA trnL-F Spacer Markers	
Fitmawati	115
Improving Urban Environment by Green and Clean Competition Maria Prihandrijanti and Tuani Lidiawati S	119
Repellency of Extract Vitex Trifolia to Mosquito in Lotion Formula Mustanir, Rosnani Nasution, and Marianne	123
Land Use of Tsunami Disaster Area for Guava Plant and the Beneficial of its Metabolic Activity (the Effect of Manganese and Guava Leaf Extraction on Growth of Fusarium Spp) Dj. Rosmaidar, Tj Chamzurni and I. Ismayani	127
The Diversity of Bacterial Community in Semiarid Savanna Soils: Anthropogenic Determinants Delita Zul, Eva Romann, Bärbel U. Fösel, and Jörg Overmann	132
Carbon Stock and Macrobenthic Fauna Diversity at Various Land-use of Mangrove in North Sumatra, Indonesia Onrizal, Fridolin Hutabarat, Ternala Alexander Barus, Mashhor Mansor	141
The Design and Fabrication of High Quality Optical Devices using Porous Silicon Suhrawardi Ilyas	148
Monitoring of Thermal Stratification and Removal of Metals by Aeration Technique in a Tropical Climate Reservoir Noor Halini Baharim	152
	152
NMR Study of Adsorbed Sodium Dodecylbenzene Sulphonate (Sdbs) in Mcm-41 Materials Paulina Taba	156
Optical Properties of Soft Coral Species in Tropical Marine Waters Nurjannah Nurdin and Chair Rani	160
Proceeding of the International Conference on Natural and Environmental Sciences 2009 (ICONES'09), May 6-8, 2009	ix

Temperature and Humidity Measurement Instrumentation Based on Colpitts Oscillator Khairul Amri	166
Characteristics of Nd-doped Silica Fibre as a New Generation TL-Dosimeter Used for Ionization Radiation Rini Safitri	173
Spectral Mapping and Spectral Indices on Hyperspectral Remote Sensing Data to Identify the Distribution of Plant Growth Sugianto	177
Characteristics of Leachate from Gampong Jawa Landfill Site Elvitriana and Suhendrayatna	182
Effect of Modifier on the Extraction of Phospholipid Fatty Acids from Activated Sludge with Supercritical CO ₂	106
Muhammad Faisal, Muhammad Hanif, Yoichi Atsuta, Hiroyuki Daimon	185
Development of Local Economy After Tsunami: The Role of Foreign NGO's Teuku Erwansyah, Hamzah Jusoh, Abd. Hair Awang	189
A Conceptual Framework to Achieve Sustainable Outcomes (for Recovery Development in the Regions Affected by Natural Disaster) Nelson Siahaan, Esther Nababan	193
Inappropriate Land Use in the Coastal Tripa Peat Swamps on the West Coast of Aceh Denis Ruysschaert, Ian Singleton, and Susilo Sudarman	201
System Interrelationship Model toward Better Resource Management Decision-Making Esther Nababan, Nelson Siahaan The Potency of Penteut Ie (Achehnese, Barringtonia racemosa (L.) Spreng) as Molluscicide of Pomacea Species (Ampullariidae)	206
Musri Musman	211
Freshwater Inflows Modeling using SWAT T. Ferijal and Patricia K. Smith	214
Implementation of Cleaner Production in Indonesian Hospitals through Safe Healthcare Waste Management	
Sri Irianti, Cordia Chu, Philip Williams and Sunil Herat	222
A Tropical Diseases Monitoring System for Nanggroe Aceh Darussalam using Spatio Temporal Information Automatically Extracted from the Web: Design and Preliminary Results	
Taufik Fuadi Abidin, Muhammad Subianto, Muzailin Affan, Ridha Ferdhiana	227

Computational Optimal Harvesting Control for Sustainable Fish Stocks Said Munzir	232
Ecological Risk Assessment of Oil Spill in Jakarta Bay Waters (JBW) Agus Salim	236
Improving Accuracy of DEM using ALOS Data Level for Disaster Mitigation Activities Bambang Trisakti, Muzailin Affan	243
Instability Classification using AdaBoost: A Case Study of Indonesia Demographic and Health Survey	
Muhammad Subianto	247
Suspended Sediment Pattern in the Coastal Region of Muda River Mouth, Malaysia Tan Fuyi, Muhammad Syukri, and Md Noordin Abu Bakar	253
Study of Several Implemented Web-based Applications for Dissemination and Distribution Spatial Data in Supporting Rehabilitation and Reconstruction Process in Aceh-Nias Nizamuddin and Hidehiro Ishizuka	256
A Preliminary Statistical Study of Investigation Possibility Rainfall Earthquake Precursory Parameter, Sumatra Subduction Zone Case Study Irwandi, Muksin, Muhammad Syukri, Amir Fauzi, Hizir Sofyan	263
Absorption Features Analysis of Carbonate Mineral Spectra in the Shortwave Infrared as a Proxy for Assessing Dolomitization Patterns and Its Application in Hyperspectral Remote	
Sensing Nasrullah Zaini, Freek van der Meer, and Harald van der Werff	270
An Autonomous Wireless Sensor Modul for Forest-Fire Detection in Sumatera Lazuardi Umar	276
Conservation and Breeding of Orang Utan (Pongo Pygmaeus) at Tasik Bukit Merah, Perak, Malaysia	
Mashhor M., Sabapathy D, Siti Nabilah M.T. and Shahrul Annuar M.S	281
Notes on Vegetation of Toba Highland Peats Taufiq Siddiq Azvi and Mashhor Mansor	283
Platinum Complexes of Carbaboranylphosphine: Potential Drug for Cancer Caused by Environmental Problems	
Ilham Maulana Peter Loennecke Evamarie Hey-Hawkins	287

Proceeding of the International Conference on Natural and Environmental Sciences 2009 (ICONES'09), May 6-8, 2009

Strategies of Habitat and Resources Used by Sumatran Elephants (Elephas maximus sumatranus Temminck, 1847) Using Geographic Information System	
Abdullah, Djoko T. Iskandar, and A.Sjarmidi	294
Barriers to the Implementation of Sustainable Healthcare Waste Management in the Disaster Affected Areas of Nanggroe Aceh Darussalam Province	
Sri Irianti	298
An Optimal Dimension of Merged 2-Parallel Bars as A Wave Breaker Marwan	304
Poster Presentation	
Hydrogen Storage Properties of MgH ₂ Alloys Produced by High Energy Ball Milling Method Adi Rahwanto, Mustanir, Fauzi and Zulkarnain Jalil	308
New Modification Metode for DNA Extraction and Purification to Plant Specimen Herbarium of Pandanaceae Fitmawati	311
Quality Analysis of Refill Drinking-Water in Banda Aceh City Indonesia Frida Oesman, Rinaldi Idroes	313
Phenotypic and Molecular Characterization Crude Oil Hydrocarbon Degrading Bacteria Noted as ICBB 3 Isolated from Black Water Ecosystem Central of Kalimantan	
Rodesia Mustika Roza, Dwi Andreas Santosa dan Ratna Siri Hadioetomo	316
Risk Management to Provide Clean Water for Achenese People Post Tsunami Marlina, Siti Saleha, Muliadi Ramli	318
Analytical Implications of Sample Hardness in Laser-Induced Breakdown Spectroscopy (LIBS) Nasrullah Idris, Francesco Colao, and Roberta Fantoni	320
Design of Wireless Prototype for Monitoring of Human's Physical Activity Using 3D Accelerometer Sensor	
Edwar Iswardy, Sastra Kusuma Wijaya	322
Antifungal Spectra of Activity of Actinomycetes Strains Against Rhizoctonia solani Tetty Marta Linda, Atria Martina, Juni Singga, Rodesia M.R. Gulat ME.	325

xii