

2018 International Conference on Applied Science and Technology (iCAST 2018)

**Manado, Indonesia
26 – 27 October 2018**



**IEEE Catalog Number: CFP18CAT-POD
ISBN: 978-1-5386-7549-6**

**Copyright © 2018 by the Institute of Electrical and Electronics Engineers, Inc.
All Rights Reserved**

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP18CAT-POD
ISBN (Print-On-Demand):	978-1-5386-7549-6
ISBN (Online):	978-1-5386-7548-9

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
E-mail: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

Table of Contents

Table of Contents	iv
Committee of iCAST 2018	xiv
Speech From Director of Manado State Polytechnic	xvii
Greetings from The General Chair	xviii
Speech from the Chairman of the Commission for Research and Publication of FDPNI.....	xix
Forum Direktur Politeknik Negeri se-Indonesia.....	xx
Welcome from the iCAST 2018 General Co-Chair	xxi
Technical Program.....	xxii
Parallel Session.....	xxvi
DAY 1: Four Points by Sheraton Manado.....	xxvi
DAY 2: Manado Mayor's Office (City Hall)	xlv
Keynote Speaker 1	xlvi
Keynote Speaker 2	xlix
Keynote Speaker 3	l
Keynote Speaker 4	li
PROCEEDINGS	
<i>Prototype Excavator With Pneumatic System Controlled Using Android Device</i> Randis (Politeknik Negeri Balikpapan)	1
<i>Wireless Sensor Network With Mesh Topology to Control Room Devices</i> Fathur Zaini Rachman, Nur Yanti, Nurwahidah Jamal, Era Purwanto	5
<i>Corrosion Behaviours of Mild Steel in Biodiesel-Diesel Fuel Blend</i> Surya Dharma, Arridina Susan Silitonga, Abdi Hanra Sebayang, Rihat Sebayang, Bertha Ginting, Sarjianto (Politeknik Negeri Medan, Indonesia); Natalina Damanik (The Indonesia State Electricity Company, Indonesia); Yongki Permana Ramlan (PT PLN & Research Institute, Indonesia); Hamdan Hartono Alif (PT PLN Research Institute, Indonesia)	10
<i>Experimental study on performance and exhaust emissions of biodiesel-bioethanol-diesel fuel blends in diesel engine</i> Arridina Susan Silitonga, Surya Dharma, Abdi Hanra Sebayang, Rihat Sebayang, Bertha Ginting, Bambang Sugiyanto (Politeknik Negeri Medan, Indonesia), Joko Sutrisno (The Indonesia State Electricity Company, Indonesia), Natalina Damanik (The Indonesia State Electricity Company, Indonesia), Harry Indrwan (The Indonesia State Electricity Company, Indonesia)	16
<i>Technology Control of Velocity Projectile on Multistage Coil Gun</i> Basuki Winarno, Rakhmad Putra and Indarto Yuwono (Politeknik Negeri Madiun, Indonesia); Agus Indra Gunawan (Politeknik Elektronika Negeri Surabaya (PENS), Indonesia); Bambang Sumantri (Politeknik Elektronika Negeri Surabaya, Indonesia)	24
<i>Quality Models Engineering for Evaluation of Academic Information System Quality Instrument (AISQI)</i> Ino Sulistiani and Ino S (Hasanuddin University, Indonesia); Syafruddin Syarif (UNHAS, Indonesia); Dewiani (Universitas Hasanuddin, Indonesia); Yusran Ibnu (Hasanuddin University, Indonesia)	30
<i>Tuning Parameters On Decision Support System Using Fuzzy Inference</i> Humaira , Rasyidah and Indri Rahmayuni (Politeknik Negeri Padang, Indonesia)	35
<i>Model Prototypes of Billboards Construction in Banjarmasin</i> Joni Irawan, Herliyani Fariel Agoes and Rinova Firman C (State Polytechnic Banjarmasin, Indonesia)	N/A
Performance Evaluation Land Transportation License System in Banjarmasin City	

Kun Priyo Pamungkas (Politeknik Negeri Banjarmasin, Indonesia); Reza Fauzan (Institut Teknologi Sepuluh Nopember).....	46
Balance Control of Reaction Wheel Pendulum Based on Second-order Sliding Mode Control	
Yusie Rizal, Ronny Mantala, Syaiful Rachman and Nurmahaludin (Politeknik Negeri Banjarmasin, Indonesia)	51
<i>Determining Human Voice Source Location Using TDOA</i>	
Muhammad Afridon (Politeknik Negeri Bengkalis Riau Indonesia, Indonesia)	57
<i>Streetlight controller based on Arduino uno</i>	
Jefri Lianda, Jef, Hikmatul Amri, Johny Custer, Daud Salemba and Marzuarman Arman (Politeknik Negeri Bengkalis, Indonesia).....	N/A
<i>Structure Analysis of Masthead Light Using Finite Element Method</i>	
Budianto, Ruddianto and Boedi Herijono (Politeknik Perkapalan Negeri Surabaya, Indonesia); Bambang Setiawan (Universitas Syiah Kuala, Indonesia).....	N/A
<i>The Making of Portable Map Smart Phone Android-Based of Accredited Campus in Banjarmasin</i>	
Faris Irawan and Effan Najwaini (Politeknik Negeri Banjarmasin, Indonesia)	N/A
<i>Analysis of Irrigation Water Needs With Changes on Planting Patterns in Mentayan Rice Fields</i>	
Oni Febriani (Politeknik Negeri Bengkalis Riau Indonesia, Indonesia); Dedi Enda and Juli Ardita Pribadi (Politeknik Negeri Bengkalis, Indonesia).....	N/A
<i>Study on the Design of UWB Antenna for Omnidirectional Pattern</i>	
Firdaus and Yulindon (Politeknik Negeri Padang, Indonesia); Meza Silvana, Rudy Fernandez and Hanalde Andre (Universitas Andalas, Indonesia); Rusfandi Herman (Politeknik Negeri Padang, Indonesia).....	78
<i>Adaptive Traffic Lights through Traffic Density Calculation on Road Pattern</i>	
Billie Pratama, Josua Christanto, Muhammad Hadyantama and Abdul Muis (Universitas Indonesia, Indonesia)	82
<i>Demographic factor analysis in participatory funding system for landfill gas plant</i>	
Bevin Makoenimau and F Farizal (Universitas Indonesia, Indonesia).....	87
<i>Comparative Analysis of AHP Method and Applied ON/OFF Method in Choosing Engineering, Procurement, and Construction Contractors</i>	
Utami Rianti (University of Indonesia, Indonesia); F Farizal (Universitas Indonesia, Indonesia).....	93
<i>Measurement and Simulation of Microwave Absorber from Burned Rice Husk</i>	
Mohammad Basuki Rahmat (Politeknik Perkapalan Negeri Surabaya, Indonesia); Afif Zuhri Arfianto (Shipbuilding Institute of Polytechnic Surabaya (PPNS), Indonesia); Eko Setijadi (Institut Teknologi Sepuluh Nopember, Indonesia); Achmad Mauludiyanto (ITS, Indonesia); Valian Ardhana (Universitas Qamarul Huda Badaruddin, Indonesia)	99
<i>Maneuvering Simulation and Safety Index of LNG Carriers in A Developing Port Area</i>	
I Putu Sindhu Asmara, Beta Qowima, Adiando, M. Anis Mustaghfirin, Sumardiono and Gaguk Suharjito (Politeknik Perkapalan Negeri Surabaya, Indonesia)	103
<i>Optimizing of Electric Power Solar Cell by Various Angle Using the Activator Panel Based on the Timer and Light Sensor</i>	
Fadhillah Hazrina, S Dwi and Supriyono (Polytechnic State Cilacap, Indonesia)	109
<i>Enhancing Learning Through Technology: 'Technical English' as an Alternative Tool for Polytechnic Students</i>	
Dian Asa Utari, Afif Zuhri Arfianto and Muhammad Hasin (Shipbuilding Institute of Polytechnic Surabaya (PPNS), Indonesia)	115
<i>Design And Analysis Assessment Of Employee Work Objectives From Government Employee Digital-Base In Manado State Polytechnic</i>	
Olga Melo (Manado State Polytechnic, Indonesia); Harson Kapoh (Politeknik Negeri Manado, Indonesia); Anthon Kimbal (Politeknik Negeri Manado, Indonesia); Anritsu Polii (Manado State Polytechnic, Indonesia)	119

<i>Perceived Safety Driving Paradigm of The Intercity-Bus Drivers In East Java</i> Dewi Kurniasih (Shipbuilding Institute of Polytechnic Surabaya, Indonesia).....	N/A
<i>Soil Suitability Evaluation for Sawah in Sumani Watershed in West Sumatra Indonesia using Surfer Tool</i> Gusmalini, Afizar and Agustamar (Politeknik Pertanian Negeri Payakumbuh, Indonesia)	129
<i>Tunable OFDM System Based on Discrete Hartley Transform</i> Zakaria Sembiring, Enda Yunita Surbakti (Politeknik Negeri Medan, Indonesia).....	137
<i>The Effects of Shot Peening Treatment on the Hardness and Fatigue Strength of HQ 805 Machinery Steel</i> Winda Slat (Politeknik Negeri Manado, Indonesia); Viktor Malau (Universitas Gadjah Mada, Indonesia); Priyo Iswanto (UGM, Indonesia)	142
<i>Inconstant Inertia Weight for Boundary Element Inverse Analysis to Detect RC Corrosion</i> Syarizal Fonna, Gunawarman, Syifaul Huzni	146
<i>Characterization of Biodegradable Plastic Carrageenan Based with Addition of Chitosan</i> Mursida, Tasir, Luthfiah, Sahriawati (Politeknik Pertanian Negeri Pangkep)	N/A
<i>Implementation of Signal Defects Caused by the Effect of Harmonics on the Use of Electrical Loads</i> Edy Setiawan, Isa Rachman, Galih Anindita, Achmad Syahid (Politeknik Perkapalan Negeri Surabaya)	157
<i>I-ON Smart Controller: Portable Smart Home Solution Based on Arduino And Raspberry Pi</i> M. Udin Harun Al Rasyid, Ferry Astika Saputra, Agus Prasetyo (Politeknik Elektronika Negeri Surabaya)	161
<i>Design of Smart Home Control System Based on Android</i> Sukandar Sawidin (Manado State Polytechnic, Indonesia); Ali Ramschie (Politeknik Negeri Manado, Indonesia)	165
<i>Elastic Joint Design and the Associated Impedance and reaction control</i> Muhammad Iqbal Nugraha, Tien Fu Lu	171
<i>Soft Decision Viterbi Decoder For Free Space Optical Through Maritime Atmosphere Channel</i> Wulansari Darawijaya (Hasanuddin University, Indonesia); Dewiani (Universitas Hasanuddin, Indonesia); Merna Baharuddin (Universitas Hasanuddin Makassar, Indonesia)	178
<i>An Evaluation on Operability and Maneuverability of Small Coastal Fishing Vessel Using Simulation and AIS Data</i> I Putu Sindhu Asmara, Beta Qowima, Adianto, M. Anis Mustaghfirin, Sumardiono and Gaguk Suharjito (Politeknik Perkapalan Negeri Surabaya, Indonesia)	186
<i>Histogram Equalization and Gaussian Filtering Combination Method for Face Image Optimization</i> I Nyoman Gede Arya Astawa, Ni Gusti Ayu Putu, Sri Andriati, Putu Gde Sukarata, I Made Ari Dwi (Politeknik Negeri Bali)	190
<i>Automatic Dry Control System Using Microcontroller</i> Yoice Putung (Manado State Polytechnic, Indonesia); Sukandar Sawidin (Manado State Polytechnic, Indonesia); Anthoinete Waroh (Manado State Polytechnic, Indonesia)	194
<i>Model Transaction of Raw Material for Coconut Fruit On North Sulawesi Coconut Flour Industry</i> Harson Kapoh (Politeknik Negeri Manado, Indonesia); Olga Melo (Manado State Polytechnic, Indonesia); Anthon Kimbal (Politeknik Negeri Manado, Indonesia); Anritsu Polii (Manado State Polytechnic, Indonesia)	200
<i>Fatigue Life Ship Construction Analysis of 17500 LTDW Crude Oil Tanker</i> . Mustika Ningrum (Politeknik Perkapalan Negeri Surabaya, Indonesia); Muhamad Ari and Sumardiono (Shipbuilding Institute of Polytechnic Surabaya, Indonesia)	205
<i>Implementation of Digital Image Processing Using NI myRIO and Arduino Mega 2560 as Controller and Rover Bogie Robot</i> Arif Ainur Rafiq, Muhamad Yusuf and Pujono (Cilacap State Polytechnic, Indonesia)	210

<i>Parking Needs Analysis Of Two-Wheeled Vehicle In Manado State Polytechnic</i> Ahmad Abas and Teddy Takaendengan (Manado State Polytechnic, Indonesia) N/A	
<i>Multi-Objective Optimization in Drilling GFRP Composite-Stainless Steel Stacks using BPNN-GA Method</i> Angga Sateria (Politeknik Manufaktur Negeri Bangka Belitung, Indonesia)	220
<i>Automatic Rating Systems for National Delivery Services</i> Faisal Rahutomo, Indah Putri Hidayati, Pramana Yoga Saputra, Imam Fahrur Rozi and Usman Nurhasan (State Polytechnic of Malang, Indonesia)	226
<i>Quality Management of Infrastructure Project Life-Cycle</i> Debby Willar (Manado State Polytechnic, Indonesia); Daisy Pangemanan and E Waney (Politeknik Negeri Manado, Indonesia); Rudy Mait and Jemmy Rangan (Manado State Polytechnic, Indonesia)	231
<i>Optimization of Hydrolysis Process on Bioethanol Production from Cassava Peel using Ultrasonic Assisted</i> Sirajuddin (Politeknik Negeri Samarinda, Indonesia); Bandi Soepratono and Wiwin Suwinarti (Mulawarman University, Indonesia)	N/A
<i>Analysis Of Mechanical Properties Of Natural Fiber Composites On Fiber Length And Aquilaria Leather Volume Fractions</i> Yulianto AZ (Politeknik Manufaktur Negeri Bangka Belitung, Indonesia)	243
<i>Optimizing Laravel Authentication Process</i> Maksy Sendiang, Sonny Kasenda, Anritsu Polii and Yoice Putung (Manado State Polytechnic, Indonesia)	247
<i>A Short Review on Various Techniques for Measuring Soil Erosion Strength</i> Tommy Ekamitra Sutarto (Politeknik Negeri Samarinda, Indonesia)	252
<i>Optimisation of Traffic Light Regulation at Teling in Manado City Using Fuzzy Logic and ANFIS</i> Stephy Walukow (Manado State Polytechnic, Indonesia)	259
<i>Digital Technology and Pentahelix Role Model for Sport Tourism Event of IVCA 2018 in Bali</i> Bet el Silisna Lagarensen, Politeknik Elektronika Negeri Surabaya	263
<i>Early Detection of Toddler's Growth and Development Disorders Using ANFIS-GA</i> Rudy Cahyadi (Politeknik Negeri Media Kreatif, Indonesia); Ariesta Damayanti (STMIK Akakom Yogyakarta, Indonesia)	N/A
<i>Upgrading East Kalimantan Lignite Into Activated Carbon As a Microwaves Absorbent</i> Marinda Rahim and Fitriyana (Politeknik Negeri Samarinda, Indonesia)	275
<i>Active Control Tendon for Building Structure Replacement Caused by Earthquake Using Neural Network Feedforward Control</i> Alfrets Wauran, Stephy Walukow, Ventje Lumentut and Muchdar Patabo (Manado State Polytechnic, Indonesia)	N/A
<i>Information System Strategic Plan in Higher Education</i> Agung Prasetyo (Politeknik Negeri Media Kreatif, Indonesia)	N/A
<i>Office Re Layout using RASCI Matrix and Mixed Integer Linear Programming</i> Tio Sampurno, Zufar and Martini Widiyati (PT PLN (PERSERO) WILAYAH BANGKA BELITUNG, Indonesia)	N/A
<i>The Effects Of Distance Measurement Point Of Watering Sample On The Amount Of Watering Water Palm Oil Nursery</i> Lili Dahliani (Institute of Bogor Agricultural, Indonesia)	293
<i>Multimedia-Based Learning Innovation In Manado State Politechnics</i> Herry Setiawan Langi and Marike Kondo (Manado State Polytechnic, Indonesia); Christo Pua (universitas Sam Ratulangi Manado); Anthonius Manginsela (Manado State Polytechnic, Indonesia)	N/A
<i>Photo Electronic Erosion Pin (PEEP) Data Processing for Revealing Stream Bank Retreat</i> Tommy Ekamitra Sutarto (Politeknik Negeri Samarinda, Indonesia)	301
<i>Automatic Grammar Checking System For Indonesian</i>	

<i>Faisal Rahutomo, Alfi Samudro Mulyo and Pramana Yoga Saputra (State Polytechnic of Malang, Indonesia).....</i>	<i>308</i>
<i>Modeling of Unconventional Overcurrent Relay Curve in the Industrial Power Systems Using Radial Basis Function Neural Network</i>	
<i>Dimas Okky Anggriawan, Indhana Sudiharto, Suryono and Anang Tjahjono (Politeknik Elektronika Negeri Surabaya, Indonesia); Margo Pujiantara (Institut Teknologi Sepuluh Nopember, Indonesia)</i>	<i>314</i>
<i>Design of Leaf Textile Antenna for Body Area Network in Biomedical Applications</i>	
<i>Rofan Aziz, K. Karsid and Dedi Suwandi (Politeknik Negeri Indramayu, Indonesia); Basari Basari (Universitas Indonesia, Indonesia)</i>	<i>318</i>
<i>Refrigerator Design Using Solar Energy</i>	
<i>Ibnu Hajar and Erwen Martianis (Politeknik Negeri Bengkalis, Indonesia)</i>	<i>322</i>
<i>Design of wideband quadrature hybrid coupler with tapered lines on the arms</i>	
<i>Rudy Fernandez (Universitas Andalas, Indonesia); Firdaus (Politeknik Negeri Padang, Indonesia); Hanalde Andre (Universitas Andalas, Indonesia)</i>	<i>326</i>
<i>Design And Manufacture Of Cantilever Clamp As A Practicum Supporting Devices For Testing Of Bending On Universal Testing Machines Of Galdabini Type P 10/100</i>	
<i>Harry Wensen (Manado State Politechnic, Indonesia).....</i>	<i>N/A</i>
<i>Rapid Development of m-Health application with the Sprint Design approach and Scrum process</i>	
<i>Tessy Badriyah (Electronic Engineering Polytechnic Institute of Surabaya, Indonesia); Esti Fadila (Politeknik Elektronika Negeri Surabaya, Indonesia); Iwan Syarif (Politeknik Elektronika Negeri Surabaya (PENS), Indonesia); Jauari Hasim (Electronic Engineering Polytechnic Institute of Surabaya, Indonesia)</i>	<i>336</i>
<i>LCA of GHG Emission Based on an Input-Output Model: Estimation on a City Level in Indonesia</i>	
<i>Adrianus Amheka (State Polytechnic of Kupang, Indonesia); Yoshiro Higano (University of Tsukuba, Japan)</i>	<i>343</i>
<i>Reconfiguration Distribution Network with Ant Colony</i>	
<i>Julianus Daud, Marike Kondoj and Muchdar Patabo (Manado State Polytechnic, Indonesia)</i>	<i>349</i>
<i>A Systematic Literature Review of Indoor Position System Accuracy and Implementation</i>	
<i>Benfano Soewito (Bina Nusantara University, Indonesia).....</i>	<i>358</i>
<i>Identifying Cocoa ripeness using K-Nearest Neighbor Method</i>	
<i>Hendra Yufit Riskiawan, Trismayanti Puspitasari, Faik Hasanah, Nanang Dwi Wahyono and Merry Muspita Dyah Utami (Politeknik Negeri Jember, Indonesia)</i>	<i>354</i>
<i>Detection of Document Similarity Abstract Final Project Using Levenshtein Distance Method</i>	
<i>Karyo Budi Utomo, Abdul Najib and Tien Rahayu Tulili (Politeknik Negeri Samarinda, Indonesia)</i>	<i>N/A</i>
<i>Identifying Ginger Diseases using Certainty Factors</i>	
<i>Hendra Yufit Riskiawan, Dwi Putro Sarwo Setyohadi, Taufiq Rizaldi, Nanang Dwi Wahyono and Merry Muspita Dyah Utami (Politeknik Negeri Jember, Indonesia)</i>	<i>N/A</i>
<i>Triple Band Circular Microstrip Antenna for Metallic Material Crack Sensing</i>	
<i>Hanalde Andre and Rudy Fernandez (Universitas Andalas, Indonesia); Firdaus (Politeknik Negeri Padang, Indonesia); Primas Emeraldi and Mumuh Muharam (Universitas Andalas, Indonesia); Eka Putra Waldi (Univeristas Andalas, Indonesia)</i>	<i>373</i>
<i>Quality Identification of Coconut Wood Based on Digital Images</i>	
<i>Ottopianus Mellolo, Toban Pairunan and Eliezer Rongre (Politeknik Negeri Manado, Indonesia)</i>	<i>N/A</i>
<i>Corn Pests and Diseases Prediction Using Linear Regression and Natural Spline Methods</i>	
<i>Iwan Syarif (Politeknik Elektronika Negeri Surabaya (PENS), Indonesia); Tessy Badriyah (Electronic Engineering Polytechnic Institute of Surabaya, Indonesia); Dito Indriarto (Politeknik Elektronika Negeri Surabaya, Indonesia); Ira Prasetyaningrum (Matematics, Indonesia); Edi Satriyanto (Politeknik Elektronika Negeri Surabaya, Indonesia)</i>	<i>383</i>

<i>The Effect Of Material And Wall Construction Type Toward Heat Load In Building</i> Novatus Senduk and Merci F Hosang (Manado State Polytechnic, Indonesia)	N/A
<i>Development of Traffic Management Systems with Location Detection System Innovations No Parking In the City of Manado Based on the SIM800L Module</i> Marson Budiman (Politeknik Negeri Manado, Indonesia)	N/A
<i>Predicting the Risk of Preeclampsia with History of Hypertension using Logistic Regression and Naive Bayes</i> Tessy Badriyah (Electronic Engineering Polytechnic Institute of Surabaya, Indonesia); Muhlis Tahir (Politeknik Elektronika Negeri Surabaya, Indonesia); Iwan Syarif (Politeknik Elektronika Negeri Surabaya (PENS), Indonesia)	399
<i>Flow Behavior in a Vertical Axis Hinged Blade Kinetic Turbine</i> Silyv Boedi (Manado State Polytechnic, Indonesia)	N/A
<i>Evaluation of Work-Related Musculoskeletal Disorders in The Food Products Industry of Amplang Using NBM Questionnaire and RULA Methods</i> Dwi Cahyadi, Abdul Muis and Etwin Fibriani S (Politeknik Negeri Samarinda, Indonesia)	408
<i>A Numerical Model Application of Marine Current in the Bangka Strait, Indonesia with a Turbine Arrangement</i> Parabelem Tinno Dolf Rompas, Heindrich Taunaumang, Ferry Johnny Sangari and Shirly Susanne Lumeno (Universitas Negeri Manado, Indonesia)	N/A
<i>Optimization of Machine Operation Schedule in Diesel Power plant System With Integer Programming Method</i> Meidy Kawulur (Manado State Polytechnic, Indonesia)	N/A
<i>Analysis of Consumer Behavior in the Use of Online Shop With the Fuzzy Logic Tahani Method in Manado City</i> Marika Kondo (Manado State Polytechnic, Indonesia); Daisy Sundah (Politeknik Negeri Manado, Indonesia); Sukandar Sawidin (Manado State Polytechnic, Indonesia); Toban Pairunan (Politeknik Negeri Manado, Indonesia)	N/A
<i>Analysis of Free Vibration Measurement by MEMS Accelerometer Device on Wind Turbine Blade</i> Fajar Aswin and Zaldy Sirwansyah Suzen (Politeknik Manufaktur Negeri Bangka Belitung, Indonesia)	425
<i>Harmonics Reduction with High Pass Filter</i> Julianus Daud, Muchdar Patabo, Maureen Langie and Yoice Putung (Manado State Polytechnic, Indonesia)	432
<i>Simulation For Detection Systems And Load Imbalance Information On A 3-Phase Installation System</i> Fanny Doringin (Politeknik Negeri Manado, Indonesia); Stephy Walukow (Manado State Polytechnic, Indonesia)	N/A
<i>A Colonial Architecture Analysis on the History of Historical Building in Tomohon</i> Rulyanto Gracideo Mario Lasut and Morris Serulo Silva Sammie Tumanduk (Universitas Negeri Manado, Indonesia)	N/A
<i>Eye State Classification Using EEG Based on Electrode Position</i> Efy Yosrita (STT-PLN, Indonesia)	449
<i>Internet of Things: CCTV Monitoring by Using Raspberry Pi</i> Erfan Rohadi (Politeknik Negeri Malang, Indonesia); Supriatna Adhisuwignjo, Indrazno Siradjuddin, Ferdian Ronilaya, Awan Setiawan, Mogi Pradana and Amalia (State Polytechnic of Malang, Indonesia); Rosa Asmara (Politeknik Negeri Malang, Indonesia); Rudy Ariyanto (State Polytechnic of Malang, Indonesia)	454
<i>A Low Cost Design of Urine Detector</i> Prihatin Oktivasari (Politeknik Negeri Jakarta, Indonesia)	458
<i>Electronics System Design for Low Cost AGV Type Forklift</i> Mohamad Nasyir Tamara (Politeknik Elektronika Negeri Surabaya EEPIS, Indonesia)	464
<i>Design Of Information System Immunized Care Services Based On Mobile (Case Study: Puskesmas Maos Cilacap)</i>	

Riyadi Purwanto (Cilacap State Polytechnic, Indonesia)	470
<i>Design of Early Landslide Warning System Caused by Rainfall Influence</i>	
Afritha Amelia (Politeknik Negeri Medan, Indonesia).....	477
<i>Determination Study of Landfill Location As A Potential Replacement For Bulusan Landfill Using Geographic Information System</i>	
Zulis Erwanto (Politeknik Negeri Banyuwangi, Indonesia)	481
<i>Monitoring system interference using the Internet of things (IoT)</i>	
Julianus Daud, Marike Kondo, Tirone Tanod and Deitje Pongoh (Manado State Polytechnic, Indonesia).....	N/A
<i>Modeling Of Energy-Saving Mode Systems On Air Conditioning Equipment</i>	
Ali Ramschie, Veny Ponggawa and Johan Makal (Politeknik Negeri Manado, Indonesia)	492
<i>SMS-Based Light Control Design Using GSM And Microcontroller</i>	
Sulastri Eksan (Politeknik Negeri Manafo, Indonesia); Anthoinete Waroh (Politeknik Negeri Manado, Indonesia).....	N/A
<i>Comparison Of Leak Flow Insulator Resin Epoksi Fly Ash Fillers And Ash Rice Husk For Outside Pairs</i>	
Stephy Walukow (Manado State Polytechnic, Indonesia).....	503
<i>Real-Time Multi Oriented Ancient Script Recognition using Single Layer Hierarchical Graph Neuron (SLHGN)</i>	
Benny Benyamin Nasution (Politeknik Negeri Medan, Indonesia); Asad I. Khan (Monash University, Australia); Anang Hudaya H Muhamad Amin (Higher Colleges of Technology, United Arab Emirates).....	509
<i>Robustness of Sensors Network in Environmental Monitoring</i>	
Ade Handayani, ASH (Politeknik Negeri Sriwijaya, Indonesia); Devi Pujiana, Nyayu Latifah Husni, Carlos Sitompul, Jaksen Amin, Ahmad Taqwa, Sopian Soim and Suroso Suroso (Politeknik Negeri Sriwijaya, Indonesia)	515
<i>Utilization of Solar Cells as Energy Sources for Heating and Fan in White Copra Dryers with Arduino Uno as Temperature Control</i>	
Ventje Aror, Yoice Putung and Muchdar Patabo (Manado State Polytechnic, Indonesia)	521
<i>Appropriate Technology Development: Palm Sugar Processing System in Tomohon, Sulawesi Utara, Indonesia</i>	
Jedithjah Papia and Efendy Rasjid (Manado State Polytechnic, Indonesia)	N/A
<i>Application of K-Nearest Neighbor Algorithm For Puzzle Game of Human Body's System Learning on Virtual Mannequin</i>	
Kholid Fathoni, Moh. Zikky and Anita Nurhayati (Politeknik Elektronika Negeri Surabaya, Indonesia)	530
<i>Online tourism architecture design in North Sulawesi Province</i>	
Yonatan Parassa, Nathaniel Bijang and Mex Pesik (Politeknik Negeri Manado, Indonesia)	536
<i>Evaluation of Website Accessibility using LFPP in Improving Village Good Governance</i>	
Hafid Hadi (Politeknik Negeri Media Kreatif, Indonesia); Tenia Wahyuningrum (Institut Teknologi Telkom Purwokerto, Indonesia)	540
<i>Decision Support System for Choosing Daycare in Surabaya City Using Analytical Hierarchy Process (AHP)</i>	
Kholid Fathoni (Politeknik Elektronika Negeri Surabaya, Indonesia); Ira Prasetyaningrum (Matematis, Indonesia); Choirunnisaa Hariyati (Politeknik Elektronika Negeri Surabaya, Indonesia).....	544
<i>Modification of Car Alternator as a Water Pump Drive</i>	
Moody Tumembow (Manado State Polytechnic, Indonesia)	551
<i>Effect of Density and Hardness on Burning Rate of Water Hyacinth and Coconut Shell Briquettes</i>	
Artian Sirun and Herotje Siwi (Manado State Polytechnic, Indonesia); Markus Umboh (Sam Ratulangi University, Indonesia)	555
<i>Experimental Study on Plastic Mold Steel Reaming Process using Taguchi Method</i>	
Yohanes T Wibowo (Politeknik Manufaktur Astra, Indonesia)	559

<i>Light Intensity Control Prototype Design Using Arduino Uno</i> Sonny Kasenda, Doostenreyk Kantohe and Maureen Langie (Manado State Polytechnic, Indonesia); Anthoinete Waroh (Politeknik Negeri Manado, Indonesia)	563
<i>Building based-Industry 4.0 Innovative Technology Concept into Vocational Printing Education</i> Adi Susanto, Purnomo Ananto and Benget Simamora (Politeknik Negeri Media Kreatif, Indonesia); Mustaffa Halabi Hj. Azahari (University Teknologi MARA, Shah Alam, Malaysia)	N/A
<i>A Non-Iterative Solution for Rigid Body Transformation Estimation</i> Indrazno Siradjuddin, Gillang Azhar, Cahya Rahmad, Fatkhur Rohman, Indah Fitriani and Erlillah Rizqi Kusuma Pradani (State Polytechnic of Malang, Indonesia); Erfan Rohadi (Politeknik Negeri Malang, Indonesia); Ferdian Ronilaya (State Polytechnic of Malang, Indonesia); Rosa Asmara (Politeknik Negeri Malang, Indonesia)	573
<i>Analysis and Design of Reengineering Academic Information System Astra Polytechnic of Manufacture in Interconnection Network</i> Yunita Sari (Astra Polytechnic of Manufacture, Indonesia)	577
<i>YADeH: Yet Another Distributed ePortofolio</i> Irwan Alnarus Kautsar (Universitas Muhammadiyah Sidoarjo, Indonesia); Riyanarto Sarno (Institut Teknologi Sepuluh Nopember, Indonesia)	N/A
<i>Material Preparation Information System (MPIS) Development and Implementation in PT. United Tractors Pandu Engineering (UTPE)</i> Anggun Fadhlil Librianti (Astra Manufacturing Polytechnic, Indonesia)	N/A
<i>Small vessel tracking application for indonesian fishery base on android</i> A Sumarudin (Politeknik Negeri Indramayu, Indonesia); Agfianto Eko Putra (Universitas Gadjah Mada, Indonesia); Willy Permana Putra, Rizal Muttaqin and Rudi Tawangga (Politeknik Negeri Indramayu, Indonesia)	N/A
<i>The Effect of Corn Cob Dimensions on Thermal Conductivity Value</i> Paul Rumagit (Manado State Polytechnic, Indonesia)	N/A
<i>Computational Performance and Aerodynamic Analysis of Multistage Wind Turbine with Dual Rotor</i> Setyo Nugroho (Politeknik Elektronika Negeri Surabaya, Indonesia); Lohdy Diana (Electronics Engineering Polytechnic Institute of Surabaya, Indonesia); Joke Pratilastiarso and Wisnu Giarnayoga (Politeknik Elektronika Negeri Surabaya, Indonesia); Devi Ariyanti (Electronic Engineering Polytechnic Institute of Surabaya, Indonesia)	607
<i>Experimental Study on Clark-Y Horizontal Axis Wind Turbine with Winglet</i> Setyo Nugroho (Politeknik Elektronika Negeri Surabaya, Indonesia); Lohdy Diana (Electronics Engineering Polytechnic Institute of Surabaya, Indonesia); Joke Pratilastiarso (Politeknik Elektronika Negeri Surabaya, Indonesia); Agus Indra Gunawan (Electronic Engineering Polytechnic Institute of Surabaya, Indonesia)	613
Error! Bookmark not defined.	613
<i>Synchronization and Application of IoT for on Grid Hybrid PV-Wind System</i> Rusdianasari and Ahmad Taqwa (Politeknik Negeri Sriwijaya, Indonesia); Budiman (Politeknik Negeri Sriwijaya, Korea); Tresna Dewi and RD Kusumanto (Politeknik Negeri Sriwijaya, Indonesia)	617
<i>Technology Acceptance Analysis of Planning and Budgeting System of Bali State Polytechnic</i> Ni Kadek Dessy Hariyanti, I Ketut Pasek, Ni Wayan Sumetri (Politeknik Negeri Bali)	622
<i>Solution to electricity problems in North Sulawesi through the utilization of Tidal Energy</i> Julianus Daud (Manado State Polytechnic, Indonesia); Moody Tumembow (Manado Sate Polytechnic, Indonesia); Fransiscus Tulung (Manado State Polytechnic, Indonesia)	627
<i>Water Cooling on 30 Watt-peak Solar Panel</i> Anak Agung Ngurah Gde Saptaka, I Nyoman Sugiarta, Anak Agung Ngurah Made Narottama and I Ketut Ta (Politeknik Negeri Bali, Indonesia); Purnomo Sidi	

Priambodo (Universitas Indonesia, Indonesia); Nandy Putra (University of Indonesia, Indonesia).....	632
<i>Performance of Three-Bladed Archimedes Screw Turbine Using Response Surface Methodology</i>	
Tineke Saroinsong (Politeknik Negeri Manado, Indonesia)	636
<i>Work Posture Analyses for Ergonomics Working Condition Improvement of Concrete Work Practices</i>	
Lilik Sudiajeng and Made Mudhina (Politeknik Negeri Bali, Indonesia); I Wayan Intara (Bali State Polytechnic, Indonesia); I Made Jaya, I Gede Made Oka Aryawan and I Ketut Sutapa (Politeknik Negeri Bali, Indonesia).....	641
<i>Color Identification Uses the K-Means Clustering Method</i>	
I Gede Made Karma (Politeknik Negeri Bali, Indonesia); I Ketut Gede Darma Putra (Udayana University, Indonesia).....	N/A
<i>Identify the Factors that Influence the Quality of Project Contractor for the Road Project</i>	
Estrellita Waney, Jemmy Rangan, Deyke Mandang (Politeknik Negeri Manado)	N/A
<i>CONSTRUCTION PROJECT PLAN WASTE MANAGEMENT MODEL (Case Study of Building Project in Badung Regency)</i>	
I Gusti Agung Istri Mas Pertiwi (Bali State Polytechnic, Indonesia); Wayan Sri Kristinayanti (Politeknik Negeri Bali, Indonesia); A A Putri Indrayanti (Bali State Polytechnic, Indonesia); Ketut Wiwin Andayani (Politeknik Negeri Bali, Indonesia); I Wayan Intara and Evin Yudhi Setyono (Bali State Polytechnic, Indonesia).....	657
<i>Level of Importance and Application of Green Building Aspects on Government Building Construction</i>	
Wayan Sri Kristinayanti, I Gede Made Oka Aryawan and I Made Anom Santiana (Politeknik Negeri Bali, Indonesia); I Gusti Agung Istri Mas Pertiwi (Bali State Polytechnic, Indonesia); Anak Agung Putri Indrayanti and Ketut Wiwin Andayani (Politeknik Negeri Bali, Indonesia).....	N/A
<i>The Measurement of Water Quality in Kalibaru Watershed by Using Storet Method</i>	
Budi Hariono, Rizza Wijaya, Sugiyarto, Saiful Anwar, Nanang Dwi Wahyono (Politeknik Negeri Jember).....	666
<i>Slope Reinforcement for Landslide Mitigation</i>	
I Wayan Wiraga, Suryanegara Dwipa, I Wayan Arya, I Gede Sastra Wibawa	N/A
<i>Modeling of the Reinforcement Minimum Spacing of Precast Concrete Using Grouting</i>	
Aniss Rosyidah (PNJ, Indonesia).....	674
<i>Factors Influencing Users' Intention To Use E-budgeting in Ministry of Public Works and Housing Using Technology Acceptance (TAM) Approach</i>	
Rizki Sari (Universitas Indonesia, Indonesia); Indra Budi (Universitas Indonesia, Indonesia); Puspa Sandhyaduhita (Universitas Indonesia, Indonesia).....	680
<i>Combination of Top-Hat and Bottom-Hat Transforms For Frequency Estimation</i>	
I Gusti Ngurah Agung Dwijaya Saputra, Ida Bagus Ketut Sugirianta, I Gusti Ngurah Bagus Catur Bawa and I Gusti Agung Made Sunaya (Politeknik Negeri Bali, Indonesia).....	687
<i>Physical and Mechanical Properties on Densified Boards of Sengon (Paraserianthes Falcataria)</i>	
Iskandar (Samarinda State Agricultural Polytechnic, Indonesia)	N/A
<i>Study of Polyclonal Planting System of Cocoa (Theobroma cacao L.) in South Sulawesi</i>	
Junaedi (Pangkep State Polytechnic of Agriculture, Indonesia); Syahrini Thamrin (Pangkep State Polytechnic of Agriculture, Indonesia); Muhammad Yusuf (Pangkep State Polytechnic of Agriculture, Indonesia); Arifin (College of Agriculture Science YAPIM, Indonesia).....	N/A
<i>Effect of Various Superheat Condition on Working Condition of Air Cooled Chiller</i>	
Putu Wijaya Sunu, Daud Anakottapary and I Made Rasta (Bali State Polytechnic, Indonesia); Y. B. Lukiyanto (Sanata Dharma University, Indonesia); I Dewa Susila (Bali State Polytechnic, Indonesia); I Ketut Suarsana (Udayana University, Indonesia).....	708

<i>Effects of Cooling Tower Performance to Water Cooled Chiller Energy Use: a Case Study toward Energy Conservation of Office Building</i> I Nyoman Suamir, I Nengah Ardita and I Made Rasta (Bali State Polytechnic, Indonesia).....	712
<i>Internet of Things Integration in Smart Grid</i> Agung Nugroho Pramudhita and Rosa Asmara (Politeknik Negeri Malang, Indonesia); Indrazno Siradjuddin (State Polytechnic of Malang, Indonesia); Erfan Rohadi (Politeknik Negeri Malang, Indonesia).....	718
<i>The Infulence Of Temperature Improvement Rate On The Result Of Coffee Seeds In Coffee Roasting machines Internal warming System</i> I Gede Nyoman Suta Waisnawa, I Made Sudana and I Made Rajendra (Politeknik Negeri Bali, Indonesia).....	N/A
<i>Engineering Equation Solver (EES) Computer Simulation For CO2 Refrigeration Performance</i> I Dewa Made Cipta Santosa, I Gede Nyoman Suta Waisnawa and I Wayan Temaja (Politeknik Negeri Bali, Indonesia).....	728
<i>Characterization and Experimental Investigation of Glycerol and Propylene glycol in Water Solutions as Phase Change Materials for cool Thermal Energy Storage</i> Anak Agung Mulawarman, Putu Wijaya Sunu and I Made Rasta (Bali State Polytechnic, Indonesia)	732
<i>Geographic Information System Mobile-Based Railway Track Trace Plan</i> Yessy Asri and Pritasari Palupiningsih (STT PLN, Indonesia)	N/A
<i>Optimization of Solvent to Feed Ratios and Extraction Times of Green Tea Assisted by Microwave</i> Herawati Budiastuti, Heriyanto, Lili Darajat and Rizka Setiawan (Politeknik Negeri Bandung, Indonesia)	740
<i>Blood Vessel Age Prediction Using Photoplethysmography Signal Analysis Method</i> Ediana Sutjiredjeki (Politeknik Negeri Bandung (POLBAN), Indonesia); Muhammad Yassar, Ervin Dewi and Dodi Budiman (Politeknik Negeri Bandung, Indonesia)	744
<i>Development of Two-In-One Type Drying Machine and Grinder Control System Based On Wireless Sensors Network</i> Sidiq Syamsul Hidayat, Amin Suharjono, Abdul Alfauzi, Anis Roihatin and Totok Prasetyo (Politeknik Negeri Semarang, Indonesia); Jumi Andriyani (Polytechnic State of Semarang, Indonesia).....	750
<i>Influence of the Vacuum Bag Process on The Strength of Laminate Composite</i> Syarif Hidayat (Politeknik Negeri Bandung, Indonesia)	754
<i>Related Method Model in Development of Hospital Service Decision Support System</i> Boy Subirosa Sabarguna (Unversitas Indonesia, Indonesia)	N/A