

2021

Book of Abstracts

of The 11th International Conference
on Green Technology

p-ISSN: 2580-7080 | e-ISSN: 2580-7089



October 26, 2021

**OPTIMIZING TECHNOLOGY
FOR SUSTAINING
PRODUCTIVITY
DURING COVID-19**

Organized by :



**Fakultas Sains Dan Teknologi
UIN Malang**



GreenTech

PREFACE
DEAN OF SCIENCE AND TECHNOLOGY FACULTY
STATE ISLAMIC UNIVERSITY MAULANA MALIK IBRAHIM MALANG

We are pleased to welcome all participants to the 2021 11th International Conference on Green Technology (ICGT 2021) in the Faculty of Science and Technology, Universitas Islam Negeri Maulana Malik Ibrahim Malang, although we can only meet virtually. The main topic of the conference is “*Optimizing Technology for Sustaining Productivity during Covid 19*”. Right now, we are still recovering from a pandemic that hit us hard. Thus, we hope through this conference we can contribute our research in recovering global condition. We hope this conference can bring academic scientists, engineers, industry researchers together to discuss, exchange, and share their experiences and research results about green technology, especially in sustaining productivity during the pandemic era.

We want to thank:

1. Rector and Vice-Rectors of Universitas Islam Negeri Maulana Malik Ibrahim for their assistance and support for the 11th International Conference on Green Technology.
2. Science and Technology Faculty vice-Deans for supporting The 11th International Conference on Green Technology.
3. All the keynote speakers who willingly attended this conference.
4. Academic board committee for work in abstract and paper review.
5. The event organizing committee for managing this conference.
6. Special Thanks to the Journal of Islamic Architecture, ALCHEMY Journal of Chemistry, NEUTRINO Journal, CAUCHY, and MATICS for supporting this conference.

We wish all participants of the 11th International Conference on Green Technology get an enjoyable scientific virtual meeting. We look forward to seeing all of you next year at the 12th International Conference on Green Technology.

Dean of Faculty of Science and Technology
UIN Maulana Malik Ibrahim Malang

Dr. Sri Harini

PREFACE

Chairperson of The 11th International Conference On Green Technology

Dear Colleagues,

We have the pleasure to welcome you to the 11th International Conference on Green Technology 2021. The conference is annually organized by Science and Technology Faculty, State Islamic University Maulana Malik Ibrahim. We hope through this event we can exchange and explore the issues, innovations, and integrated perspectives towards environmental sustainability.

The emergence of science and technology has offered solutions for daily life's problems in the modern era, including the covid-19 pandemic. The Covid-19 pandemic ultimately evolves our life patterns, from how companies work to accomplishing our daily activities while adhering to the health protocols. However, research revealed across the economy, productivity tends to be stable and even more, increase. This happens at the cost of innovations in the science and technology field. Therefore, it is not too much to say that the Covid-19 pandemic makes room for innovations and research in science and technology.

Concerning this, we set "Optimizing Technology for Sustaining Productivity during Covid-19" as the main topic of the 11th International Conference of Green Technology (ICGT). The 11th ICGT will be held on 26th October 2021.

This booklet contains the abstracts of contributions presented at the conference, either as a keynote speaker or oral presentation.

Finally, I would like to thank the Rector and Vice-Rectors of UIN Maulana Malik Ibrahim Malang for supporting this event. And thanks to Dean and Vice-Deans for the guidance and support for this event. And also for all the committee who helped in the organization of this conference, big thanks to all of you.

Johan E.W. Prakasa

EVENTS AGENDA

Time (GMT+7)	AGENDA
Oct, 26 2021	<i>The 11th International Conference on Green Technology</i>
07:30 - 08:00	Registration & Technical Check
08:00 - 08:15	Opening Ceremony
08:15 - 08:45	Welcome Speech by Rector of UIN Maulana Malik Ibrahim Malang Welcome Speech by Dean of Science and Technology Faculty
08:45 – 09:00	Opening Prayer
09.10-09.50	Speaker 1 Session (Dr. Sakinah Ali Pitchay - Universiti Sains Islam Malaysia.)
09.50-10.30	Speaker 2 Session (Dr. Dian Indrayani Jambari – Universiti Kebangsaan Malaysia)
10.30-11.10	Speaker 3 Session (Ismail Fahmi, Ph.D- UII Yogyakarta)
11.10-11.50	Speaker 4 Session (Prof. Dr. Eng. Kuwat Triyana, M.Si - Univ. Gajah Mada)
11:50 - 12:15	Main event closing
12:15 - 13:00	Break
12:45 - 13:15	Preparation & Technical Check
13:15 - 15:00	<u>Parallel Session Room 1:</u> Submission ID: 89, 26, 114, 130, 92, 131, 125, 123
	<u>Parallel Session Room 2:</u> Submission ID: 32, 30, 132, 21, 148, 85, 115, 111
	<u>Parallel Session Room 3:</u> Submission ID: 97, 22, 37, 80, 52, 61, 81, 133
	<u>Parallel Session Room 4:</u> Submission ID: 93, 103, 40, 160, 39, 90, 42, 110
	<u>Parallel Session Room 5:</u> Submission ID: 54, 108, 84, 64, 66, 44, 146, 147
	<u>Parallel Session Room 6:</u> Submission ID: 67, 73, 86, 136, 100, 70, 104, 118, 15
	<u>Parallel Session Room 7:</u> Submission ID: 128, 35, 36, 135, 3, 62, 75, 23, 71
	<u>Parallel Session Room 8:</u> Submission ID: 137, 27, 79, 25, 58, 72, 55, 4, 43
	<u>Parallel Session Room 9:</u> Submission ID: 69, 78, 122, 127, 138, 150, 60
	<u>Parallel Session Room 10:</u> Submission ID: 151, 153, 158, 159, 161, 112, 117
15:00 - end	Closing Ceremony

PRESENTERS LIST

Room Number	Sub-ID	Title	Presenter
Breakout Room 1	89	Activity Test and Identification 16S rRNA of LDPE Plastic Degrading Bacteria Isolated from Pisang Kipas Landfill Malang	Hanif Nur Rozaq
	26	Antioxidant Activity Test of Steroid Isolates of Red Algae (<i>Eucheuma cottonii</i>) from Wongsorejo Aquatic Area of Banyuwangi	Devi Rahmawati
	114	Toxicity Test and Identification of Flavonoid Isolates from Preparative TLC Result Ethyl Acetate Fraction of Katuk Leaves (<i>Sauropus androgynus</i> L. Merr)	Karavana Nura Izza
	130	Toxicity Test and Identification of Secondary Metabolites in Jeringau Rhizome (<i>Acorus calamus</i> L.) Result of Ultrasonic Extraction of Solvent Variations	Faskho Akbar Kusuma
	92	Toxicity Test and Identification of Steroid Isolates Fraction n-Hexane from Sonication Extraction with Methanol Solution in Microalgae of <i>Chlorella</i> sp.	Jeffry Anggatra Kuntha Asmara
	131	Toxicity test of column chromatography steroids isolates of <i>chlorella</i> sp. Microalgae chloroform fraction	Ahmad Ghanaim Fasya
	125	Price Prediction of Cayenne Pepper in Malang Using Time Invariant Fuzzy Time Series Method	Maila Santi Rahmania
	123	Second-Wave of COVID-19 infection in Indonesia	Ester Meyliana
Breakout Room 2	32	Effect Of Substrate Water Content To Black Soldier Fly Larvae (<i>Hermetia Illucens</i>) Growth: A Case Of Coconut Pulp And Fruit Wastes	Ida Kinasih
	30	Potentials of blood bags (whole blood) towards the quality of hiv pre transfusion test results: early study in darah bank rsud dr. Ben mboi ruteng manggarai district, east nusa tenggara province	Yani Suryani
	132	The Ability Of Entomopathogenic Fungus As Biocontrol Of Cockroaches	Anggita Rahmi Hafsari
	21	THE EFFECTIVENESS OF <i>Hermetia illucens</i> LARVAE IN CONVERTING ORGANIC WASTE WITH PRETREATMENT By <i>Bacillus subtilis</i> and <i>Trichoderma</i> sp	Ateng Supriyatna
	148	SENTIMENT ANALYSIS ON COVID-19 VACCINE OF TWITTER USING NAIVE BAYES METHOD	Andhika Maulana Effendi
	85	ANALYSIS OF COLIFORM CONTAMINATION ON FOOD LOK-LOK AT LARON TRADITIONAL MARKET BATU CITY SQUARE	Donny Candra Wijaya Putra

	115	Analysis of Water Physical Properties Exposed to Magnetic Field and The Implication on Growth of Kale (<i>Ipomoea reptans</i> Poir) in Hydroponic System	Nur Laily Navira
	111	Antioxidant Activity Test of Carrageenan Compounds From Red Algae (<i>Eucheuma Cottonii</i>) Result of Sonication Extraction With Variation of Solvents and Concentrations	Afifah Ayuditya
Breakout Room 3	97	Antioxidant Test and Identification of Steroid Isolates of Petroleum Ether and Ethyl Acetate Fraction <i>Hydrilla verticillata</i> Results of Column Chromatography Gradient Eluent	ERLINA NOVITA SARI
	22	Application of High Tech Architecture Principles in Pekanbaru Youth and Community Center Design	MARTINA OKTAVIA AZIZAH
	37	Biogasoline production by co-pyrolysis of palm oil and cassava tubers using protonated zeolite-A as catalyst	Tika Dwi Febriyanti
	80	Characterization of Morphology and Vocalization of <i>Leptophryne</i> spp. in Bromo Tengger Semeru National Park Malang East Java	Sandra Rafika Devi
	52	Characterization of Reduced Graphene Oxide Obtained from Coconut Shell Graphite and Synthesized by Modification Hummer Method	Novia Alfiyansyah Putri
	61	<i>Clinacanthus nutans</i> as an Alternative Therapeutic Agent for Diabetes Mellitus	Nurlaili - Susanti
	81	Control of <i>Penicillium digitatum</i> Contamination in Postharvest Lemon (<i>Citrus limon</i>) using Antagonistic Microorganisms	Irma Diniya
	133	Design of the Union Catalog System for Islamic Boarding School Libraries in Malang City Based on Open Source	Rosy Fadilatul Ilmi
Breakout Room 4	93	Development And Testing Ability Of Kabut Anti Virus Dan Bakteri (Kavi-B) Mist In Eradication Of <i>Escherichia Coli</i> And <i>Staphylococcus Aureus</i> Bacteria	Zuhdan Aries Muhamad
	103	Diversity And Distribution Of Ferns (<i>Pteridophyta</i>) In Mount Penanggungan East Java	Caesar Rasendria Achmad
	40	Effect of Vanadium Dopant to Band Gap Energy of $\text{SrBi}_4\text{Ti}_4\text{O}_{15}$	Puspa Sari
	160	Evaluation of Software Quality on E-Learning System UIN Malang Based on ISO 9126	Laila Zahrona
	39	Fractionation And Activity Test Of 4-Vinylpyridine Oligomer As Organic Corrosion Inhibitors Of Mild Steel In Brine Solution Saturated Carbon Dioxide (CO_2) Medium	Laila Hidayah
	90	Identification Of Microplastic Abundance In Selorejo Waters, Ngantang District, Malang Regency	Iqbal Fatkhul Akbar
	42	Influence of Vanadium Dopant Concentration on Bandgap Energy of $\text{BaBi}_4\text{Ti}_4\text{O}_{15}$	Suci Noerfaiqotul Himmah

	110	Isolation and Characterization of Red Algae Agarose Gracilaria verrucosa Using Sonication Method.	Dinda Ayu Lestari
Breakout Room 5	54	Molten Salt Synthesis of BaBi ₄ Ti ₄ O ₁₅ for Methylene Blue Degradation	Muhammad Lathif Al-Abror
	108	Perception Of Islamic State University Maulana Malik Ibrahim Library Users On Services Website Of Its Library	Afza Fathiya Iswara
	84	Phytoremediation Effectiveness Test of Lead (Pb) by Hanjuang Plant (Cordyline fruticosa) Based on Concentration Variations and Exposure Time	Faridatul Jannah
	64	potential use of nanofertilizer formulations combined with bacteria for improvement pond aquaculture Maharani Retna Duhita 1	Maharani Retna Duhita
	66	Redevelopment Pasar Besar Malang City With Flexible Architecture Approach	Mulyo - Handoko
	44	Separation and Toxicity Test Of Steroid Compounds Fraction Of Petroleum Ether and Ethyl Acetate Hydrilla Verticillata Chromatography Results Of Eluent Gradient Column	Happy Dwi Rahmani
	146	Nutrient Film Technique Hydroponic Automation System On Lettuce Plants Using Fuzzy Logic Controller Method	Lingga Wahyu Rochim
	147	Spirulina Smart Culture Based On The Internet Of Things	Muhammad Faiz Fathoni
Breakout Room 6	67	Synthesis and Characterization of Cu(II) Complexes with Schiff Base Ligands 2-[(4-Methylphenylimino)methyl]-6-Methoxyphenol	Nining Ratna Rahayu
	73	Synthesis And Characterization Of Manganese (Ii) Complexes Of The Schiff Base 2-Methoxy-6-[(P-Tolylimino) Methyl]Phenol Using Sonication Methods	Wariatius Solawati
	86	Synthesis Of Zsm-5 Solvent Free Method With Temperature And Time Of Crystallization Variation	Saidun Fiddaroini
	136	Test of Antioxidant Activity and Total Phenol Levels of Herbal Oil Turmeric Extract (Curcuma domestica Val.) in Extra Virgin Olive Oil and Virgin Coconut Oil	Ida - Rofiki
	100	The Design Of "Kampung Vertikal Bareng" In An Attempt At Community And Environmental Resistance In The Pandemic Era	Maria ulfah
	70	The Effect of pH and Substrate Type on Cellulase Enzyme Activity Using Bacillus subtilis Bacterial Isolate from Rice Bran	Najiyatul Falichah
	104	The Effect of Variations in Ammonium Sulfate (NH ₄) ₂ SO ₄ Concentration on The Electrical Properties of Exfoliated Graphite Materials	ZSA ZSA HELLYA BALQIST
	118	The Effect of Variations in GO Composition on rGO-TiO ₂ Composites Assisted by Microwave Irradiation as Photocatalyst	David Lee Giant Axala

	15	Application Of Lm 35 Temperature Sensor For Seawater Distillation	imam saukani
Breakout Room 7	128	Toxicity Test of Isolate Proanthocyanidin Compounds From Ethyl Acetate Fraction Of Bali Grape Seeds (<i>Vitis vinifera</i> L. Var. Alphonso Lavallee) Using Brine Shrimp Lethality Test (BSLT) Method	Salma Iza Fadhila
	35	Transesterification of Rubber Seed Oil Using MgO/Zeolite-A as Catalyst	Diska Indah Alista
	36	Transesterification of Rubber Seed Oil with Methanol Using Natural Zeolite Supported NiO Catalyst	Davinent Andreas Lihardo Sinaga
	135	User Interface and User Experience Design for Garbage Distribution Application Using Design Thinking Approach	Rizki Fitriani
	3	Composition of Plankton in Water and Stomach Milkfish at Brackish Water Ponds	Diana Arfiati
	62	Isolation of Cellulolytic Bacteria from Rice bran and Cellulase Enzyme Activity Test with Variation of Incubation Temperature	Lailatul Fitria
	75	Measles Disease Model using Censored Hurdle Negative Binomial Regression in East Java	ria dhea layla nur karisma
	23	Social Computing to Create Government Public Policy Document Blueprint Draft Based on Social Media Data About Covid-19 Using LSTM and MMR Hybrid Algorithms	Imam Cholissodin
	71	Analysis Of The Physical Characteristics Of Biodiesel Products Made From Used Cooking Oil	GINA FIKRIA
Breakout Room 8	137	Study of making yogurt from peanut (<i>Arachis hypogaea</i> L.) with the addition of coconut water and skim milk	Merinda - Lestari
	27	The modular structural system as an innovation for temporary public healthcare project of 4th-year architecture students at UIN Maulana Malik Ibrahim Malang	Mohammad Arsyad Bahar
	79	User Experience Analysis of E-Learning Uin Malang With User Experience Analysis of E-Learning Uin Malang With User Experience Questionnaire (Ueq) Method	Alimatul Listiyah
	25	MRT in Surabaya without Land Acquisition by Utilizing River Routes	GUNAWAN GUNAWAN
	58	Air Quality Forecasting in DKI Jakarta Using Artificial Neural Network	NISA KHOLIFATUL UMMAH
	72	Clustering On Indonesian Micro Industries In Sub-District Using K-Means Algorithm	Yusuf Ansori

	55	Data Mining For Transliteration From Arabic To Indonesian	Alvian Burhanuddin
	4	Processing Of Wet Acid Waste (Ph) Using Color Changing Sensor	Imam Saukani
	43	Thermal Comfort Classification System Using IoT Based DHT11 and DHT 22 Sensors	Ilham Yusuf Akbar
Breakout Room 9	69	Mamdani Fuzzy Inference System (FIS) Method on the Tsunami Early Warning System Based on Arduino	Mochamad Rizal
	78	Evaluation Of New Normal Implementation In Dormitory At Ponpes Darul Ulum Jombang	Niken Laila Larashati
	122	Synthesis and Characterization of Mn(II) Complex Compounds with Ligand Schiff Base 2-methoxy-6((4-methoxyphenylimino)methyl)phenol	Nova Alfian Hariyanto
	127	Synthesis and Toxicity Test of Schiff Base Compound from 4-Formylpyridine and p- Anisidine Using Stirrer Method with Water Solvent	Mohammad - Alfin
	138	Website Development (Jendela Kebudayaan Indonesia) Window of Indonesia's Culture: an Interactive Learning Media Innovation for Elementary School Students	Alia Salsabila
	150	Anticancer Activity of Kesambi (Scheichera Oleosa) Leaf Extract Against Rat Liver Cells (Rattus Norvegicus) In Vitro Induced (7,12 Dimethylbenz(?)Anthracena) (DMBA)	Lil Hanifah
	60	The Effect of Chemical-Mineralogical Content of Brick Waste as Substitute Material for Pozzolan on The Compressive Strength of Blended Cement	Siti Arifatul Aini
Breakout Room 10	151	The Design Of The Land Transportation Infrastructure Center For The Northern Coast road	Nur Fuad Hasan
	153	Identification and Antioxidant Activity Test of Water, Ethyl Acetate, n-Hexane Fractions from Hydrolyzed Methanol Extract of Beluntas Leaves (Pluchea indica L.).	safira makhrusah
	158	Utilization Of Cellulose Residual Fraction From Cassava Peel Waste To Produce Micro Composite Hydrogel	Heri Satria
	159	Grafting Engineering Of Hydrogel Microcomposite Materials Obtain From Bagasse Cassava Waste Cellulose Faction Residual	Heri Satria
	161	Performance of injectable construction methods against the efficiency of renovation of one-floor to two-floors residences(case study: home renovation in grand jajar kec. Malang housing)	sekar tanjung widyawati
	112	Website Prototype as a Department Administration System (Front-End)	M. A Harisma
	117	Website Prototype as a Department Administration System (Back-End)	Ahmad Zidan Nur Hakim

ORGANIZED BY



FACULTY OF SCIENCE AND TECHNOLOGY

UNIVERSITAS ISLAM NEGERI MAULANA MALIK IBRAHIM MALANG

SUPPORTED BY :



MATICS
Jurnal Ilmu Komputer dan Teknologi Informasi
(Journal of Computer Science and Information Technology)
Department of Computer Science - Faculty of Science and Technology - Universitas Islam Negeri Maulana Malik Ibrahim

Accredited SINTAS
p-ISSN : 1978-161X
e-ISSN : 2477-2550



Journal of Islamic Architecture
ISSN print: 2086-2636
ISSN online: 2336-4644



CAUCHY
Jurnal Matematika Murni dan Aplikasi
p-issn : 2086 - 0382
e-issn : 2477 - 3344



JURNAL NEUTRINO
Jurnal Fisika dan Aplikasinya
EISSN:2460-5999 ISSN: 1979-6374



ALCHEMY
Journal of Chemistry
e ISSN 2460-6871



El-Hayah
Jurnal Biologi
e-ISSN: 2657-0726
p-ISSN: 2086-0064
Available at:
<http://ejournal.uin-malang.ac.id/index.php/bio/index>

DEPARTMENT OF BIOLOGY
STATE ISLAMIC UNIVERSITY OF MALANG

CONFERENCE COMMITTEE

Scientific Committee (Reviewer)

Prof. Dr. Bayyinatul Muchtaromah (UIN Maulana Malik Ibrahim, Indonesia)
Dr. Sri Harini (UIN Maulana Malik Ibrahim, Indonesia)
Dr. Anton Prasetyo (UIN Maulana Malik Ibrahim, Indonesia)
Dr. Akyunul Jannah (UIN Maulana Malik Ibrahim, Indonesia)
Dr. Dwi Suheriyanto (UIN Maulana Malik Ibrahim, Indonesia)
Dr. Cahyo Crysdiyan (UIN Maulana Malik Ibrahim, Indonesia)
Dr. Fachrul Kurniawan (UIN Maulana Malik Ibrahim, Indonesia)
Dr. Imam Tazi (UIN Maulana Malik Ibrahim, Indonesia)
Dr. M. Amin Hariyadi (UIN Maulana Malik Ibrahim, Indonesia)

Scientific Committee (Editor)

Johan Ericka Wahyu Prakasa, M.Kom
Juniardi Nur Fadila, S.Kom, M.T
Puspa Miladin Nuraida S.A.B, M.Kom
Ajib Hanani, S.Kom, M.T
Fajar Rohman Hariri, M.Kom
Okta Qomarudin A, M.Kom
Agung Teguh Almais, S.Kom, M.T
Fatchurrohman, M.Kom
Khadijah Fahmi Hayati Holle, M.Kom
Shoffin Nahwa Utama, M.Kom
Ashri Shabrina Afrah, M.T
Nur Fitriyah Ayu Tunjung Sari, M.Cs
Tri Mukti Lestari, M.Kom
Supriyono, M.Kom
Wahyu Hariyanto, M.M
Fahriz Khusnu Reza Mahfud, M.Kom
Nita Siti Mudawamah, M.IP
Ganis Chandra P, M.A

KEYNOTE SPEAKERS



Prof. Dr. eng. Kuwat Triyana
Universitas Gajah Mada
Indonesia



Ismail Fahmi, Ph.D
Universitas Islam Indonesia
Indonesia



Dr. Dian Indrayani Jambari
University Kebangsaan Malaysia
Malaysia



Assoc. Prof. Dr. Sakinah Ali Pitchay
Universiti Sains Islam Malaysia
Malaysia

TABLE OF CONTENT

PREFACE.....	2
THE DEAN OF SCIENCE AND TECHNOLOGY FACULTY	2
STATE ISLAMIC UNIVERSITY MAULANA MALIK IBRAHIM MALANG	2
PREFACE.....	3
THE CHAIRPERSON	3
The 11TH INTERNATIONAL CONFERENCE ON GREEN TECHNOLOGY.....	3
ORGANIZED BY	4
CONFERENCE COMMITTEE.....	11
KEYNOTE SPEAKERS	12
TABLE OF CONTENT	13
Survive, re-align and thrive: Reflecting the COVID-19 pandemic through information systems perspectives.....	17
Optimizing Technology for Sustaining Productivity during Covid-19.....	18
Composition of Plankton in Water and Stomach Milkfish at Brackish Water Ponds.....	19
PROCESSING OF WET ACID WASTE (pH) USING COLOR CHANGING SENSOR.....	20
APPLICATION OF LM 35 TEMPERATURE SENSOR FOR SEAWATER DISTILLATION	21
THE EFFECTIVENESS OF <i>Hermetia illucens</i> LARVAE IN CONVERTING ORGANIC WASTE WITH PRETREATMENT By <i>Bacillus subtilis</i> and <i>Trichoderma</i> sp.....	22
Application of High Tech Architecture Principles in Pekanbaru Youth and Community Center Design	23
Social Computing to Create Government Public Policy Document Blueprint Draft Based on Social Media Data About Covid-19 Using LSTM and MMR Hybrid Algorithms	24
MRT in Surabaya without Land Acquisition by Utilizing River Routes	25
Antioxidant Activity Test of Steroid Isolates of Red Algae (<i>Eucheuma cottonii</i>) from Wongsorejo Aquatic Area of Banyuwangi.....	26
The modular structural system as an innovation for temporary public healthcare project of 4th-year architecture students at UIN Maulana Malik Ibrahim Malang.....	27
POTENTIALS OF BLOOD BAGS (WHOLE BLOOD) TOWARDS THE QUALITY OF HIV PRE TRANSFUSION TEST RESULTS: EARLY STUDY IN DARAH BANK RSUDDR. BEN MBOI RUTENG MANGGARAI DISTRICT, EAST NUSA tenggara PROVINCE.....	28
EFFECT OF SUBSTRATE WATER CONTENT TO BLACK SOLDIER FLY LARVAE (<i>Hermetia illucens</i>) GROWTH: A CASE OF COCONUT PULP AND FRUIT WASTES	29
Transesterification of Rubber Seed Oil Using MgO/Zeolite-A as Catalyst	30
Transesterification of Rubber Seed Oil with Methanol Using Natural Zeolite Supported NiO Catalyst	31
Biogasoline Production by Co-Pyrolysis of Palm Oil and Cassava Tubers using Protonated Zeolite-A as Catalyst.....	32

FRACTIONATION AND ACTIVITY TEST OF 4-VINYLPYRIDINE OLIGOMER AS ORGANIC CORROSION INHIBITORS OF MILD STEEL IN BRINE SOLUTION SATURATED CARBON DIOXIDE (CO ₂) MEDIUM.....	33
Effect of Vanadium Dopant to Band Gap Energy of SrBi ₄ Ti ₄ O ₁₅	34
The Influence of Vanadium Dopant Concentration on Bandgap Energy of BaBi ₄ Ti ₄ O ₁₅	35
A Thermal Comfort Classification System Using IoT Based DHT11 and DHT 22 Sensors	36
Separation and Toxicity Test Of Steroid Compounds Fraction Of Petroleum Ether and Ethyl Acetate Hydrilla Verticillata Chromatography Results Of Eluent Gradient Column.....	37
Characterization of Reduced Graphene Oxide Obtained from Coconut Shell Graphite and Synthesized by Modification Hummer Method.....	38
Molten Salt Synthesis of BaBi ₄ Ti ₄ O ₁₅ for Methylene Blue Degradation.....	39
Data Mining For Transliteration From Arabic To Indonesian.....	40
Air Quality Forecasting in DKI Jakarta Using Artificial Neural Network.....	41
The Effect of Chemical-Mineralogical Content of Brick Waste as Substitute Material for Pozzolan on The Compressive Strength of Blended Cement	42
Clinacanthus nutans as an Alternative Therapeutic Agent for Diabetes Mellitus	43
Isolation of Cellulolytic Bacteria from Rice bran and Cellulase Enzyme Activity Test with Variation of Incubation Temperature.....	44
Potential Use of Nanofertilizer Formulations Combined With Bacteria for Improvement Pond Quaculture.....	45
Redevelopment Of Pasar Besar Malang City With Flexible Architecure Approach.....	46
Synthesis and Characterization of Cu(II) Complexes with Schiff Base Ligands 2-[(4-Methylphenylimino)methyl]-6-Methoxyphenol.....	47
Mamdani Fuzzy Inference System (FIS) Method on the Tsunami Early Warning System Based on Arduino.....	48
The Effect of pH and Substrate Type on Cellulase Enzyme Activity Using Bacillus subtilis Bacterial Isolate from Rice Bran	49
Analysis Of The Physical Characteristics Of Biodiesel Products Made From Used Cooking Oil	50
Clustering On Indonesian Micro Industries In Sub-District Using K-Means Algorithm.....	51
Synthesis And Characterization Of Manganese (Ii) Complexes Of The Schiff Base 2-Methoxy-6-[(P-Tolylimino) Methyl]Phenol Using Sonication Methods	52
Measles Disease Model using Censored Hurdle Negative Binomial Regression in East Java	53
Evaluation Of New Normal Implementation In Dormitory At Ponpes Darul Ulum Jombang.....	54
User Experience Analysis of E-Learning UIN Malang With User Experience Questionnaire (UEQ) Method	55
Characterization of Morphology and Vocalization of <i>Leptophryne</i> spp. in Bromo Tengger Semeru National Park Malang East Java.....	56
Control of <i>Penicillium digitatum</i> Contamination in Postharvest Lemon (<i>Citrus limon</i>) using Antagonistic Microorganisms	57
Phytoremediation Effectiveness Test of Lead (Pb) by Hanjuang Plant (<i>Cordyline fruticosa</i>) Based on Concentration Variations and Exposure Time	58

Analysis Of Coliform Contamination On Food Lok-Lok At Laron Traditional Market Batu City Square.....	59
Synthesis Of Zsm-5 Solvent Free Method With Temperature And Time Of Crystallization Variation	60
Activity Test and Identification 16S rRNA of LDPE Plastic Degrading Bacteria Isolated from Pisang Kipas Landfill Malang	61
Identification Of Micropollutant Abundance In Selorejo Waters, Ngantang District, Malang Regency	62
Toxicity Test and Identification of Steroid Isolates Fraction n-Hexane from Sonication Extraction with Methanol Solution in Microalgae of <i>Chlorella</i> sp.	63
Development And Testing Ability Of Kabut Anti Virus Dan Bakteri (Kavi-B) Mist In Eradication Of <i>Escherichia Coli</i> And <i>Staphylococcus Aureus</i> Bacteria.....	64
Antioxidant Test and Identification of Steroid Isolates of Petroleum Ether and Ethyl Acetate Fraction <i>Hydrilla verticillata</i> Results of Column Chromatography Gradient Eluent.....	65
The Design Of “Kampung Vertikal Bareng” In An Attempt At Community And Environmental Resistance In The Pandemic Era	66
Diversity And Distribution Of Ferns (Pteridophyta) In Mount Penanggungan East Java.....	67
The Effect of Variations in Ammonium Sulfate (NH ₄) ₂ SO ₄ Concentration on The Electrical Properties of Exfoliated Graphite Materials	68
Perception Of Islamic State University Maulana Malik Ibrahim Library’s Users On Services Website Of Its Library.....	69
Isolation and Characterization of Red Algae Agarose <i>Gracilaria verrucosa</i> Using Sonication Method.	70
Antioxidant Activity Test of Carrageenan Compounds From Red Algae (<i>Eucheuma Cottonii</i>) Result of Sonication Extraction With Variation of Solvents and Concentrations	71
Website Prototype as a Department Administration System (Front-End).....	72
Toxicity Test and Identification of Flavonoid Isolates from Preparative TLC Result Ethyl Acetate Fraction of Katuk Leaves (<i>Sauropus androgynus</i> L. Merr).....	73
Analysis of Water Physical Properties Exposed to Magnetic Field and The Implication on Growth of Kale (<i>Ipomoea reptans</i> Poir) in Hydroponic System	74
Website Prototype as a Department Administration System (Backend).....	75
The Effect of Variations in GO Composition on rGO-TiO ₂ Composites Assisted by Microwave Irradiation as Photocatalyst.....	76
Synthesis and Characterization of Mn(II) Complex Compounds with Ligand Schiff Base 2-methoxy-6((4-methoxyphenylimino)methyl)phenol.....	77
Second-Wave of COVID-19 infection in Indonesia an approximation model.....	78
Price Prediction of Cayenne Pepper in Malang Using Time Invariant Fuzzy Time Series Method	79
Synthesis and Toxicity Test of Schiff Base Compound from 4-Formylpyridine and p- Anisidine Using Stirrer Method with Water Solvent.....	80

Toxicity Test of Isolate Proanthocyanidin Compounds From Ethyl Acetate Fraction Of Bali Grape Seeds (<i>Vitis vinifera</i> L. Var. Alphonso Lavallee) Using Brine Shrimp Lethality Test (BSLT) Method	81
Toxicity Test and Identification of Secondary Metabolites in Jeringau Rhizome (<i>Acorus calamus</i> L.) Result of Ultrasonic Extraction of Solvent Variations.....	82
TOXICITY TEST OF COLUMN CHROMATOGRAPHY STEROIDS ISOLATES OF <i>Chlorella</i> sp. MICROALGAE CHLOROFORM FRACTION.....	83
THE ABILITY OF ENTOMOPATHOGENIC FUNGUS AS BIOCONTROL OF COCKROACHES	84
Design of the Union Catalog System for Islamic Boarding School Libraries in Malang City Based on Open Source.....	85
User Interface and User Experience Design for Garbage Distribution Application Using Design Thinking Approach.....	86
Test of Antioxidant Activity and Total Phenol Levels of Herbal Oil Turmeric Extract (<i>Curcuma domestica</i> Val.) in Extra Virgin Olive Oil and Virgin Coconut Oil.....	87
Study of Making Yogurt From Peanut (<i>Arachis hypogaea</i> L.) with the Addition of Ccoconut Water and Skim Milk.....	88
Website Development (Jendela Kebudayaan Indonesia) Window of Indonesia's Culture: an Interactive Learning Media Innovation for Elementary School Students.....	89
Nutrient Film Technique Hydroponic Automation System On Lettuce Plants Using Fuzzy Logic Controller Method	90
SPIRULINA SMART CULTURE BASED ON THE INTERNET OF THINGS	91
SENTIMENT ANALYSIS OF COVID-19 VACCINE ON TWITTER USING NAIVE BAYES METHOD.....	92
Anticancer Activity of Kesambi (<i>Scheichera Oleosa</i>) Leaf Extract Against Rat Liver Cells (<i>Rattus Norvegicus</i>) In Vitro Induced (7,12 Dimethylbenz(A)Anthracena) (DMBA).....	93
The Design Of The Land Transportation Infrastructure Center For The Northern Coast Road	94
Identification and Antioxidant Activity Test of Water, Ethyl Acetate, n-Hexane Fractions from Hydrolyzed Methanol Extract of Beluntas Leaves (<i>Pluchea indica</i> L.).....	95
UTILIZATION OF CELLULOSE RESIDUAL FRACTION FROM CASSAVA PEEL WASTE TO PRODUCE MICRO COMPOSITE HYDROGEL.....	96
GRAFTING ENGINEERING OF HYDROGEL MICROCOMPOSITE MATERIALS OBTAIN FROM BAGASSE CASSAVA WASTE CELLULOSE FACTION RESIDUAL	97
Evaluation of Software Quality on E-Learning System UIN Malang Based on ISO 9126.....	98
PERFORMANCE OF INJECTABLE CONSTRUCTION METHODS AGAINST THE EFFICIENCY OF RENOVATION OF ONE-FLOOR TO TWO-FLOORS RESIDENCES (CASE STUDY: HOME RENOVATION IN GRAND JAJAR KEC. MALANG HOUSING).....	99

ID ABSTRACT: 158

UTILIZATION OF CELLULOSE RESIDUAL FRACTION FROM CASSAVA PEEL WASTE TO PRODUCE MICRO COMPOSITE HYDROGEL**Heri Satria¹, Risma Handayani², Aisyah Tri Setyaningsih³, Dian Herasari⁴, Ilim⁵**^{1,2,3,4,5}Departement of Chemistry, FMIPA University of Lampung, Bandar Lampung, Indonesiae-mail: ¹heri.satria@fmipa.unila.ac.id

The amount of cassava peel waste from the tapioca industry is very abundant in Indonesia. Cassava peel is a biopolymer that has great potential to be used as raw material for medicine. The goal of this research is to increase the value of cassava peel waste by converting it into carbohydrate derivative product called micro-composite cellulose. The conversion was carried out by grafting crosslinking copolymerization of microcomposite cellulose using acrylamide as monomer, ammonium persulfate as initiator, and N,N-methylene-bisacrylamide as a crosslinker. Copolymerization was conducted at 70 °C for 3 h. The mixture was precipitated with ethanol and methanol and refluxed for 1 hour using acetone. The result of this copolymerization is a microcomposite hydrogel and being characterized by Fourier Transform Infrared Spectroscopy (FTIR) and Scanning Electron Microscope (SEM). Under optimal conditions, the hydrogel able to be swelling in the water up to 2344.44%. Bacterial growth inhibition of amoxicillin-loaded hydrogel was examined on *Escherichia coli* ATCC 25922 and *Staphylococcus aureus* ATCC 25923. The test result proved that the amoxicillin-loaded hydrogel was able to inhibit bacterial growth. Based on the results of the study, it can be concluded that microcomposite hydrogels have potential in biomedical as a raw material for medicine.

Keywords: *Cassava peel; grafting; microcomposite hydrogel; medicinal raw materials.*