

**2021**

# **Book of Abstracts**

of The 11<sup>th</sup> International Conference  
on Green Technology

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**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 11<sup>th</sup> 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
<b>Oct, 26 2021</b>	<b><i>The 11<sup>th</sup> International Conference on Green Technology</i></b>
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	<b><u>Parallel Session Room 1:</u></b> Submission ID: 89, 26, 114, 130, 92, 131, 125, 123
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	<b><u>Parallel Session Room 3:</u></b> Submission ID: 97, 22, 37, 80, 52, 61, 81, 133
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	<b><u>Parallel Session Room 6:</u></b> Submission ID: 67, 73, 86, 136, 100, 70, 104, 118, 15
	<b><u>Parallel Session Room 7:</u></b> Submission ID: 128, 35, 36, 135, 3, 62, 75, 23, 71
	<b><u>Parallel Session Room 8:</u></b> Submission ID: 137, 27, 79, 25, 58, 72, 55, 4, 43
	<b><u>Parallel Session Room 9:</u></b> Submission ID: 69, 78, 122, 127, 138, 150, 60
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	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
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ID ABSTRACT: 35

**Transesterification of Rubber Seed Oil Using MgO/Zeolite-A as Catalyst****K.D. Pandiangan<sup>1</sup>, W. Simanjuntak<sup>2</sup>, D.I. Alista<sup>3</sup>, I. Ilim<sup>4</sup>, D.A. Sinaga<sup>5</sup>**

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In this study, carried out research to obtain product transesterification of rubber seed oil (RSO) with MgO/Zeolite-A as a catalyst. Zeolite A with different MgO loads were prepared and applied as catalyst for transesterification of rubber seed oil (RSO), zeolite was impregnated with MgO metal using the wet impregnation method with  $Mg(NO_3)_2 \cdot 6H_2O$  solution of different concentrations at 70 °C for 4 h, and calcination at 550 °C for 6 h. The results of the impregnation were characterized using XRD, XRF, and SEM. The result was obtained that MgO metal had been distributed into the surface of zeolite A. Formation of MgO/Zeolite-A was confirmed by XRD, SEM, and XRF. The results of catalytic activity tests demonstrate significant enhancement of performance of MgO/Zeolite-A compared that of zeolite A without MgO. The study of catalytic activity was carried out with the conditions of the ratio of oil: methanol, variations in the amount of catalyst, and transesterification time, the products obtained were analyzed using GC-MS. The transesterification process of rubber seed oil resulted in the highest conversion percentage being 92% with (1:10) ratio oil: methanol, with 1.25 gram of catalyst, and 7.5 h transesterification time. The results of the transesterification product were characterized using the GC-MS instrument and the corresponding methyl ester yields from the fatty acids contained in rubber seed oil were obtained.

**Keyword:** zeolite A; MgO/zeolite-A; wet impregnation; catalyst; transesterification