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## Publications

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2024

Jurnal internasional bereputasi

### **Impact of glycerol on oil palm trunk starch bioplastics enhanced with citric-acid epoxidized palm oil oligomers**

SAHARMAN GEA , SUCI AISYAH AMATURRAHIM , ARIF NURYAWAN , ELISA JULIANTI , MARPONGAHTUN

2024

Jurnal internasional bereputasi

### **Impact of glycerol on oil palm trunk starch bioplastics enhanced with citric-acid epoxidized palm oil oligomers**

MARPONGAHTUN , SUCI AISYAH AMATURRAHIM , AVERROES FAZLUR RAHMAN PILIANG , SAHARMAN GEA , HABIB HERNANDO , A. MUHAMMAD AFDHAL SAPUTRA , Elisa Julianti , Ronn Goei , Asst. Prof. Dr. Nattakan Soykeabkaew

2024

Jurnal internasional bereputasi

### **Biomass-derived N-doped Carbon Dots/TiO<sub>2</sub> for Visible-Light-Induced Degradation of Methyl Orange in Wastewater**

BOY ATTAURRAZAQ , Salmiati , Amru Daulay , ANDRIAYANI , SAHARMAN GEA , SUCI AISYAH AMATURRAHIM , MARPONGAHTUN

2023

Prosiding seminar internasional

### **The effect of ethylenediamine as passivation agent on the optical properties of carbon dots from molasses using the microwave method**

MARPONGAHTUN , SUCI AISYAH AMATURRAHIM

2023

Prosiding seminar internasional

### **The characterization of agitated bacterial cellulose-based paper synthesized at various rotational speeds**

DARWIN YUNUS NASUTION , SUCI AISYAH AMATURRAHIM , MARPONGAHTUN , SAHARMAN GEA

2023

Jurnal internasional bereputasi

### **Synthesis of magnetic activated carbon-supported cobalt(II) chloride derived from pecan shell (*Aleurites moluccana*) with co-precipitation method as the electrode in supercapacitors**

SUCI AISYAH AMATURRAHIM , MUHAMMADIN HAMID , SUSILAWATI

2023

Jurnal internasional bereputasi

### **Synthesis of Nitrogen-Doped Carbon Dots from Nanocrystalline Cellulose by**

## **Pyrolysis Method as Hg<sup>2+</sup> Detector**

SUCI AISYAH AMATURRAHIM , YUGIA MUIS , SAHARMAN GEA , MARPONGAHTUN , ANDRIAYANI

2023

Jurnal internasional bereputasi

### **Synthesis of Nitrogen-Doped Carbon Dots from Nanocrystalline Cellulose by Pyrolysis Method as Hg<sup>2+</sup> Detector**

MARPONGAHTUN , SAHARMAN GEA , ANDRIAYANI , SUCI AISYAH AMATURRAHIM

2022

Prosiding seminar internasional

### **Utilization of Coconut Waste as a Basic Material for Making Carbon Dots with Acid Oxidation Method**

SUCI AISYAH AMATURRAHIM , MARPONGAHTUN

2021

Prosiding seminar internasional

### **Morphological Investigation of Bacterial Cellulose Cassava Starch Nanocomposites Produced by In-situ Process in Agitated Culture**

SUCI AISYAH AMATURRAHIM , SITI UTARI RAHAYU , SAHARMAN GEA , YUGIA MUIS , CUT FATIMAH ZUHRA

2021

Jurnal internasional bereputasi

### **GREEN PLASTICS BASED ON THERMOPLASTIC STARCH AND STEAM-EXPLODED NANOFIBER CELLULOSE**

SITI UTARI RAHAYU , SAHARMAN GEA , SUCI AISYAH AMATURRAHIM , EMMA ZAIDAR , SOVIA LENNY

2018

Prosiding seminar internasional

### **Enhancing the quality of nata de coco starter by channeling the oxygen into the bioreactor through agitation method**

SUCI AISYAH AMATURRAHIM , SAHARMAN GEA , SITI UTARI RAHAYU , ELISA JULIANTI

2018

Prosiding seminar internasional

### **Chitosan/graphene oxide biocomposite film from pencil rod**

SUCI AISYAH AMATURRAHIM , SAHARMAN GEA , JULI NOVITA SARI , AVERROES FAZLUR RAHMAN PILIANG

2018

Jurnal internasional bereputasi

### **Preparation of graphene oxide/bacterial cellulose nanocomposite via in situ process in agitated culture**

SUCI AISYAH AMATURRAHIM , SAHARMAN GEA , DARWIN YUNUS NASUTION

## **Researches**

2025

### **Enhancing Synergistic Degradation of Methyl Orange by Construction of S-Scheme Heterojunction between Fe<sub>3</sub>O<sub>4</sub>/N-CDs and Enhanced with P-CN via Photo-Fenton Oxidation: A Green Solution for Removal of Organic Pollutants**

MINTO SUPENO , SUCI AISYAH AMATURRAHIM , AMIR HAMZAH SIREGAR , MARPONGAHTUN , KHANZA HUSNA BILBINA , NURUL HUSNA TRI FADHILA , Dr Shamila Binti Azman

2025

Penelitian Fundamental

### **Impregnasi abu janjangan kelapa sawit dalam material berpori sebagai katalis dalam pembuatan biodiesel menggunakan homogenizer**

SUCI AISYAH AMATURRAHIM , JULIATI BR TARIGAN , HELMINA BR SEMBIRING

2025

Penelitian Unggulan Perguruan Tinggi

### **prototipe modifikasi karet alam dan limbah polistiren foam dengan aspal untuk penambalan jalan berlubang sesuai SNI**

2024

Kerjasama Luar Negeri dan Publikasi Internasional

### **Photocatalytic Water Splitting Using Reduce Graphene Oxide/Cobalt doped Titanium Dioxide (rGO/Co-TiO<sub>2</sub>) Nanocomposites**

MUHAMMADIN HAMID , SUSILAWATI , INDAH REVITA SARAGI , SUCI AISYAH AMATURRAHIM

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2024

Penelitian Dana Lokal Perguruan Tinggi

### **Revolutionizing Oil Palm Health: Advanced Electrochemical Detection of Ganoderma Boninense via Nanoparticle-CMC and ZnO/rGO Enhanced Disposable Screen-Printed Carbon Electrodes**

SUCI AISYAH AMATURRAHIM , SAHARMAN GEA , MARPONGAHTUN

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2023

Kerjasama Luar Negeri dan Publikasi Internasional

### **PENYEDIAAN BIJI BIOPLASTIK BERBASIS BIOMASSA BATANG KELAPA SAWIT MELALUI KOMBINASI ESTERIFIKASI DAN IKAT SILANG MINYAK SAWIT TEREPOKSIDASI-ASAM SITRAT**

SUCI AISYAH AMATURRAHIM , SAHARMAN GEA , ARIF NURYAWAN , ELISA JULIANTI

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2022

### **Sintesis Karbon Nanopartikel Dengan Metode Co-Presipitasi Untuk Bahan Baku Pembuatan Elektroda Sel Surya**

MUHAMMADIN HAMID , SUSILAWATI , SUCI AISYAH AMATURRAHIM

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## **Community Services**

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2022

Ipteks Bagi Masyarakat

### **Pemanfaatan Hidrogel Alami Sebagai Alternatif Media Tanaman Hias di Madrasah Aliyah Swasta Muhammadiyah Sidomulyo Kabupaten Langkat**

INDAH REVITA SARAGI , SUCI AISYAH AMATURRAHIM

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## **Intellectual Property Rights**

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2025

Paten nasional

### **Alat Ledak Uap Biomassa Otomatis untuk Isolasi Polimer Alam dari Bahan Alam**

SAHARMAN GEA , AVERROES FAZLUR RAHMAN PILIANG , SUCI AISYAH AMATURRAHIM , BOY ATTAURRAZQA , MUHAMMAD IBADURRAHMAN , A. MUHAMMAD AFDHAL SAPUTRA , SRI RAHAYU

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