

ISBN :



CONFERENCE PROGRAMS AND ABSTRACT

**ADVANCING SUSTAINABLE SCIENCE AND TECHNOLOGY
THROUGH EFFECTIVE COLLABORATION**

OCTOBER 20-21, 2021

**Palembang, Province of South Sumatera
Indonesia**

Organized By :



FOREWORD FROM GENERAL CHAIR 5th FIRST 2021 INTERNATIONAL CONFERENCE



Assalamu'alaikum wr wb,

Alhamdulillahirrobbil 'alamin, Thank to the God, almighty, due to His bless and love, we are granted good health and opportunity so that we can meet here in the event of the 5th FIRST and the 3rd SNAPTEKMAS 2021.

The honorable keynote speakers of the 5th FIRST and the 3rd SNAPTEKMAS 2021

Dra. Nana Yuliana, MA., Ph.D., as The Indonesian LBBP Ambassador for the Republic of Cuba, concurrently with the Commonwealth of the Bahamas, Jamaica, the Dominican Republic and Haiti

Prof. Ramaraj Boopathy. from U Alcee Fortier Distinguished Service Professor of Biological Sciences At the Nicholls State University, USA

Dr. Ing. Ahmad Taqwa, the Director of State Polytechnic of Sriwijaya.

The honourable keynote speakers, distinguished guests, all participants, ladies and gentlemen,

For the beginning of my speech, let me welcome all of you with my great warm hug. It is a great honor for me that you choose the 5th FIRST and the 3rd SNAPTEKMAS 2021 as your conference. I am so proud that the authors still become enthusiastic to develop the knowledge although in this pandemic situation. Let us still work hard to support the development of the world through the research, science, and technology in many parts of the knowledge, as what has been purposed by the FIRST conference itself.

In this occasion, I would like proudly to inform you that the 5th FIRST and the 3rd SNAPTEKMAS 2021 as the forum to share knowledge, to search, to find, and to enlarge the link with other industries and universities has attracted so many authors from abroad, such as from: Politeknik Tun Syed Nasir Syed Ismail; MARA University; Politeknik Mukah Sarawak; University Sultan Zainal Abidin, Terengganu, Malaysia; Politeknik Melaka (PMK) Malaysia; Iloilo Science and Technology University (ISAT-U) Philipina; Politeknik Kota Kinabalu; Universiti Teknologi Malaysia; The National University of Malaysia; National Chin-Yi University of Technology (NCUT); Accounting Research Institute UiTM-Malaysia; Management and Science University Malaysia; AlBaha University, KSA, Saudi Arabia; Politeknik Melaka (PMK), Malaysia; Kuantan Community College, Pahang, Malaysia; Universiti Brunei Darussalam; and Ferdowsi University of Mashhad, Iran.

Welcome to all of the researchers that become the collaborators in our research and community service. It is our great honour to have you as our collaborators and participants in the 5th FIRST and the 3rd SNAPTEKMAS 2021.

The honourable keynote speakers, distinguished guests, all participants, ladies and gentlemen,

In this chance, I would like to say thank you very much to the Director of State Polytechnic of Sriwijaya for his full support in the development of the Research and Service Community programs. Due to his hard work and his belief to all of the committee so that this event can be held.

In this occasion, I also would like to convey my big thank to all of the keynote speakers, invited guests, all the participants, all reviewers, and all committee of the 5th FIRST and the 3rd SNAPTEKMAS 2021. Without you all, this event will be nothing. May Allah SWT gives His reward for your sincerity. As the time goes by, it is hoped that our cooperation and coordination in the FIRST and SNAPTEKMAS can be maintained and improved. I hope that you can enjoy this conference and can get a big benefit from this event. I also wish that we can meet again in the forthcoming FISRT ad SNAPTEKMAS

Wassalamu'alaikumwaraahmatullahi wabarakatuh

FOREWORD FROM DIRECTOR OF STATE POLYTECHNIC OF SRIWIJAYA



The honorable, FIRST 2021 and SNAPTEKMAS 2021 keynote speakers,

Dra. Nana Yuliana, MA., Ph.D., as The Indonesian LBBP Ambassador for the Republic of Cuba, accredited to the Bahamas, Republic of Dominican, Republic of Haiti and Jamaica

Prof. Ramaraj Boopathy., from U Alcee Fortier Distinguished Service Professor of biological sciences at the Nicholls State University, USA

Dr. Ing. Ahmad Taqwa, MT., as Director of Politeknik Negeri Sriwijaya

Assalamualaikum wr wb,

Let us extend our gratitude to Allah SWT, the most gracious, the most merciful. Due to His bless, we can gather here, at the Opening Ceremony of the FIRST 2021 and SNAPTEKMAS 2021

First of all, Please let me deliver my warm welcome to all keynote speakers and all participant of FIRST 2021 and SNAPTEKMAS 2021. It is my great pleasure to meet and see you in this event.

Although, there are so many obstacles that should be faced in the pandemic situation, however, as young generation, we should be optimistic, stay strong and be active in searching and finding the solution. The FIRST 2021 and SNAPTEKMAS 2021 as the DIES of State Polytechnic of Sriwijaya annual event will become one of the media to support those activities. The researchers could share knowledge, find partners, and enlarge the collaboration through this event.

Based on the change in the model of the teaching learning activity that focuses on the MERDEKA BELAJAR, State Polytechnic of Sriwijaya has a big desire in getting acceleration in the internationalization of the institution. One of them by improving the overseas and industrial collaboration, especially in joint research and joint publication. In the beginning of 2021, the research and community service unit in Politeknik Negeri Sriwijaya has launched new schemes of research and community service, namely the Overseas Collaboration Research and Overseas Collaboration Community Service. Thanks to God, those schemes have attracted researchers not only from Asia but also several other countries outside Asia, such as: research and community service collaboration with Al Baha University from Saudi Arabia, with Ferdowsi University of Mashhad from Iran, and with Princess Sumaya University of Technology from Jordan, as well as several other foreign universities.

In this occasion, I also would like to welcome all the researchers that become the collaborators in our new scheme of research and community service. It is our great honour to have you as our collaborators.

The honourable participants,

At this time, State Polytechnic of Sriwijaya has held 5 times of FIRST. FIRST publications from previous conferences have been successfully indexed not only in SCOPUS, but also in WOS. This 5th FIRST seminar will be conjugated with the 3rd National Seminar on Community Service SNAPTEKMAS. (National seminar of applied technology for public). All of these are the efforts to improve the quality of Polsri lecturers which significantly have a positive effect on the learning process of Polsri students.

Before ending my speech, I would like to congratulate the participants of The FIRST 2021 and SNAPTEKMAS 2021. May the noble efforts, support, and cooperation of researchers in this conference will continue. Special thanks to the organizer and co-organizer committee of The FIRST 2021 and SNAPTEKMAS 2021 for the hard work and the commitment in realizing this conference. Do maintain the spirit of working in a team and continue to unite in order to display a culture of excellence in the eyes of the country and the world.

With Bismillahirrahmanirrahim, I officiate The FIRST 2021 and SNAPTEKMAS 2021.
Wassalamu'alaikum warrahmatullahi Wabarakatu

ORGANIZING COMMITTEE

International Advisory Committee

Prof. Erry Yulian Triblas Adesta, International Islamic University, Malaysia
Prof. Yasushi Kiyoki, Keio University, Japan
Assoc. Prof. Dr. Augustus E. Osseo-Asare University of Sunderland, United Kingdom
Prof. Eddy Yusuf, Ph.D., Management Science University, Malaysia
Prof. Win-jet Luo, Ph.D., National Chin-Yi University of Technology, Taiwan
Yu-Lieh Wu, Ph.D., National Chin-Yi University of Technology, Taiwan
Prof. Chiaki Ogino, Kobe University, Japan
Wahyu Caesarendra, S.T., M.Eng., Ph.D., University of Brunei Darussalam, Brunei
Muhammad Haikal Satria, IPM, Jakarta Global University, Indonesia

Steering Committee

Dr. Ing. Ahmad Taqwa, M.T, Politeknik Negeri Sriwijaya, Indonesia
Dr. RD. Kusumanto, MM, Politeknik Negeri Sriwijaya, Indonesia
Prof. Dr. Ir. Siti Nurmaini, Universitas Sriwijaya, Indonesia
Prof Aldes Lesbani S.Si,M.Si,Ph.D, Universitas Sriwijaya, Indonesia
Prof. Dr.Ir. Rusdianasari, M.Si, Politeknik Negeri Sriwijaya, Indonesia
Yu-Lieh Wu, Ph.D., National Chin-Yi University of Technology, Taiwan
Asst. Prof. Dr. Dodik Siswanto, S.E., M.Sc. Acc., Universitas Indonesia
Irsyadi Yani, ST., M.Eng. PhD, Universitas Sriwijaya, Indonesia
Dr. Gancar Candra Premananto SE., M.Si., Universitas Airlangga
Dr. Yohandri Bow, M.Si, Politeknik Negeri Sriwijaya, Indonesia
Prof. Dr. Yuli Yetri, M.Si, Politeknik Negeri Padang
Dr. Marieska Verawaty, M.Si., Universitas Sriwijaya, Indonesia
Dr. Eng. Tresna Dewi, M.Eng., Politeknik Negeri Sriwijaya, Indonesia
Carlos R. Sitompul, S.T.,M.T., Politeknik Negeri Sriwijaya, Indonesia
Ir. Indra Chandra Setiawan, M.T., PT. Toyota Motor Manufacturing, Indonesia

General Chair

Dr.Rita Martini, SE.,M.Si.,Ak.,CA, Politeknik Negeri Sriwijaya, Indonesia

General co-Chairs

Dr. Ade Silvia Handayani, S.T, M.T., Politeknik Negeri Sriwijaya, Indonesia
Dr. Nyayu Latifah Husni, S.T., M.T, Politeknik Negeri Sriwijaya, Indonesia

Technical Program Chairs

Deris Stiawan, M,Kom, PhD., Universitas Sriwijaya, Indonesia
Dr. Martha Aznury, M.Si., Politeknik Negeri Sriwijaya, Indonesia
Fatahul Arifin, ST., Dipl Eng. EPD., M.EngSc, PhD, Politeknik Negeri Sriwijaya, Indonesia
Dr. Herlambang Saputra, S.Pd., M.Kom., Politeknik Negeri Sriwijaya, Indonesia

Finance Chairs & Treasurer

Dr. Marieska Lupikawati, S.E., M.M, Politeknik Negeri Sriwijaya, Indonesia

Public Relation Chairs

Nelly Masnila, S.E, M.Si, Ak, Politeknik Negeri Sriwijaya, Indonesia
Ahmad Zamheri, S.T, M.T, Politeknik Negeri Sriwijaya, Indonesia
Drs Zakaria MPd., Politeknik Negeri Sriwijaya, Indonesia
Desloehal Djumrianti, S.E., MIS., PhD, Politeknik Negeri Sriwijaya, Indonesia
Leni Novianti, M.Kom., Politeknik Negeri Sriwijaya, Indonesia
M. Miftahul Amin, S.Kom., M.Eng., Politeknik Negeri Sriwijaya, Indonesia
Dr. Ir. Abu Hasan, M.Si., Politeknik Negeri Sriwijaya, Indonesia
Ir. Irawan Rusnadi, M.T. , Politeknik Negeri Sriwijaya, Indonesia
Dr. Indrayani, ST., M.T. , Politeknik Negeri Sriwijaya, Indonesia
Dra. Tiur Simanjuntak, M.Ed.M, Politeknik Negeri Sriwijaya, Indonesia
Sukandar S.Si.,M.T,Ph.D., Institut Teknologi Bandung, Indonesia
Ir. Irwin Bizzy, M.T., Universitas Sriwijaya, Indonesia
Dr. Sari Lestari Zainal Ridho, SE., M.Ec, Politeknik Negeri Sriwijaya, Indonesia
Dr. Ir.Leila Kalsum, M.T, Politeknik Negeri Sriwijaya, Indonesia
Dr. Leily Nurul Komariah, S.T., M.T., Universitas Sriwijaya, Indonesia
Dr, Rosmalinda Permatasari ST MT, Universitas Tridinanti Palembang, Indonesia
Erliza Yuniarti, S.T., M.Eng, Universitas Muhammadiyah Palembang, Indonesia
Firdaus, S.T., M.Kom., Universitas Sriwijaya, Indonesia
Ervy Cofriyanti, S.Si, M.T.I, Politeknik Negeri Sriwijaya, Indonesia
Lindawati, ST., M.Ti., Politeknik Negeri Sriwijaya, Indonesia
Yogi Eka Fernandes, S.Pd., M.T., Politeknik Negeri Sriwijaya, Indonesia
Ozkar Firdausi Homzah, S.T., M.T., Politeknik Negeri Sriwijaya, Indonesia

KEYNOTE SPEAKER



Prof. Ramaraj Boopathy

Alcee Fortier Distinguished Service Professor of biological sciences
at the Nicholls State University, USA

Fulbright Scholar Fulbright Senior Specialist World Class Professor-Government of Indonesia. Honorary Visiting Professor, ITB, Indonesia Alcee Fortier Distinguished Service Professor John Brady Endowed Professor in Biological Sciences Nicholls State University Business Address: Alcee Fortier Distinguished Service Professor John Brady Endowed Professor in Biological Sciences Department of Biological Sciences Nicholls State University Thibodaux **EDUCATION:** B.Sc. Zoology, University of Madras, India; 1979 M.Sc. Environmental Biology, Tamil Nadu Agricultural University, India; 1981 Ph.D. Environmental Biology, University of Madras, India; 1986 **UNIVERSITY RESPONSIBILITIES:** Responsibilities include Teaching Environmental Biotechnology, a Senior and Graduate level course, Marine and Environmental Biology (Graduate Course), Microbiology and Environmental Biology courses. Research interests include Bioremediation of Hazardous Chemicals and Anaerobic Microbiology. Service includes advising students, participate in Departmental and University committees and serving the local and regional communities. Advisor to Masters Program in Marine and Environmental Biology. **PROFESSIONAL EXPERIENCE:** January 2013 – Present: John Brady Endowed Professor in Biological Sciences, Department of Biological Sciences, Nicholls State University, Thibodaux. Teaching, Research, and Service to the University and Community. August 2012 – Present: Alcee Fortier Distinguished Service Professor, Department of Biological Sciences, Nicholls State University, Thibodaux. Teaching, Research, and Service to the University and Community. August 2004 – Present: Distinguished Service Professor, Department of Biological Sciences, Nicholls State University, Thibodaux. Teaching, Research, and Service to the University and Community. **MAJOR AREAS OF RESEARCH INTERESTS:** Anaerobic digestion, Composting, Biodegradation of hazardous chemicals. Antibiotic resistant bacteria and Antibiotic resistance genes in the aquatic ecosystem. Isolation and identification of novel bacteria. Anaerobic degradation of explosive chemicals with particular reference to sulfate reducing bacteria. Design and development of biological reactor systems. Microbial immobilization of

heavy metals and radionuclides. Alcohol production from agricultural residues. Water quality in the wetlands. Alternative to sugarcane burning, Biological control of termites. Organic ways to control land loss and coastal restoration.

KEYNOTE SPEAKER



Dr. Ing. Ahmad Taqwa, MT.

Director of Politeknik Negeri Sriwijaya Indonesia

Director of State Polytechnic of Sriwijaya, other than that, he is still active at Head of The Research and Publication Commission Forum Director of State Polytechnical In Indonesia, Founder of The Online Journalist Board (IWO) Sumsel, Chairman of The Advisory Board of UKM Nusantara Palembang and Assessor of Higher Accreditation Board. **EDUCATION:** Diplom Ingenieur Electrical Engineering HTL, Ingenieurschule Beider Basel, Switzerland; 1994, Magister (2005) and Doctoral (2010) at Electrical Engineering, Bandung Institute of Technology, Indonesia. **RESEARCH:** Head of Research Assignment “Mini PLTS Periodic Cooling System to Overcome Overheating in Palembang City” (2019), Member of The Research Assignment “Effects of Sea Salt Dust Collection on Output Loss and Solar Panel Output Efficiency” (2020), and Head of Research Assignment “Design and Build of Wireless Sensor Network Prototype Detection Of Landslides Based on IOT and LORA” (2020). **DEDICATION:** “The Design and Evaluation of Virus Scan in The E-Mail System in SMA N 5 Palembang” (2018), Assignment Service “Utilization of WSN Technology in Parking Air Monitoring Foundation SMP Harapan Mulia Palembang” (2019), Development of Teaching Materials with Interactive Multimedia with Education Game for Harapan Mulia Junior High School Students” (2020). **AWARD:** Certificate In Participating In The 200 Hour Advanced Technical Teacher Training awarded by FONTYS and PEDC (1998), Satyalancana Karya Satya X Year 2011 And Satyalancana Karya Satya XX Year 2017 by The President of The Republic of Indonesia. **WORKSHOP:** Seminar and Focus Group Discussion Forum The Rector of Indonesia “Economic Stability In The Vuca Area”, Ujung Pandang (2020), Workshop on Using Integrated Resources Information System Applications For Lecturers of State Polytechnical Polytechnic, Palembang (2019) And Workshop of Learning Methodology of Polsri Lecturers and Outside Education Domicile (PDD) as a Source Person, Palembang (2019).

RUNDOWN
The 5th FIRST 2021 INTERNATIONAL CONFERENCE
(FORUM IN RESEARCH SCIENCE AND TECHNOLOGY)
SNAPTEKMAS (Seminar Nasional Aplikasi Teknologi pada Masyarakat) 2021
Palembang, South Sumatera, Indonesia
Thursday, October 21, 20201

		Thursday, October 21, 20201			
No.	Session	Person in Charge	Time Allotment (WIB)	Liaison Officer	
1.	Registration	Event Section Committee	07.00 – 08.00	Doeslohal Djumrianti, S.E.MIS., Ph.D	
2.	The Opening Ceremony				
3.	Do'a				
4.	Indonesian National Anthem				
5.	Chair Report Speech				
6.	Speech and Opening Remarks by Director of State Polytechnic of Srijajaya	Event Section Committee	08.00 – 09.00		
7.	Souvenirs Gift, Group Photos				
PLENARY SESSION					
No.	Keynote Speaker	Affiliation	Time Allotment (WIB)	Moderator	Liaison Officer
1.	Dra. Nana Yuliana, MA., Ph.D.	The Indonesian LBBP Ambassador for the Republic of Cuba, concurrently with the Commonwealth of the Bahamas, Jamaica, the Dominican Republic and Haiti	09.00 – 10.00	Tiur Simanjuntak M.Pd.	Doeslohal Djumrianti, S.E.MIS., Ph.D
2.	Prof. Ramaraj Boopathy	Alcee Fortier Distinguished Service Professor of biological sciences at the Nicholls State University, USA	10.00 – 11.00	Prof. Hasan Basri	Dr. Nyayu Latifah Husni, M.T.
3..	Dr. Ing. Ahmad Taqwa, MT.	Director of Politeknik Negeri Srijajaya, Indonesia	11.00 – 12.00	Jaksen M. Amin, M.Si.	Dr. Martha Aznury, S.Pd., M.Si.

PARALLEL SESSION

No.	Theme	Room	Time	Moderator	Articles
1.	TRACK 1 (Engineering and Science)	1	13.00 – 16.00	Dr. Eng Tresna Dewi, M.Eng./ Ika Sulianti, ST, MT	15
2.	TRACK 1 (Engineering and Science)	2	13.00 – 16.00	Dr. Martha Aznury, M.Si./ Indah Purnamasari, M.Eng.	14
3.	TRACK 1 (Engineering and Science)	3	13.00 – 16.00	Fatahul Arifin, M.Eng, Ph.d./ Dr. Indrayani, S.T., M.T.	13
4.	TRACK 2 (Computer Science, Computer Engineering, Information System, Informatics Management)	4	13.00 – 16.00	Rika Sadariawati, M.Si./ M.Miftakul Amin, S.Kom., M.Eng	13
5.	TRACK 2 (Computer Science, Computer Engineering, Information System, Informatics Management)	5	13.00 – 16.00	Dr. Nyayu Latifah H, MT./ Lindawati, S.T., M.TI	12
6.	TRACK 3 (Social Science)	6	13.00 – 16.00	Doeslohah Djumrianti, S.E.MIS., Ph.D/ Dr. Marieska Lupikawati	13
7.	TRACK 3 (Social Science)	7	13.00 – 16.00	Dr. Sari Lestari ZR/ Dr. Rita Martini	14
8.	SNAPTEKMAS 1	8	13.00 – 16.00	Yumi Oklarina, ST, MT/ Mouland Irwadi, SE. M.Si.	15
9.	SNAPTEKMAS 2	9	13.00 – 16.00	Leni Novianti, M.Kom./ Maivi Kusnandar, M.Kom	15
10	SNAPTEKMAS 3	10	13.00 – 16.00	M Husni Mubarak, M.Si./ Martinus Mujur, ST, MT	15
11	SNAPTEKMAS 4	10	13.00 – 16.00	Dr. Ade Silvia H, MT./ M. Sopian Soim, ST, MT	13

CLOSING SESSION

Event	Time	Room
<ul style="list-style-type: none">- Closing Ceremony- Announcement of:<ol style="list-style-type: none">1. Best Paper FIRST IC 20212. Best Paper SNAPTEKMAS 20213. Best Presenter FIRST IC 20214. Best Presenter SNAPTEKMAS 2021- Quiz Online	16.00– 17.00	Main Room

TRACK 3 (Social Science)

ROOM : 6
 TIME : Thursday, 21 October, 2021/ 13.00 - 16.30
 ARTICLES : 13
 MODERATOR : Doeslohal Djumrianti, S.E.MIS., Ph.D/ Dr. Marieska
 Lupikawati

NO	Time	ID	AUTHORS	TITLE	AFFILIATION
1	13.00-13.10	3847	Ayu Chotibah, Bainil Yulina, Desi Apriyanty, Evada Dewata, Pridson Mandiangan	THE INNOVATION OF SOUTH SUMATERA TRADITIONAL BATIK E-COMMERCE APPLICATIONS	State Polytechnic of Sriwijaya
2	13.10-13.20	3683	M. Thoyib, Riza Wahyudi, Firmansyah, Darul Amri	THE ANALYSIS OF COST QUALITY ON PRODUCTIVITY OF IRON RAILING PRODUCTS IN SMALL AND MEDIUM BUSINESS IN PALEMBANG	State Polytechnic of Sriwijaya
3	13.20-13.30	3757/3756	Nelly Masnila, Firmansyah, Jovan Febriantoko, Riana Mayasari, Jamaliah Said	Quality of Financial Reporting and Impact of GGG Implementation: Study on Local Government in Indonesia	State Polytechnic of Sriwijaya
4	13.30-13.40	3796	Evi Agustina Sari, Sri Gustiani, Yusri, Tiur Simanjuntak	An Error Analysis of English Sentence Construction in Writing Subject Made by the Students of the English Department at Sriwijaya State Polytechnics	State Polytechnic of Sriwijaya
5	13.40-13.50	3827	Edwin Frymaruwah, Farah Aida Ahmad Nadzri, Periansya, Evada Dewata	DISCLOSURE OF SUSTAINABLE PERFORMANCE IN HIGHER EDUCATION IN INDONESIA	State Polytechnic of Sriwijaya, UiTM
6	13.50-14.00	3976	Hendra Hadiwijaya Febrianty Rezanía Agramanisti Azdy	Improvement of LPKA Class 1 Palembang Electronic Dashboard with Field Performance Monitoring	Palcomtech Polytechnic, STMIK PalComTech
7	14.00-14.10	3853/4034	Neneng Miskiyah, Purwati, Yulia Pebrianti, Keti Purnamasari, Nyimas Miftahul Jannah,	OPTIMIZATION OF INCOME PARAMETERS OF SONGKET CRAFTSMEN ON KOPERASI SONGKET PALEMBANG	State Polytechnic of Sriwijaya

Table of Contents

FOREWORD FROM GENERAL CHAIR 5 th FIRST 2021	2
INTERNATIONAL CONFERENCE	2
FOREWORD FROM DIRECTOR OF STATE POLYTECHNIC OF SRIWIJAYA	4
ORGANIZING COMMITTEE	5
KEYNOTE SPEAKER	7
Dra. Nana Yuliana, MA., Ph.D.	7
KEYNOTE SPEAKER	8
Prof. Ramaraj Boopathy	8
KEYNOTE SPEAKER	10
Dr. Ing. Ahmad Taqwa, MT.	10
RUNDOWN.....	11
The 5 th FIRST 2021 INTERNATIONAL CONFERENCE.....	11
(FORUM IN RESEARCH SCIENCE AND TECHNOLOGY).....	11
SNAPTEKMAS (Seminar Nasional Aplikasi Teknologi pada Masyarakat) 2021	11
TRACK 1	14
(Engineering and Science)	14
TRACK 1	17
(Engineering and Science)	17
TRACK 1	20
(Engineering and Science)	20
TRACK 2	23
(Computer Science, Computer Engineering, Information System,.....	23
Informatics Management)	23
TRACK 2	25
(Computer Science, Computer Engineering, Information System,.....	25
Informatics Management)	25
TRACK 3 (Social Science).....	27
TRACK 3 (Social Science).....	29
MODELING OF INFILTRATION WELLS TO REDUCE RAINWATER RUNOFF OF BUILDINGS.....	53
ID: 3772.....	53
Radius Pranoto ^{1*} , Anggi Nidya S ¹ , Ricky RA ¹ , Djaka Suhirkam ¹ , Viktor Suryan ²	53

¹ Civil Department, Polytechnic State of Sriwijaya, Palembang 30139, Indonesia.....	53
² Civil Department, Palembang Aviation Polytechnic, Palembang 30139, Indonesia.....	53
FLEXURAL STRENGTH OF SELF-COMPACTING CONCRETE BEAMS.....	54
ID: 3860.....	54
Amiruddin ¹ , Ibrahim ¹ , Ika Sulianti ¹ , Agus Subrianto ^{1,*} , Muhamad Ramadhan ¹	54
¹ Polytechnic State of Sriwijaya,	54
THE EFFECT OF SHELL AS A SUBSTITUTION OF COARD AGGREGATE WITH SUPERPLASTICIZER ADDITIONAL ON THE COMPRESSION STRENGTH OF CONCRETE.....	55
ID: 4026.....	55
Lina Flaviana Tilik ^{1,*} Bambang Hidayat Fuady ² , Suhadi ³ , Rosy Armaini ⁴ , Fadhila Firdausa ⁵ , Muhammad Rifqi Agusri ⁶ , Puji Hartoyo ⁷	55
^{1,2,3,4,5,6,7} State Polytechnic of Sriwijaya.....	55
DESIGN OF GEOMETRIC AND RIGID PAVEMENT THICKNESS ON JALAN LINGKAR BARAT SP. SPORTS CENTER - BUKIT SULAP STA 0+100 - STA 7+583 LUBUKLINGGAU CITY, SOUTH SUMATERA PROVINCE.....	56
ID: 3935.....	56
Kosim ¹ , Julian Fikri ^{1*} , siswa Indra ¹ , Kiki Rizky Amalia ¹ , Intan Puspita Sari ² , Yudha Prasetya ²	56
¹ Lecturer of Civil Engineering State Polytechnis Of Sriwijaya.....	56
² Student of Prodi D-1V Road and Bridge Civil Engineering	56
UTILIZATION OF BOTTOM ASH AND SAWDUST WASTE AS A PARTIAL REPLACEMENT FOR FINE AGGREGATE IN THE MANUFACTURE OF CONCRETE.....	57
ID: 3907.....	57
Kosim, Zainuddin ¹ , Raja Marpaung ¹ , Darma Prabudi ¹	57
¹ Department of Civil Engineering Polytechnic State of Sriwijaya.....	57
STUDY ON THE APPLICATION OF BICYCLE SPECIAL ROUTES AS AN ENVIRONMENTAL TRANSPORTATION IN THE CITY AREA OF PALEMBANG USING THE BLOS METHOD	58
ID: 3682.....	58
Efrilia Rahmadona ^{1,*} Norca Praditya ² M. Ade Surya Pratama ³ Sudarmadji ⁴ , Muhammad Iqbal ⁵ ,Arief Perdana Kesuma ⁶ , Rica Solenne ⁷	58
^{1,2,3,4,5,6,7} State Polytechnic of Srwiwijaya	58
UTILIZATION OF REMOTE SENSING TECHNOLOGY FOR FLOOD DISTRIBUTION IN PALEMBANG CITY WEB-BASED	59
ID: 3854.....	59
Indrayani ^{1,*} Andi Herius ¹ , Akhmad Mirza ¹ , Arfan Hasan ¹	59

1 Civil Engineering Department, Politeknik Negeri Sriwijaya, Palembang Indonesia.....	59
UTILIZATION OF THE KELEKAR RIVER FLOW AS MICRO-HYDRO POWER PLANT	60
ID: 3992.....	60
Indrayani ^{1,2*} Aida Syarif ^{2,3} , Syahirman Yusi ^{2,4} , M. Noviansyah Nugraha ² , Renny Citra Ramadhani ²	60
¹ Civil Engineering Department, Politeknik Negeri Sriwijaya, Palembang Indonesia;.....	60
² Renewable Energy Engineering Study Program, Politeknik Negeri Sriwijaya, Palembang Indonesia;.....	60
³ Chemical Engineering Department, Politeknik Negeri Sriwijaya, Palembang Indonesia;	60
⁴ Commercial Administration Department, Politeknik Negeri Sriwijaya, Palembang Indonesia	60
IMAGE PROCESSING APPLICATION ON AUTOMATIC FRUIT DETECTION FOR AGRICULTURE INDUSTRY	61
ID: 3804.....	61
Tresna Dewi ^{1,*} Rusdianasari ² RD Kusumanto ³ Siproni ⁴	61
¹ Electrical Engineering Department, Politeknik Negeri Sriwijaya	61
² Renewable Energy Department, Politeknik Negeri Sriwijaya	61
³ Electrical Engineering Department, Politeknik Negeri Sriwijaya	61
⁴ Mechanical Engineering Department, Politeknik Negeri Sriwijaya	61
THE CONCEPT AND DESIGN OF SOLAR POWERED SPRINKLER SYSTEM BASED ON IOT MONITORING	62
ID: 3880.....	62
Tresna Dewi ^{1,*} Rusdianasari ² Ahmad Taqwa ³ Teddy Wijaya ⁴	62
¹ Electrical Engineering Department, Politeknik Negeri Sriwijaya	62
² Renewable Energy Department, Politeknik Negeri Sriwijaya	62
³ Renewable Energy Department, Politeknik Negeri Sriwijaya	62
⁴ Electrical Engineering Department, Politeknik Negeri Sriwijaya	62
RAPID TRANSIT (BRT) PUBLIC TRANSPORT SERVICE CORRIDOR I: ALANG LEBAR TO DEMPO DURING THE COVID 19 PANDEMIC IN THE CITY OF PALEMBANG	63
ID: 3837.....	63
Herlinawati ¹ , Yusri Bermawi ^{1,*} , Moch. Absor ¹ , A.Latif ¹ , Muhammad Dimas ¹ , Muhammad Arief M ¹ , Muhammad Geraeldy ¹ , Ibnusyah Alam ¹	63
¹ Civil Engineering, Politeknik Negeri Sriwijaya, Palembang, 30154, Indonesia	63
The Effect of Quenching Media on the Hardness of AISI 1045 Steel.....	64
ID: 4074.....	64
Mulyadi ¹⁾ , Dodi Tafrant ^{1,*)} , Hendradinata ¹⁾ , Zainuddin ¹⁾	64
¹ Mechanical Engineering, State Polytechnic of Sriwijaya.....	64

Improvement of Original Soil with Addition of Variation of Embankment Based on CBR (California Bearing Ratio) Value	65
ID 4107.....	65
Ibrahim ¹ , Andi Herius ¹ , Nadra Mutiara Sari ¹ , M Aidil Iskandarsyah ² , M Okta Fathur Rahman ²	65
¹ Lecturer of Civil Engineering Sriwijaya State Polytechnic.....	65
² Student of D-III Civil Engineering Study Program Sriwijaya State Polytechnic.....	65
Narrative Review of Subchondral Bone Morphology on Cartilage Damage (Osteoarthritis)	66
ID: 4122.....	66
Nanda Yusril Mahendra ¹ , Dicky Pratama Putra ¹ , Imam Akbar ¹ , Risky Utama Putra ¹ , Akbar Teguh Prakoso ¹ , Muhammad Yanis ¹ , Hendri Chandra ¹ , Ardiyansyah Syahrom ^{2,3} , Hasan Basri ^{1*}	66
¹ Department of Mechanical Engineering, Faculty of Engineering, Universitas Sriwijaya, Indralaya, Ogan Ilir, Indonesia.....	66
² Applied Mechanics and Design, School of Mechanical Engineering, Faculty of Engineering, Universiti Teknologi Malaysia 81310 UTM Johor Bahru, Malaysia.....	66
³ Medical Devices and Technology Centre (MEDiTEC), Institute of Human Centred and Engineering (iHumEn), Universiti Teknologi Malaysia, 81310 UTM Johor Bahru, Malaysia	66
Numerical Investigation of the Mechanical Properties of 3D Printed PLA Scaffold	67
ID: 4124.....	67
Zainal Abidin ¹ , Irfan Ghani Fadhlurrahman ¹ , Imam Akbar ¹ , Risky Utama Putra ¹ , Akbar Teguh Prakoso ¹ , M. Zahri Kadir ¹ , Astuti ¹ , Ardiyansyah Syahrom ^{2,3} , Hasan Basri ^{1*}	67
¹ Department of Mechanical Engineering, Faculty of Engineering, Universitas Sriwijaya, Indralaya, Ogan Ilir, Indonesia.....	67
² Applied Mechanics and Design, School of Mechanical Engineering, Faculty of Engineering, Universiti Teknologi Malaysia 81310 UTM Johor Bahru, Malaysia.....	67
³ Medical Devices and Technology Centre (MEDiTEC), Institute of Human Centred and Engineering (iHumEn), Universiti Teknologi Malaysia, 81310 UTM Johor Bahru, Malaysia	67
MODELING OF THREE PHASE INDUCTION MOTORS IN CONTROL SYSTEM LABORATORY AT THE ELECTRICAL DEPARTMENT OF STATE POLYTECHNIC OF SRIWIJAYA	68
ID: 4135.....	68
Masayu Anisah ^{1,*} , Destra Andika Pratama, Niksen Alfzarizal ³ , Lindawati ⁴ , Anton Firmansyah ⁵ , Mery Aldah Regiani ⁶ , Sinta Nabila ⁷ , Safaa Najah Saud ⁸	68
^{1,2,3,4,5,6,7} Politeknik Negeri Sriwijaya, Jl. Srijaya Negara - Kota Palembang, 30139.....	68
⁸ Management and Science University, University Drive, Off Persiaran Olahraga, 40100 Shah Alam, Selangor, Malaysia	68
DEGRADATION OF METHYLENE BLUE DYE USING ZnO/NiFe ₂ O ₄ PHOTOCATALYST UNDER VISIBLE LIGHT ...	69

ID: 3967.....	69
Yuniar ^{1*} , Tri Mawarni ² , Poedji Loekitowati Hariani ³ , Muhammad Faizal ⁴ , Tuty Emilia Agustina ⁵	69
^{1,4,5} Chemical Engineering Department, Sriwijaya University, Palembang, Indonesia	69
³ Chemistry Department, Sriwijaya University, Palembang, Indonesia.....	69
² Chemical Engineering Department, State Polytechnic Sriwijaya, Palembang, Indonesia.....	69
SYNGAS ANALYSIS OF LOWRANK COAL GASIFICATION DOWNDRAFT PRODUCTS WITH VARIATIONS IN AIR FLOW RATE.....	70
ID: 3985.....	70
Aida Syarif ¹⁾ , Neli Masnila ²⁾ , Indrayani ³⁾ , M. Yerizam ⁴⁾ , Apriansyah Zulatama ⁵⁾ , Sarmidi ⁶⁾	70
¹⁾ Program Studi Magister Terapan Teknik Energi Terbarukan, Politeknik Negeri Sriwijaya.....	70
²⁾ Program Studi Sarjana Terapan Akutansi Bisnis, Politeknik Negeri Sriwijaya.....	70
³⁾ Program Studi Magister Terapan Teknik energy Terbarukan, Politeknik Negeri Sriwijaya.....	70
⁴⁾ Program Studi Magister Terapan Teknik energy Terbarukan, Politeknik Negeri Sriwijaya.....	70
PRACTICAL LEARNING BASED ON VIRTUAL REALITY METHODS AS A SOLUTION TO INCREASE EVALUATION LEVEL 1 RESULTS IN PRACTICAL LEARNING AT PT PLN (PERSERO) UPDL PALEMBANG.....	71
ID: 3764.....	71
Fajrie Agus Dwino Putra ^{1*} , Supli Efendi Rahim ² , Zulhipni Reno Saputra ³	71
¹ Instructor, PT PLN (Persero) UPDL Palembang, Palembang, Indonesia	71
² Lecturer, Kader Bangsa University, Palembang, Indonesia.....	71
³ Lecturer, Muhammadiyah University, Palembang, Indonesia	71
WITH THE TRAY DYER DRYING METHOD FOR MAKING HERBAL TEA FROM A MIXED FLOWER POLE (Clitoria ternatea) WITH GINGER POWDER (Zingiber officinale) ACCORDING TO INDONESIAN NATIONAL STANDARDS (SNI)	72
ID: 3931.....	72
Sofiah ^{1*} ,A.Rizal Aswan ¹ , Isnandar Yulianto ¹ , Cindi Ramayanti ¹ , Aliyah Nahda Utami ¹	72
¹ Department of Chemical Engineering, Politeknik Negeri Sriwijaya	72
PROTOTYPE OF KEMPELANG FISH DRYERS REVIEWED FROM ENERGY OF H₂O THAT IS EVAPORATED TO AIR	73
ID: 3782.....	73
Ida Febriana ^{1*} , KA Ridwan ¹ , Aneasari M ¹ , Taufik Jauhari ¹	73
¹ Chemical Engineering Department, State Polytechnic of Sriwijaya, Indonesia	73
ANALYSIS OF SYNGAS RESULTS OF THE MAINDEPTH COAL GASIFICATION PROCESS WITH GASIFICATION DOWNDRAFT METHODS.....	74

ID: 4054.....	74
Erlinawati ¹ , Aida Syarif ² , Arizal Azwan ³ , Tahdid ⁴ ,	74
^{1,2,3,4} Energy Engineering Applied Undergraduate , Sriwijaya State Polytechnic.....	74
DESIGN AND PERFORMANCE OF SMALL-SCALE DOWNDRAFT BIOMASS GASIFICATION: A CASE STUDY OF RICE HUSKS	75
ID: 3999.....	75
Ozkar F. Homzah ^{1*} , Rachmat D Sampurno, A Junaidi ¹ , Dodi Tafrant ¹	75
¹ Department of Mechanical Engineering, Politeknik Negeri Sriwijaya, Palembang, Indonesia.....	75
.....	76
THE POTENTIAL OF CHAR COAL GASIFICATION AS AN ECO-FRIENDLY FUEL	
ID: 4016.....	76
Aria Yopianita ^{1*} , Aida Syarif ² , Muhammad Yerizam ²	76
¹ Master of Applied Renewable Energy Engineering, Sriwijaya State Polytechnic.....	76
² Chemical Engineering, Sriwijaya State Polytechnic	76
EFFECT OF SULFURIC ACID AND FERMENTATION TIME ON BIOETHANOL PRODUCTION FROM EMPTY FRUIT BUNCH (EFB)	77
ID: 3900.....	77
*Martha Aznury ¹ Ahmad Zikri ¹ Aisyah Suci Ningsih ¹ Siti Chodijah ¹ Felisia Hanura ¹ Muhammad Albarr Aksa ¹ Nova Rachmadona ²	77
¹ Department of Chemical Engineering, Politeknik Negeri Sriwijaya, Palembang, Indonesia.....	77
² Department of Chemical Science and Engineering, Graduate School of Engineering, Kobe University, Japan...	77
UTILIZATION OF PALM KERNEL OIL (PKO) AS VEGETABLE OIL IN MAKING MAYONNAISE WITH THE ADDITION OF VIRGIN COCONUT OIL (VCO) AND PALM COOKING OIL (PCO)	78
ID: 4041.....	78
*Martha Aznury ¹ Ahmad Zikri ¹ Aisyah Suci Ningsih ¹ Siti Chodijah ¹ M.Arif Abdul Ghoni ¹ Rizka Yuni Zhafira ¹ Nova Rachmadona ²	78
¹ Department of Chemical Engineering, Politeknik Negeri Sriwijaya, Palembang, Indonesia.....	78
² Department of Chemical Science and Engineering, Graduate School of Engineering, Kobe University, Japan...	78

PRODUCTION OF SOLID SOAP WITH ADDITION OF GREEN BETAL LEAVE (Piper betle L.) EXTRACT AND LEFT LEMON EXTRACT(Cymbopogon nardus L. Rendle) AS ANTIOXIDANTS	79
ID: 4042	79
*Martha Aznury ¹ Ahmad Zikri ¹ Aisyah Suci Ningsih ¹ Elina Margaretty ¹ Liona Agriani ¹ Indriani ¹ Nova Rachmadona ²	79
¹ Department of Chemical Engineering, Politeknik Negeri Sriwijaya, Palembang, Indonesia	79
² Department of Chemical Science and Engineering, Graduate School of Engineering, Kobe University, Japan	79
PURIFICATION OF RAW MATERIAL AND BIODIESEL PRODUCTS FROM WASTE OIL WITH DEEP EUTETIC SOLVENT (DES)	80
ID: 4043	80
Sahrul Effensi ¹⁾ ,Aida syarif ²⁾ , Irawan ³⁾	80
1,2,3Chemical Engineering Department, Politeknik Negeri Sriwijaya, Jl. Srijaya Negara, Bukit Besar, Ilir Barat I, Palembang 30139, South Sumatera, Indonesi	80
FIELD EXPERIMENTAL STUDY ON ELECTRICAL POWER GENERATION USING AC SINGLE-PHASE PERMANENT MAGNET GENERATOR	81
ID 4118	81
I Made Wiwit Kastawan ^{1*} , Erwin Yusuf ² , Rusmana ³ , Krisna ⁴	81
SIMULATION ON EFFECTS OF USING CAPACITOR FOR REACTIVE POWER (VAR) COMPENSATION ON ELECTRICAL POWER SUPPLY QUALITY	82
ID 4119	82
Siti Saodah ¹ , I Made Wiwit Kastawan ^{2*} , Erwin Yusuf ³ , Bambang Puguh Manunggal ^{4.} , Maryanti ⁵	82
Biodiesel from Pyrolysis Fatty Acid Methyl Ester (FAME) using Fly Ash as a Catalyst	83
ID: 4066	83
Yohandri Bow ^{1.*} Abu Hasan ² , Rusdianasari ² , Zakaria ³ , Bambang Irawan ² , Nedia Sandika ²	83
¹ Energy Engineering Department, Politeknik Negeri Sriwijaya, Palembang, Indonesia	83
² Renewable Energy Engineering Department, Politeknik Negeri Sriwijaya, Palembang, Indonesia	83
³ English Department, Politeknik Negeri Sriwijaya, Palembang, Indonesia	83
MODELING OF VARIABLE SPEED DRIVE IN THE CONTROL SYSTEM LABORATORY AT THE ELECTRICAL DEPARTMENT OF STATE POLYTECHNIC OF SRIWIJAYA	84
ID: 4151	84
Siswandi, ^{1,*} Anton Firmansyah ² , Destra Andika Pratama ³ , Yessi Marniat ⁴ , Ichwaldi Amzah ⁵ , Muhammad Irfan Pratama ⁶ , Ichwaldi Amzah ⁷ , Muhammad Irfan Pratama ⁸	84

1,2,3,4,5,6 Politeknik Negeri Sriwijaya, Jl. Srijaya Negara - Kota Palembang, 30139.....	84
7,8 Politeknik Mukah Sarawak, KM 7.5, Jalan Oya 96400 Mukah Sarawak, Malaysia	84
IDENTIFICATION OF ROAD CONDITION SURVEY RESULTS ON THE MAKING OF MAP OF PALEMBANG CITY	85
ROAD NETWORK BASED ON GIS	
ID: 3806.....	85
Norca Praditya ¹ , Indrayani ^{1,*} , Andi Herius ¹ , Kosim ¹ , Tata Peryoga ² , Mendro Anggoro ²	85
¹ Civil Engineering Department, Politeknik Negeri Sriwijaya, Palembang Indonesia	85
² IDN Western Australia, Perth	85
MODELLING DESIGN DIFFUSER HORIZONTAL AXIS WIND TURBINE	86
ID: 3889.....	86
Fatahul Arifin ^{1,*} , RD Kusumanto ³ , Yohandri Bow ² , Ahmad Zamheri ³ , Rusdianasari ² , Min Wen Wang ⁴ , Afries Susandi ² , Yusuf Dewantoro Herlambang ⁵ ¹ Department of Mechanical Engineering, Politeknik Negeri Sriwijaya, Jalan Srijaya Negara, Palembang, Indonesia	86
² Department of Electrical Politeknik Negeri Sriwijaya, Jalan Srijaya Negara, Palembang, Indonesia	86
³ Department of Renewable Energy Engineering, Politeknik Negeri Sriwijaya, Jalan Srijaya Negara, Palembang, Indonesia	86
⁴ Department of Mechanical Engineering, National Kaohsiung University Science and Technology, No. 415, Jiangong Rd, Kaohsiung, Taiwan	86
⁵ Department of Mechanical Engineering, Politeknik Negeri Semarang, Jl. Prof. Sudarto, Semarang, Indonesia ...	86
DESIGN WIND TURBINE FOR EXHAUST WIND AREA COAL MINING	87
ID: 3947.....	87
RD Kusumanto ¹ , Fatahul Arifin ^{2,*} , Carlos R.S ¹ , Ahmad Zamheri ² , Rusdianasari ³ , Min Wen Wang ⁴ , RM Fauzi ³ , Yusuf Dewantoro Herlambang ⁵	87
¹ Department of Electrical Politeknik Negeri Sriwijaya, Jalan Srijaya Negara, Palembang, Indonesia	87
² Department of Mechanical Engineering, Politeknik Negeri Sriwijaya, Jalan Srijaya Negara, Palembang, Indonesia	87
³ Department of Renewable Energy Engineering, Politeknik Negeri Sriwijaya, Jalan Srijaya Negara, Palembang, Indonesia	87
⁴ Department of Mechanical Engineering, National Kaohsiung University Science and Technology, No. 415, Jiangong Rd, Kaohsiung, Taiwan	87
⁵ Department of Mechanical Engineering, Politeknik Negeri Semarang, Jl. Prof. Sudarto, Semarang, Indonesia ...	87
The Production of Biogas and Electrical Energy from Market Waste at Fixed Dome Bio-digester in Talang Banjar Jambi	88

ID: 4062.....	88
Leila Kalsum ^{1,*} Yordan Hasan ² , Rusdianasari ¹ , Aida Syarif ¹ , Dayaningrat ¹ , Syaiful M ¹	88
¹ Renewable Energy Study Program, Sriwijaya State Polytechnic, Palembang Indonesia	88
² Electronic Engineering Sriwijaya State Polytechnic, Palembang Indonesia.....	88
Comparison Progressive Web Application in Learning Management System (LMS)	89
ID: 4087.....	89
Dian Nugraha ^{1,*} Febria Anjara ² , Safira Faizah ³	89
^{1,3} Faculty Engineering & Computer Science, Jakarta Global University, West Java-Indonesia	89
² Faculty Economy & Business, Jakarta Global University, West Java-Indonesia	89
The Effectiveness of Solar panels From The Installation Location Changes In Angle and Light	90
ID: 4047.....	90
Yessi Marniati ^{1,*} , Nofiansah ¹ , Herman Yani ¹ , Siswandi ¹	90
¹ Electrical Engineering Departement, Politeknik Negeri Sriwijaya, Palembang Indonesia.....	90
THE NUMBER OF VISITORS OF THE TELECOMMUNICATION ENGINEERING LABORATORY THE PANDEMIC TIME CORONA VIRUS DISEASE LIMITDURING2019 (COVID-19) BASED ON THE INTERNET OF THINGS	91
ID: 4049.....	91
M. Zakuan Agung ^{1,*}), Suzan zefi ²), R.A Halimatussa'diyah ³), Rapiko Duri ⁴), Dea Rahma Dona ⁵), Fitri Rahma Daliza ⁶)	91
¹⁻⁶ Department of Polytechnic Sriwijaya, Jalan Srijaya Negera, Bukit Besar, Palembang - Indonesia.....	91
Energy Management on Electric Vehicles Using Fast Charging Banking Capacitor using Internet of Things (IoT) System	92
ID: 4051.....	92
Selamat Muslimin ^{1,*} Renny Maulidda ¹ Evelina ¹ M. Nawawi ¹ Iskandar Lutfi ¹ Johansyah Al Rasyid ¹ M. Fadli ¹ Puput Anggraini ¹ M. Yusuf ¹ Wanda Merian PA ¹	92
¹ Politeknik Negeri Sriwijaya.....	92
Implementation of Solar Cells as an Alternative Energy Source for Automatic Water Tank Filling in Hydroponic System	93
ID: 4064.....	93
Yudi Wijanarko ¹ Renny Maulidda ^{1,*} Masayu Anisah ¹ Evelina ¹ Sara Yulida ¹ Tarisa Ramadhani ¹ Phillips Dharmaraj ² Metrina Jasman ³	93
¹ Politeknik Negeri Sriwijaya, Palembang, Indonesia	93
² Politeknik Kota Kinabalu, Malaysia	93
³ SMK Negeri 1 Indralaya Selatan, Indonesia	93

	94
IMPLEMENTATION OF SMART GRID SYSTEM FOR ALTERNATIVE ENERGY POWER PLANTS SOURCES	
ID: 3786.....	94
Masayu Anisah ¹ Yudi Wijanarko ¹ Renny Maulidda ^{1,*} Johansyah Al Rasyid ¹ Dimas Prasetya WP ¹ M. Dandy Ramadhan ¹ Mohammad Noviansah ¹	94
¹ State Polytechnic of Srwiwijaya.....	94
IMPLEMENTATION OF SMART GRID SYSTEM ON ALTERNATIVE ENERGY OF FLOATING HOUSES AT MUSI	
.....	95
RIVER BANK ESTUARY OF THE OGAN RIVER	
ID: 3790.....	95
Yudi Wijanarko ¹ , Adi Syakdani ¹ , Ekawati Prihatini ¹ , Sairul Effendi ¹ , Aulia Rizki Utami ¹ , Trigitha Melintika ¹ , Ryo Pakusadewo ¹	95
¹ Electrical Engineering Department, Politeknik Negeri Sriwijaya	95
The Effect of Carbonization Temperature and Concentration of KOH Activator on the Quality of Eucalyptus Pellita	
.....	96
Activated Carbon in Fe Absorption	
ID: 4063.....	96
Leila Kalsum ^{1*)} , Idha Silviyati. ¹⁾ , Jenie Fahlevi Putri ¹⁾	96
¹ Department of Chemical Engineering Study Program, Sriwijaya State Polytechnic, Bukit Besar, Palembang 30139, Indonesia.....	96
SOLAR PANEL AS ALTERNATIVE ENERGY SOURCE FOR WATER PUMP CONTROL SYSTEM AT THE FLOATING	
.....	97
HOUSE IN THE PALEMBANG MUSI RIVER BANK	
ID: 4101.....	97
Ekawati Prihatini ¹ , Yudi Wijanarko ² , Yeni Irdyanti ³ , Herman Yani ⁴ , Muhammad Aldo Pratama ⁵ , Suryani ⁶ , Charles Sumion ⁷	97
¹⁻⁶ Electrical Engineering Department, Polytechnic State of Sriwijaya, Jalan Srijaya Negara Bukit Besar Palembang City, South Sumatera, 30139, Indonesia	97
⁷ Politeknik Kota Kinabalu, Jalan Politeknik No. 4 KKIP Barat, 88460 Kota Kinabalu Industrial Park, Sabah, Malaysia	97
.....	98
Comparison of Batteries Used in Electrical Vehicles (A Review)	
ID: 4103.....	98
Selamat Muslimin ^{1,*} Zainuddin Nawawi ² , Bhakti Yudho Suprpto ³ , Tresna Dewi ⁴	98

1,2,3,4 Electrical of Engineering, University of Sriwijaya.....	98
Hardware Design and Simulation of Lung Sound Detector to Analyze Lung Abnormalities Based On Arduino Mega, NodeMCU ESP32, and Internet of Things	99
ID: 4125.....	99
Amperawan ¹ , Destra Andika ² , Dewi Permatasari ³ , Sabilal Rasyad ⁴ , Zainudin b Mat Taib ⁵ , Nuwairani Azurawati bt Siha ⁶ , Aldi Wijaya ⁷ , Muhammad Taufiqurrahman Arrasyid ⁸	99
¹⁻⁶ Department of Electronic Engineering, Politeknik Negeri Sriwijaya, JL.Srijaya Negara Bukit Besar, Palembang, 30139, Indonesia.....	99
, Politeknik Negeri Sriwijaya, JL.Srijaya Negara Bukit Besar, Palembang , 30139, Indonesia.....	99
⁷⁻⁸ Department of Electrical Engineering, Politeknik Mukah Serawak, JL. Oya-Mukah KM 7, Mukah Serawak, 9640, Malaysia.....	99
.....	100
Design of Touch Key-Voice Command Based Vehicle Additional Security System	
ID: 3791.....	100
Muhammad Firdaus Jauhari ^{1,*} , Rusmini Sri Maryati ¹ , Raihan ¹	100
¹ Automotive Mechanical Engineering, Politeknik Negeri Banjarmasin, Banjarmasin, Indonesia,	100
.....	101
AUTOMATION OF THE PALEMBANG SEMAGE FABRIC YARN SPINNER	
ID: 3694.....	101
Eka Susanti ¹⁾ , Ica Admirani ²⁾ , Romi Wilza ³⁾ , Irawan Hadi ⁴⁾ , Sholihin ⁵⁾	101
¹⁻⁵ State Polytechnic of Sriwijaya, Jalan Srijaya Negara, Bukit Besar, Palembang - Indonesia.....	101
.....	102
WebRTC Signaling Using nprtc For OnlineVirtual Classroom	
ID: 4088.....	102
Raswa ^{1,*} Sumarudin ^{2,*} Eka Siswantohadi ^{3*}	102
¹ Politeknik Negeri Indramayu	102
² Politeknik Negeri Indramayu	102
³ Politeknik Negeri Indramayu	102
.....	103
IoT-Based Technological Innovation in Improving the Productivity of Macan Kumbang Fish Cultivator	
ID: 3730.....	103
Nelly Masnila ¹ , Hendradinata ² , Indra Griha Tofik Isa ^{3,*} , Riana Mayasari ⁴	103

1,4 Accounting Department, Politeknik Negeri Sriwijaya	103
2 Mechanical Engineering Department, Politeknik Negeri Sriwijaya	103
3 Informatics Management Department, Politeknik Negeri Sriwijaya	103
.....	104
TPACK FRAMEWORK BASED INTERACTIVE DIGITAL LEARNING	
ID: 3777	104
Hetty Meileni ^{1,*} , Indra Satriadi ² , Sony Oktapriandi ³ , Desi Apriyanty ⁴	104
¹⁻⁴ State Polytechnic Of Sriwijaya	104
DEVELOPMENT OF MULTI PLATFORM GEOGRAPHIC INFORMATION SYSTEM ASSESSMENT OF PROSPECTIVE	
.....	105
BIDIKMISI STUDENTS USING REUSE DRIVEN SOFTWARE DEVELOPMENT PROCESS METHOD	
ID: 3788	105
M Aris Ganiardi ¹ , Nita Novita ² , Indri Ariyanti ³ , Delta Khairunnisa ⁴	105
¹⁻⁴ Informatics Management Department, Politeknik Negeri Sriwijaya, Srijaya Negara Street, Palembang, 30139, Indonesia	105
.....	106
DEVELOPMENT OF 3D MULTIMEDIA AS A LEARNING TOOLS ONLINE BASED VIRTUAL REALITY	
ID: 3797	106
Sholihin ¹⁾ , Emilia Hesti ²⁾ , Sarjana ³⁾ , Adewasti ⁴⁾	106
¹⁻⁴ Department of Polytechnic Sriwijaya, Jalan Srijaya Negera, Bukit Besar, Palembang - Indonesia	106
.....	107
Design of Air Quality Monitoring System Using LoRa Communication Technology	
ID: 3799	107
Mohammad Fadhli ^{1,*} , Asriyadi ¹ , Lindawati ¹ , Irma Salamah ¹	107
¹ Politeknik Negeri Sriwijaya	107
.....	108
INNOVATION TECHNOLOGY OF LEKOR DOUGH MIXER BASED INTERNET OF THING	
ID: 3861	108
Suzan Zefi ¹ , Eka Susanti ² , M. Zakuan Agung ³ , R.A Halimatussa'diyah ⁴	108
¹ Department of Polytechnic Sriwijaya, Jalan Srijaya Negera, Bukit Besar, Palembang - Indonesia	108
DEVELOPMENT OF 3D MULTIMEDIA AS A PRACTICAL SUGGESTION FOR VIRTUAL REALITY-BASED DIGITAL	
.....	109
ENGINEERING	

ID: 3857.....	109
Martinus Mujur Rose ¹⁾ , Sholihin ²⁾ , Sarjana ³⁾ , Ir. H. Abdul Rakhman ⁴⁾ , Ir. Ali Nurdin ⁵⁾	109
1-5 Department of Polytechnic Sriwijaya, Jalan Srijaya Negera, Bukit Besar, Palembang - Indonesia	109
.....	110
Single Page Application for Business Intelligence Dashboard	
ID: 3521.....	110
M. Miftakul Amin * ¹⁾ , Adi Sutrisman ²⁾ , Yevi Dwitayanti ³⁾	110
1,2 Department of Computer Engineering, Politeknik Negeri Sriwijaya, Jl. Srijaya Negara Bukit Besar, Palembang, 30139, Indonesia.....	110
3 Department of Computer Accounting, Politeknik Negeri Sriwijaya, Jl. Srijaya Negara Bukit Besar, Palembang, 30139, Indonesia.....	110
.....	111
Evaluating Users' Emotion in Web-Based Geographic Information System	
ID: 4025.....	111
Leni Novianti ¹⁾ , Indra Griha Tofik Isa ^{2)*} , Indri Ariyanti ³⁾ , Rika Sadariawati ⁴⁾ , Anitawati Mohd Lokman ⁵⁾ , Azhar Bin Abd Aziz ⁶⁾ , Afiza Binti Ismail ⁷⁾	111
1234 Politeknik Negeri Sriwijaya, Palembang, Indonesia	111
567 Universiti Teknologi MARA, Shah Alam, Malaysia	111
.....	112
The Best Academic Administration Personnel Selection Model Using the Weighted Sum Model (WSM)	
ID: 3535.....	112
M. Miftakul Amin * ¹⁾ , Yevi Dwitayanti ²⁾	112
1 Department of Computer Engineering, Politeknik Negeri Sriwijaya, Jl. Srijaya Negara Bukit Besar, Palembang, 30139, Indonesia.....	112
2 Department of Computer Accounting, Politeknik Negeri Sriwijaya, Jl. Srijaya Negara Bukit Besar, Palembang, 30139, Indonesia.....	112
Establishing the Interface for G-Bot Monitoring and Controlling System	
ID: 3800.....	113
Dewi Permata Sari ¹⁾ , Fatma Indah Sari ²⁾ , Nyayu Latifah Husni ^{3)*} , Nurhaida ⁴⁾ , Yogi Eka Fernandes ⁵⁾ , Ade Silvia Handayani ⁶⁾	113
1-5 Electronic Engineering Study Program, Electrical Engineering Department, Sriwijaya State Polytechnic.....	113
6 Telecommunication Engineering Study Program, Electrical Engineering Department, Sriwijaya State Polytechnic	113

.....	114
Design of a 4G signal amplifier repeater biquad antenna at 1800 MHz	
ID: 3990.....	114
Ade Silvia Handayani ^{1*} , Sopian Soim ² , Ciksadan ³ , Rivaldo Arviando ⁴	114
¹⁻⁴ Department of Electrical Engineering, Politeknik Negeri Sriwijaya, Palembang, Indonesia.....	114
.....	115
Design and Configuration of 4G Repeater Booster Device at 1800MHz	
ID: 3988.....	115
Ade Silvia Handayani ^{1*} , Sopian Soim ² , Emilia Hesti ³ , Ciksadan ⁴ , Nyayu Latifah Husni ⁵ , Abu Hasan ⁶	115
¹ Department of Electrical Engineering, Politeknik Negeri Sriwijaya, Palembang, Indonesia	115
MULTIMEDIA DEVELOPMENT AS CREATIVITY IN THE SOCIALIZATION OF COVID19 VACCINATION AGAINST	
THE PUBLIC	
ID: 3863.....	116
Dewi Irmawati ^{1*} , Devi Sartika ² , Ienda Meiriska ³ , Leni Novianti ⁴	116
^{1,,2,3,4} Study Program of Informatics Management, State Polytechnic of Sriwijaya	116
PERFORMANCE OPTIMATMIZATION OF YAGI ANTENNA DEVICES FOR DETECTING QUALITY LEVELS RIVER	
WATER BASED ON THE INTERNET OF THING	
ID: 3767.....	117
Irawan hadi ^{1*} , Martinus Mujur Rose ¹ , Adewasti ¹ , Ciksadan ¹	117
¹ State Polytechnic of Sriwijaya, Jalan Srijaya Negera, Bukit Besar, Palembang - Indonesia.....	117
.....	118
Preliminary study: M-Health based on IoT and Machine Learning	
ID: 4032.....	118
Ahmad Taqwa ^{1*} , Ade Silvia Handayani ² , Sopian Soim ³ , Carlos RS ⁴ , Rahmat Budiarto ⁵ , Syifa Amira Zahra ⁶ , Junio Andika Danda ⁷	118
¹ Politeknik Negeri Sriwijaya.....	118
⁵ AlBaha University, KSA.....	118
.....	119
Analysis of Android-based Body Health Monitoring System Results using Fuzzy Mamdani Method	
ID: 3989.....	119
Ade Silvia Handayani ^{1*} , Ahmad Taqwa ² , Irawan Hadi ³ , Martinus Mujur Rose ⁴ ,.....	119

Nyayu Latifah Husni ⁵ , Sopian Soim ⁶ , Ratri Agustina ⁷	119
¹⁻⁷ Department of Electrical Engineering, Politeknik Negeri Sriwijaya, Palembang, Indonesia.....	119
*Corresponding author. Email: ade_silvia@polsri.ac.id.....	119
.....	120
Design of Application an Intelligent Transportation System for Monitoring Traffic Accidents	
ID: 4035.....	120
*Ade Silvia Handayani ¹ , Sopian Soim ² , Carlos RS ³ , Syifa Amira Zahra ⁴ , Elisa Islami Putri ⁵	120
¹⁻⁵ Politeknik Negeri Sriwijaya	120
GEOGRAPHIC INFORMATION SYSTEM MAPPING AND MANAGEMENT OF CHILD WITH THE HIGHEST NUTRITIONAL POTENTIAL IN PRABUMULIH CITY USING K-MEANS CLUSTERING METHOD (CASE STUDY:	121
PRABUMULIH CITY HEALTH OFFICE)	
ID: 4096.....	121
Leni Novianti ^{1,*} , Robinson ² , Ienda Meiriska ³ , Resti Atika Sari ⁴	121
^{1,2,3,4} Study Program of Informatics Management,State Polytechnic of Sriwijaya.....	121
.....	122
COVID 19 Detection Application At Siti Fatimah Hospital Method of Using Deep Learning	
ID: 4098.....	122
Jayah ¹ , Leni Novianti ^{1,*} , Ida Wahyuningrum	122
¹ Informatics Management, State Polythecnic of Sriwijaya	122
Visual Studio Code for Activity Monitoring Interface	123
Nyayu Latifah Husni ^{1,*} Putri Adelia Rahma Sari ² Tresna Dewi ³ Ade Silvia Handayani ⁴ Devi Sartika ⁵ Akhmad Mirza ⁶	123
ID 4114.....	123
¹⁻⁶ State Polytechnic of Sriwijaya.....	123
*Corresponding author. Email: ade_silvia@polsri.ac.id	123
Solar Panel Analysis for Activity Monitoring System	124
ID 4111.....	124
Nyayu Latifah Husni ¹ , Putri Adelia Rahma Sari ² , Ade Silvia Handayani ^{3,*} , Yeni Irdyanti ⁴ A. Rakhman ⁵ , Hairul ⁶ , Seyed Amin Hosseini Seno ⁷ Wahyu Caesarendra ⁸	124
.....	125
THE INNOVATION OF SOUTH SUMATERA TRADITIONAL BATIK E-COMMERCE APPLICATIONS	
ID: 3847.....	125

Ayu Chotibah ^{1*} , Bainil Yulina ² , Desi Aprianty ³ , Evada Dewata ⁴ , Pridson Mandiangan ⁵	125
^{1,2,3,4,5} Politeknik Negeri Sriwijaya	125
THE ANALYSIS OF COST QUALITY ON PRODUCTIVITY OF IRON RAILING PRODUCTS IN SMALL AND MEDIUM	126
BUSINESS IN PALEMBANG	
ID: 3683.....	126
M. Thoyib ¹ , Riza Wahyudi ¹ , Firmansyah ¹ , Darul Amri ¹	126
¹ State Polytechnic of Sriwijaya	126
.....	127
Quality of Financial Reporting and Impact of GGG Implementation: Study on Local Government in Indonesia	
ID: 3757.....	127
Nelly Masnila ¹ , Firmansyah ² , Jovan Febriantoko ³ , Riana Mayasari ^{4*} , Jamaliah Said ⁵	127
^{1,2,3,4} Department of Accounting, State Polytechnic of Sriwijaya, Palembang, Indonesia	127
⁵ Accounting Research Institute, Universiti Teknologi MARA, Shah Alam, Malaysia	127
An Error Analysis of English Sentence Construction in Writing Subject Made by the Students of the English Department	128
at Sriwijaya State Polytechnics	
ID: 3796.....	128
Evi Agustina Sari ^{1*} , Sri Gustiani ¹ , Yusri ¹ , Tiur Simanjuntak ¹	128
¹ Sriwijaya State Polytechnics	128
.....	129
DISCLOSURE OF SUSTAINABLE PERFORMANCE IN HIGHER EDUCATION IN INDONESIA	
ID: 3827.....	129
Edwin Frymaruwah ¹ , Farah Aida Ahmad Nadzri ² , Periansya ¹ , Evada Dewata ¹	129
¹ Department of Accounting, Politeknik Negeri Sriwijaya, Palembang, Indonesia	129
.....	130
Improvement of LPKA Class 1 Palembang Electronic Dashboard with Field Performance Monitoring	
ID: 3976.....	130
Hendra Hadiwijaya ¹ , Febrianty ² , Rezania Agramanisti Azdy ^{3*}	130
^{1,2} Accounting Study Program, Palembang Palcomtech Polytechnic, Indonesia	130
³ Informatics Study Program, STMIK PalComTech, Indonesia.....	130

OPTIMIZATION OF INCOME PARAMETERS OF SONGKET CRAFTSMEN ON KOPERASI SONGKET PALEMBANG	131
ID: 3853.....	131
Neneng Miskiyah ^{1*} , Purwati ¹ , Yulia Pebrianti ¹ , Keti Purnamasari ¹	131
¹ Department of Business Administration, Sriwijaya State Polytechnic, Palembang, Indonesia	131
.....	132
Welfare Evaluation of the Duck Breeding in Gandus Subdistrict, Palembang	
ID: 3994.....	132
Marieska Lupikawaty ^{1*} , Neneng Miskiyah ¹ , Purwati ¹ , Keti Purnamasari ¹ , Julito Contado Aligaen ²	132
¹ Business Management Study Program, Department of Business Administration, Sriwijaya State Polytechnic ..	132
² Social Science Department, Iloilo Science, and Technology University Philippines	132
.....	133
Stock Price Valuation Using the Dividend Discount Model on IDX Mining Period 2011-2020	
ID: 3995.....	133
Dinda Febriani ¹ , Marieska Lupikawaty ^{1*} , Al Hushori ² , Haris Wilianto ²	133
¹ Sriwijaya State Polytechnic Business Management Study Program.....	133
² Business Administration Study Program, Sriwijaya State Polytechnic	133
Digital Branding Model for Jumputan and Songket Fabrics: as a Continuity Strategy for Marketing Palembang Local	134
Products	
ID: 4019.....	134
Desloehal Djumrianti ¹ , Rita Martini ² , Ikhtison Mekogga ³ , Alfitriani ⁴	134
¹ Business Administration Department, Politeknik Negeri Sriwijaya, Palembang, Indonesia	134
² Accounting Department, Politeknik Negeri Sriwijaya, Palembang, Indonesia	134
³ Computing Technique Department, Politeknik Negeri Sriwijaya, Palembang, Indonesia	134
⁴ Business Administration Department, Politeknik Negeri Sriwijaya, Palembang, Indonesia	134
.....	135
Perceptions of Use of Food Delivery Applications and Its Impact on Sales of Culinary Traders in Palembang City	
ID: 4023.....	135
Muhammad Husni Mubarak ¹ , Desi Indriasari ¹ Eka Jumarni ¹ Indra Satriawan ¹	135
¹ Department of Accounting, State Polytechnic of Sriwijaya, Palembang	135

Effect of Labor, Technology and Experience On Productivity of Rubber Smallholders In Kabupaten Banyuasin With Training as Moderating Variables	136
ID: 4038	136
Yahya ^{1,*} M. Yusuf ² , Elisa ³ , Yusnizal Firdaus ⁴ , AlHushori ⁵ , Suyatno Ladigi ⁶	136
^{1,2,3,4,5} Department of Business Administration, Sriwijaya State Polytechnic, Indonesia	136
⁶ Sosial Sains Gunaan, Universiti Sultan Zainal Abidin, Terengganu, Malaysia	136
DETERMINATION OF THE PERFORMANCE OF LOCAL GOVERNMENTS WITH AUDIT OPINIONS AS MODERATION VARIABLES IN SOUTH SUMATRA	137
ID: 4075	137
Niken Ayuningrum ¹ , Dian Ofasari ²	137
¹ Accounting Study Program, Sekayu Polytechnic	137
	138
Factors Affecting Customer Adoption to Mobile Banking Service	138
ID: 4137	138
Dewi Fadila ^{1,*} Hendra Sastrawinata ² . Markoni Badri ³ . Agung Anggoroseto ⁴	138
Mohd. Fadzli bin Ahmad ⁵ . Tayie Anak Ankus ⁶	138
¹ Business Administration Department. State Polytechnic of Sriwijaya, Indonesia	138
^{2,3,4} Business Administration Department. State Polytechnic of Sriwijaya, Indonesia	138
^{5,6} Commerce Deptment. Politeknik Mukah Malaysia	138
The Role of Product Differentiation and Word of Mouth Promotion on Purchase Decision of Creative Industrial Products In Semarang City Waste Bank	139
ID: 3872	139
Hikmah ¹ , Andalan Tri Ratnawati ¹ , Susetyo Darmanto ^{1,*}	139
¹ Fakultas Ekonomika dan Bisnis, Universitas 17 Agustus 1945 Semarang, Semarang, Indonesia,	139
	140
ACCOUNTING COMICS AS A MEDIUM OF LEARNING	140
ID: 3893	140
Rosy Armaini ¹⁾ , Maria Maria ²⁾ , Leni Noviyanti ³⁾ , and Yevi Dwitayani ⁴⁾	140
^{1,2,4)} Accounting Department, State Polytechnic of Sriwijaya,	140

3) Informatics management Department. State Polytechnic of Sriwijaya,	140
.....	141
The Effect of Servicescape on Tourist Revisit Intention at Water Sports and Recreation Tourism Destination	
ID: 3915.....	141
Ambarwati, Risma ¹ , Iswan, Salsabila Rahmadina Putri ² , Ridho, Sari Lestari Zainal ^{3,*} , Jauhari, Hadi ⁴ , Paisal ⁵ , Afrizawati ⁶	141
¹²³⁴⁵⁶ Politeknik Negeri Sriwijaya	141
THE FACTORS AFFECTING REGIONAL EXPENDITURES ON REGENCY/MUNICIPALITY IN SOUTH SUMATERA	
.....	142
PROVINCE	
ID: 3949.....	142
Sherly Amerta Agustina ^{1,*} , M. Thoyib ¹ , Nurhasanah	142
¹ State Polytechnic of Sriwijaya	142
.....	143
Evaluation of Regional Financial Management Based on Local Government Information Systems	
ID: 3981.....	143
Maitsarana Ishmaturahwa ¹ , Sulaiman ¹ , Rita Martini ^{1*} , M. Thoyib ¹ , Kartika Rachma Sari ¹	143
¹ Accounting Department, Polytechnic State of Sriwijaya, Palembang 30139, Indonesia.....	143
.....	144
FINANCIAL PERFORMANCE ANALYSIS AT PT BANK MUAMALAT INDONESIA, Tbk.	
ID: 3983.....	144
M.Thoyib ^{1*} , Rita Martini ¹ , Tarisa Salsabella ¹ , Marsahanda Aprilia ¹	144
¹ Accounting Department, Polytechnic State of Sriwijaya, Palembang 30139, Indonesia.....	144
Poverty Reduction in South Sumatera with Optimization of Village Funds, Allocation of Village Funds, and Village	
.....	145
Original Income	
ID: 3771.....	145
Rita Martini ^{1*} , Endah Widyastuti ¹ , Sukmini Hartati ¹ , Zulkifli ¹ , Mardhiah ¹	145
¹ Accounting Department, Polytechnic State of Sriwijaya, Palembang 30139, Indonesia.....	145
PROFITABILITY, COMPANY SIZE, AUDIT DELAY, AND FINANCIAL REPORTING DELAYS IN COVID-19 PANDEMIC	
.....	146
ERA	
ID: 3855.....	146

Sukmini Hartati ¹ , Rita Martini ¹ , Desri Yanto ¹ , Indriani Indah Astuti ¹ , Kartini Binti Ibrahim ²	146
¹ Polytechnic State of Sriwijaya, Palembang, Indonesia	146
² Polytechnic of Mukah, Malaysia	146
.....	147
Hotel and Restaurant Taxes Role to the Local Original Revenue of Regency/City in South Sumatera	
ID: 4001.....	147
Sovi Julianda Wahya ¹ , Sukmini Hartati ¹ , Eka Jumarni Fithri ¹ , Rita Martini ^{1*}	147
¹ Accounting Department, Polytechnic State of Sriwijaya, Palembang 30139, Indonesia.....	147
THE CALCULATION OF PRODUCT COMBINATION BY USING LINEAR PROGRAMING SIMPLEX METHOD TO	
.....	148
PROFIT MAXIMIZE AT ROTI SAHABAT PALEMBANG CITY	
ID: 4033.....	148
Nurya Mellinda ¹ , Afrizawati ² , Elisa ³ , M.Riska Maulana Effendi ⁴ , Paisal ⁵ , Alia Putri Benari ⁶ , Nadia Dwi Putri ⁷	148
¹⁻⁷ Polytechnic State of Sriwijaya	148
.....	149
The Factors Affecting Food Delivery Application Users Shopping Routine Behavior during the Covid-19 Pandemic	
ID: 4013.....	149
Ridho, Sari Lestari Zainal ^{1*} , Sabli, Habsah Binti Haji Mohamad ² , Ibrahim, Kartini Binti Che ³ , Jauhari, Hadi ⁴ , Detmuliati, Alditia ⁵ , Alfitriani ⁶ , Putri, Anggita Prameswari Pracena ⁷	149
¹⁴⁵⁶⁷ Politeknik Negeri Sriwijaya, Palembang, Sumatera Selatan, Indonesia.....	149
²³ Politeknik Mukah, Mukah, Sarawak, Malaysia	149
.....	150
Internal Control System Affects the Quality of Financial Report Information Palembang City Government	
ID: 4053.....	150
Rita Martini ^{1*} , Fildzah Rahmah Satirah ² , Nurhasanah ³ , Kartini binti Che Ibrahim ⁴ , Kartika Rachman Sari ⁵ , Endah Widyastuti ⁶ , Farida Husin ⁷ , Amelia Agustia Riskya Saputri ⁸	150
^{1,2,3,5,6,7,8} Accounting Department, Polytechnic State of Sriwijaya, Palembang 30139, Indonesia.....	150
⁴ Trade Department, Politeknik Mukah, Sarawak, Malaysia	150
GOOD GOVERNANCE AND INTERNAL CONTROL ON THE PREVENTION OF FRAUD IN THE PROCUREMENT OF	
.....	151
GOODS AND SERVICES FOR GOVERNMENT AGENCIES	
ID: 4076.....	151
Evada Dewata ^{1*} , Elfira Hidayanti ² , Yuliana Sari ¹ , Hadi Jauhari ³	151

¹ Accounting Department, State Polytechnic of Sriwijaya Palembang, Indonesia.....	151
² Alumni of the Public Sector Accounting, Study Program of State Polytechnic of Sriwijaya.....	151
³ Business Administration Department, State Polytechnic of Sriwijaya Palembang, Indonesia.....	151

INFLUENCE OF INDEPENDENCE, DUE PROFESSIONAL CARE AND ACCOUNTABILITY ON AUDIT QUALITY ON
152

THE AUDIT BOARD OF THE REPUBLIC OF INDONESIA REPRESENTATIVE PROVINCE OF SOUTH SUMATRA

ID: 4078.....	152
---------------	-----

Fipiariny. S ¹ , Nurhayati ²	152
--	-----

¹⁻² Accounting Study Program, Anika Palembang Polytechnic.....	152
---	-----

Analysis of Syngas Results of the Maindepth Coal Gasification Process with Gasification Downraft Methods

Erlinawati Erlinawati^{1,*} Aida Syarif¹ Arizal Azwan¹ Tahdid Tahdid¹

¹Energy Engineering Applied Undergraduate, Sriwijaya State Polytechnic

*Corresponding author. Email: erlinawatiakil@yahoo.co.id

ABSTRACT

According to the Geological Agency (2015), Indonesia's resources total are 106.845 billion tons and coal reserves are 32.263 billion tons. Behind the reasons for choosing coal as an energy source, there are still some disadvantages of using coal directly. One of them is the coal contains a lot of pollutant that are harmful to the environment. Coal releases gases (CO₂, N₂O, NO_x, SO_x and Hg) that caused global warming and pollution. The process of solid convert to gas is called Gasification is. In contrast to combustion, the process of is a breaking of the carbon chain into the form of other elements or chemical compounds. In this study, the gasification process was carried out using the downdraft method. Gasification of coal will be produce producer gas in the form of synthetic gas (syngas) with the main components consisting of CO, H₂, CO₂ and N₂ and low in pollutants. This study aims to determine the effect of the type of coal seam on the syngas produced, the calorific value of the syngas, and the effect of the air flow rate.

Keywords: Gas Fuel, Downdraft Gasification, Coal, Syngas Results

1. INTRODUCTION

Indonesia has potential resources and coal reserves which are spread mostly on the islands of Kalimantan and Sumatra, and a small portion of the rest is spread across several locations on the islands of Java, Sulawesi and Papua. According to the Geological Agency (2015), Indonesia's total resources are 106.845 billion tons and coal reserves are 32.263 billion tons. The quality of Indonesian coal resources is quite varied in terms of caloric parameters, ash content, sulfur content, total moisture, and other parameters (BAPPENAS, 2019). Behind the reasons for choosing coal as an energy source, there are still some disadvantages of using coal directly. One of them is that coal contains a lot of pollutants that are harmful to the environment. Coal releases gases (CO₂, N₂O, NO_x, SO_x and Hg) that cause global warming and pollution.

The development of coal conversion in Indonesia is basically an inseparable part of encouraging the increase in added value of coal that must be carried out by coal entrepreneurs as stipulated in Government Regulation Number 23 of 2010 articles 94, 95, and 96 and national energy policies based on Government Regulations of the Republic of Indonesia. Number 79 of 2014 concerning energy diversification (article 18

paragraph 2 point b) states that one of the energy diversification is through increasing the use of low quality coal for gasified coal.

Gasification is a process of converting solid fuel into gas. In contrast to combustion, the gasification process is the process of breaking the carbon chain into the form of other elements or chemical compounds. The gasification process requires little oxygen and water vapor is often used for the combustion process [2]). By converting coal into gas, unwanted materials contained in coal such as sulfur compounds, carbon dioxide (CO₂), and ash can be removed from the gas using certain methods so that clean gas can be produced. Coal gasification will produce producer gas in the form of synthetic gas (syngas) with the main components consisting of carbon monoxide (CO), hydrogen (H₂), carbon dioxide (CO₂) and nitrogen (N₂) which are low in pollutants. So that energy experts have focused on developing coal gasification to meet future energy consumption. (Sutrisna, I.P., 2007). The research that I will take focuses on the syngas gasification results from the mine depth coal downdraft method, types of coal seams (A1, A2, B and C), and the effect of air flow rate.

1.1. Characteristics of Coal

Each type of coal has a different composition. Factors that cause this include the initial decomposition of coal origin through diagenetic processes and coalification [3]. The heterogeneity of coal properties is estimated in various relationships of its constituent components, such as the relationship between hydrogen and carbon content, oxygen and carbon content, and volatile content and calorific value. The quality of each coal deposit is determined by temperature and pressure and the length of time it forms, which is referred to as 'organic maturity'. Proximate coal content testing is needed to determine the character and composition of coal. Coal proximate analysis can be seen in Table 1:

Table 1. Proximate Analisis from each coal sample

Type of Analisis		Type of Coal Seam			
		Tipe A1	Tipe A2	Tipe B	Tipe C
Proximate	TM (%)	6,57	6,63	2,09	2,10
	VM (%)	42,9 6	42,4 7	35,20	34,99
	Ash (%)	4,77	4,78	8,57	8,58
	FC (%)	45,7 0	46,1 2	54,14	54,34

Table 2. Caloric Value of Coal Sample

Type of Coal Seam	Caloric Value (Cal/gr)
Tipe A1	3481,6153
Tipe A2	4541,4801
Tipe B	4651,2393
Tipe C	5217,9419

1.2. Coal Gasification

The thermochemical conversion of coal can be in the form of pyrolysis, gasification and combustion (combustion). The difference in the type of conversion lies in the amount of air (oxygen) consumed and the output during the conversion process. Gasification technology is a form of increasing the energy contained in coal through a conversion from a solid phase to a gas phase using a thermal degradation process of organic materials at high temperatures in incomplete combustion using limited air (20%-40% air). stoichiometry) [4]

The fuel used for the gasification process uses materials containing hydrocarbons such as coal and biomass. The entire gasification process occurs in the gasifier. In this gasifier, a heating process occurs to a certain reaction temperature and then the fuel goes through a combustion process by reacting with oxygen to produce combustible gas and other combustion products. Water vapor and carbon dioxide from combustion are reduced to flammable gases, namely carbon monoxide (CO), hydrogen (H₂) and methane (CH₄) which can then be used as power plants or stoves.

1.3. Downdraft Gasification

The development of gasification technology makes the process of research and development of gasifiers continue to be carried out. The development was carried out with various considerations, including reducing the tar and sulfur content in the syngas product. The downdraft gasifier is a reactor with the direction of the flow of air and raw materials both going down. Syngas flows down and gasifier. [5]. Stated that the reason for choosing the downdraft type gasifier was due to 4 things, namely:

1. Lower manufacturing costs,
2. The gas produced is hotter than the updraft system
3. Easier to proceed to the combustion process
4. Lower tar than updraft. This is because the tar which is the result of pyrolysis is carried along with the gas and then enters the combustion area (combustion) and then gasification which has a higher temperature. In this area of gasification and combustion, tar will then decompose.

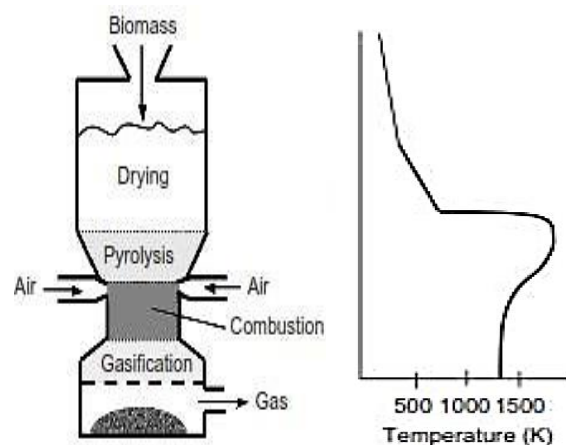


Figure 1. Scheme of Downdraft [6]

1.4. Effect of Coal Rank on Syngas Products

The type of coal is very important to the desired syngas yield. Riza Abrar (2017) states that the conversion of H₂ gas resulting from gasification is mostly produced

by lignite type coal compared to subbituminous and anthracite coal types. However, for the type of coal that produces CO conversion, anthracite has the highest maximum CO conversion rate, followed by bituminous and lignite. This condition is based on the carbon content of the type of coal. Based on these levels, gasification is divided into 3 products, namely: Low-Btu gas (150-300 Btu/scf), Mediu-Btu gas (300-550 Btu/scf) and High-Btu gas (980-1080 Btu/scf). The product composition is shown in Table 3:

Table 3. Classification of Gasification Product

Product	Composition
Low-Btu gas (150-300 Btu/scf),	50% \geq nitrogen smalles component H ₂ dan CO, CO ₂ dan sedikit gas metana
Medium-Btu gas (300-550 Btu/scf)	Dominantly CO dan H ₂ , and small unburnerd gas, smallest methane gas
High-Btu gas (980-1080 Btu/scf).	Pure all methane gas

2. RESEARCH METHODS

2.1. Tools and Material

The tools and materials used in this research are a set of downdraft type coal gasification equipment, bomb calorimeter (Parr 6200), electric sieve shaker (Ziaulhaq Solution), furnace (Naberthem), gas analyzer, PTBA coal, and air.

2.2 Flow Diagram

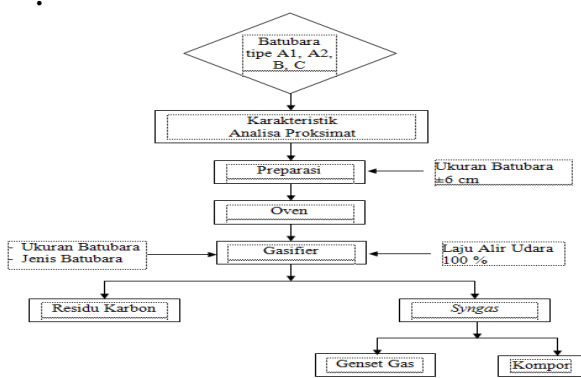


Figure 2. Flow diagram Of Gasification Process

3. RESULT AND DISCUSSION

3.1. The Effect of Coal Layer Types on the Increase in Temperature and Flash Time

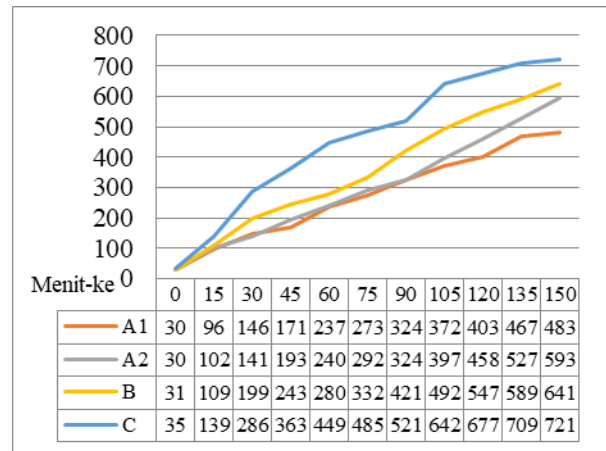


Figure 3. Graph of the relationship between coal types and temperature rise

In Figure 3. it is shown that the highest temperature is type C coal seam, this is because type C coal has the highest heating value, which is 5217.9419 Cal/gr, and the water content in type C coal is low enough so that the temperature achieved higher than coal with a calorific value below 5217.9419 Cal/gr.

Pratama (2019) stated that the lower the water content of the raw materials and the higher the carbon value of the raw materials, the longer the flame of the syngas produced. Based on the research that has been done, the effect of the type of coal seam on the length of the flame is shown in Figure 4. there is an increase in the length of the flame from 2 minutes to 13 minutes. The shortest flame time is in type A1 coal with a heating value of 3481.6153 Cal/gr and the flame time is 2 minutes. While the longest flame time is in type C coal with a calorific value of 5217.9419 Cal/gr and a long flame time is 13 minutes.

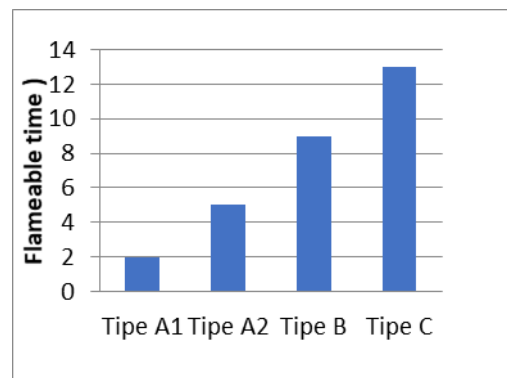


Figure 4. Graph Relationship Between Type Of coal With Flameable

3.2. The Effect of Coal Types on Syngas Composition

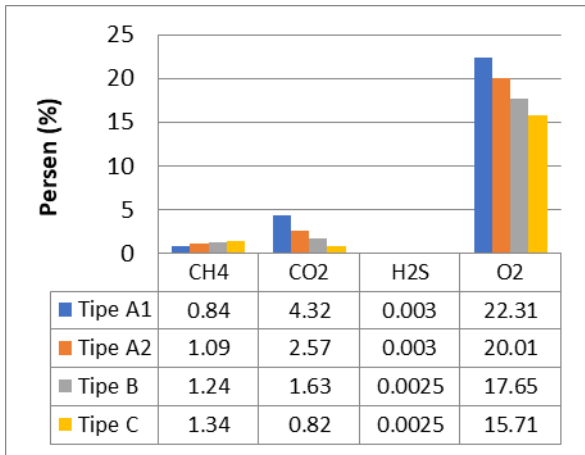


Figure 5. Graph Of SyngGas Composition

Based on Figure 5, it can be seen that the high calorific value of the coal used can indicate the amount of carbon content in the coal. [7] in his research shows that the value of the CH4 composition depends on the ultimate and proximate composition of the type of fuel used. Based on these factors, the higher the carbon value contained in a fuel, the more CH4 compounds will be formed. Meanwhile, the smaller the H2 value of the raw material causes the low H2 contained in the raw material.

The high composition of oxygen in syngas is caused by the large diameter of the circle of the air intake pipe used, causing a lot of air to enter the combustion chamber.

3.3. The Effect of Coal Types on Heat Heating Value Syngas

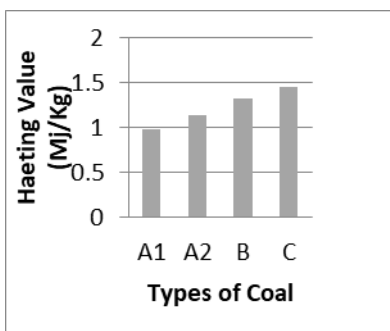


Figure 5. Graph Relationship Between Type Of coal With Heating Value

Heating Value or calorific value is an important indicator in all fuels. Heating value is an indicator that indicates how much heat the fuel can

produce. The heating value of syngas affects the type of coal used. In Figure 5. based on the calorific value analysis data that has been carried out, it can be seen that the type of coal affects the heating value of the resulting syngas. This is because the lower the calorific value of coal causes the lower composition of the gas capable of combustion.

The heating value is influenced by the number of combustible gas compositions in a fuel, the combustible gas is CH4. With the higher value of CH4 composition, the heat of formation of gas capable of burning in the reduction chamber is also high. This is directly proportional to the higher the heating value, the higher the required heat requirement. [8] states that the higher the energy content of the fuel, the higher the syngas gasification results because the energy converted is also high.

4. CONCLUSION

From the results of observations and tests that have been carried out, the following conclusions are obtained:

1. The fastest increase in temperature is shown by Type C coal with a heating value of 5217.9419 Cal/gr with a flame time of 13 minutes. The increase in temperature and duration of flame is caused by the low value of moisture contained in the coal.
2. The type of coal seam is one of the factors that affect the syngas produced. This factor is caused by the composition in the coal that affects the high and low value of CH4 gas that will be formed. Type C coal seam is a type of seam

AUTHORS' CONTRIBUTIONS

In this writing, the research team commits that the author respondents are ERLINAWATI.

ACKNOWLEDGMENTS

We would like to thank the Sriwijaya State Polytechnic for funding this research.

REFERENCES

[1] BAPPENAS. 2019. Final Report of the Study on Achievement of the Coal DMO Target of 60% of National Production in 2019. Jakarta: Directorate of Energy, Mineral and Mining Resources BAPPENAS

[2] HIGMAN, C. dan BURGT, M. 2003. *Gasification*. New York: Elsevier Science.

[3]. Speight, James G. 2005. "Handbook of Coal Analysis. Vol 166". Canada: Wiley Interscience

- [4] Trifiananto, Muhammad. 2015. Characterization of Updraft Coal Gasification with Variation of Equivalence Ratio. Surabaya: Sepuluh November Institute of Technology
- [5] Putri, G., A. 2009. Effect of Temperature Variation of Gasifying Agent II Gasification Media on Color and Flame Temperature in Downdraft Reactor Gasification with Corn Cobs as Raw Material. *Final Report*. Industrial Technology. Mechanical Engineering. Sepuluh November Institute of Technology. Surabaya
- [6] Hougen, O.A., Chilton, T.H., Drew, T.B., Keyes, D.B., Watson, K.M. 1960. *Chemicals Process Principles*. John Wiley and Sons. New York
- [7] Iswanto, Toto, dkk. 2015. "Synthetic Gas (Syngas) Plant Design from Low Quality Coal Gasification as Gas Supply PT. Fertilizer Sriwidjaja" in *ITS Engineering Journal Vol. 4, No. 2* (P. 145). Surabaya: Sepuluh November Institute of Technology
- [8] Riza, Abrar., dkk. 2017. Effect of Carbon Content on the Gasification Process. in *SINERGI Journal Vol. 21, No. 1(1-8)*. Bandung: Bandung Institute of Technology
- [9] Satriya, Aditya. 2019. The Effect of Variations in Palm Shell Size on the Gasification Process on the Performance of the Updraft Type Gasifier in the *JTM Journal*. Vol. 07 No. 02, P 49-54. Surabaya: Surabaya University
- [10] Suhendri, Endang. 2016. "Effect of Flow Rate and Size of Tobacco Leaf Stem Waste on Syngas Using an Updraft Gasification Reactor" in the *Journal of Engineering Vol.12 No.1* (P 65-74). Banten : Sultan Ageng Tirtayasa University
- [11] Sutrisna, I.P, Rahardjo, B.S. 2007. Basic Design of Floating Bed Circulating Coal Gasifier to Generate 1 Mw of Electricity in the *Indonesian Journal of Science and Technology Vol. 9 No. 2* (P 53-54). Jakarta: BPP Teknologi
- [12] Syarif, Aida, dkk. 2020. Effect of Variation in Air Flow Rate and Filter on Gasification Process with Downdraft System in the *Journal of Kinetics Vol.11 No. 01* (36-44). Palembang: Politeknik Negeri Sriwijaya
- [13] Winarno, Agus, dkk. 2016. Preliminary Study of the Effect of Low-Rank Coal Characteristics of the Kutai Basin on Coal Gasification in the *Promine Journal Vol. 4 (2), page 1 – 12*. Samarinda: Mulawarman University



The 5th FIRST 2021
(FORUM IN RESEARCH, SCIENCE, AND TECHNOLOGY)

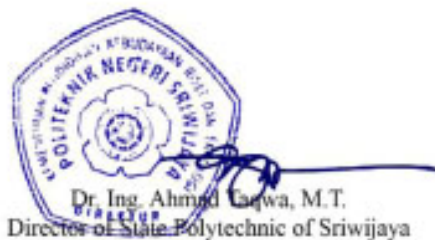
CERTIFICATE OF APPRECIATION
Present to

AIDA SYARIF

in recognition & appreciation of contribution as

Co-Author

FIRST International Conference
"ADVANCING SUSTAINABLE SCIENCE AND TECHNOLOGY THROUGH EFFECTIVE COLLABORATION"
Held on October 20-21, 2021



Dr. Ing. Ahmad Caqwa, M.T.
Director of State Polytechnic of Sriwijaya



Dr. Rita Martini, M.Si., Ak., CA.
Chair of the 5th FIRST 2021

Organized By :



Sponsored By:

