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🏢 Fakultas Matematika dan Ilmu Pengetahuan Alam

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*Dr. Marpongahtun, M.Sc. dilahirkan di Berastagi, Karo, pada tanggal 15 November 1961 dan merupakan seorang dosen Kimia di Universitas Sumatera Utara. Beliau menyelesaikan pendidikan terakhirnya, yakni S3 KI. Elektro Kimia, di UTM pada tahun 2005.*

## Publications

2024

Jurnal internasional bereputasi

### **Synthesis and characterization of BC-ZnO and antibacterial activity test**

MARPONGAHTUN , TAMRIN , Athanasia Amanda Septevani , Hermawan Purba

2021

Artikel ilmiah

### **Effect of variation temperature at burning rice husk to obtain silica**

MARPONGAHTUN

2019

Prosiding seminar internasional

### **Fabrication of Composite Nanofibre PEO/Lignin for Exhaust Gas Emissions by Electrospinning**

MARPONGAHTUN , SAHARMAN GEA

2022

Jurnal nasional

### **Pengelolaan Integrasi Ekologi Lubuk Larangan Tambangan Jae Kabupaten Mandailing Natal**

AMEILIA ZULIYANTI SIREGAR , MARPONGAHTUN , ZULKIFLI , MUHAMMAD TURMUZI

2018

Prosiding seminar internasional

### **Preparation of Semi-IPN Hidrogel from Starch Nanoparticles of Magrove Fruit and Monomer Acrylic Acid Using Crosslinker N, N'Methylene Bisacrylamide**

MARPONGAHTUN , TAMRIN , DARWIN YUNUS NASUTION , ABDILLAH , GIMELLIYA SARAGIH

2023

Jurnal internasional bereputasi

### **The role of biocatalysts in the synthesis of graphene nanosheets from sub-bituminous coal**

Isnaeni , MARPONGAHTUN , Ir. VIVI PURWANDARI, M.Si , MAHYUNI HARAHAP , MARTHA RIANNA

2025

Jurnal internasional bereputasi

### **Facile synthesis of reduced graphene oxide using natural plant extracts as green reducing agents**

MARPONGAHTUN , SAHARMAN GEA , ANDRIAYANI , A. MUHAMMAD AFDHAL SAPUTRA , Ronn Goei , Alfred Iing Yoong Tok , Stergios Goutianos

2023

Prosiding seminar internasional

# Rice husk is renewable source in synthesis nanosilicon and its application as potential anode lithium-ion batteries

MARPONGAHTUN , ANDRIAYANI , SAHARMAN GEA

2021

Artikel ilmiah

## Morphology of Bacterial Cellulose-Curcuma longa Linn from Acetobacter xylinum for Wound Healing

MARPONGAHTUN , TAMRIN , LAMEK MARPAUNG

2019

Artikel ilmiah

## Effect of epoxidised natural rubbers on curing characteristics of kaolin-filled natural rubber composites

MARPONGAHTUN , LILIS SUKEKSI , INDRA SURYA

2020

Jurnal internasional bereputasi

## Phytochemical screening and toxicity of ethanolic extract of mangrove (Rhizophora mucronata) leaves from Langsa, Aceh Timur

MARPONGAHTUN

2023

Jurnal internasional bereputasi

## Promoting Electrospun Lignin/PEO Nanofiber for High-Performance CO Filtration

SAHARMAN GEA , MARPONGAHTUN

2024

Jurnal internasional bereputasi

## Facile synthesis and electrochemical performance of bacterial cellulose/reduced graphene oxide/NiCo-layered double hydroxide composite film for self-standing supercapacitor electrode

SAHARMAN GEA , MARPONGAHTUN , DIANA ALEMIN BARUS , ANDRIAYANI , A. MUHAMMAD AFDHAL SAPUTRA , MUHAMMAD IBADURRAHMAN , Ronn Goei , Alfred Ling Yoong Tok

2023

Jurnal nasional terakreditasi

## SYNTHESIS OF CARBON DOTS FROM EMPTY FRUIT BUNCH BIOCHAR VIA AN ACID-FREE HYDROTHERMAL METHOD

MARPONGAHTUN , SAHARMAN GEA , AMRU DAULAY , RUFINA PRAMUDITA

2025

Prosiding seminar internasional

## The making of ethanolamine-modified stearin and its application in natural rubber technology

MARPONGAHTUN , INDRA SURYA

2022

Jurnal nasional terakreditasi

## Processing of Palm Midrib Waste into Animal Feed with a Fermentation Process that is integrated with a chopper in Siapang Village, Deli Serdang Regency

SITI UTARI RAHAYU , MARPONGAHTUN , SUSILAWATI , SUHARMAN

2018

Artikel ilmiah

## The preparation and characterization of bentonite nanoparticle from Bener Meriah, Indonesia

MARPONGAHTUN

2026

Prosiding seminar internasional

## Carbon quantum dots surface decorated molybdenum disulfide by hydrothermal synthesis for tetracycline detector

MARPONGAHTUN , SAHARMAN GEA , YUNI ALDRIANI LUBIS , AISYAH RAMADHANI , ANISA NABILAH HARAHAHAP , AYUNDA

2018

Artikel ilmiah

## **The preparation and characterization of bentonite nanoparticle from Bener Meriah, Indonesia**

SAHARMAN GEA , MARPONGAHTUN

2020

Jurnal internasional bereputasi

## **PHYTOCHEMICALS SCREENING AND ANTIBACTERIAL ACTIVITY OF Curcuma Longa Linn, Ziziphus Mauritiana AND Centella Asiatica L.Urban EXTRACT**

MARPONGAHTUN

1997

Artikel ilmiah

## **The use of prompt gamma activation analysis in sediment samples from a polluted marine environment**

MARPONGAHTUN

2025

Jurnal internasional bereputasi

## **Graphene oxide-bacterial cellulose composites for enhanced adsorption of rhodamine B from aqueous solutions**

SAHARMAN GEA , MARPONGAHTUN , ANDRIAYANI , A. MUHAMMAD AFDHAL SAPUTRA , MUHAMMAD IRVAN HASIBUAN , FARDA NATA SYAKIRA , SALWA AQILAH LUTHFIYAH , SAFIRA AZKIA , Sumiyah Sabar , Ronn Goei

2023

Book chapter nasional

## **Inovasi revolusioner elektrokatalis berbasis grafena batubara**

Ir. VIVI PURWANDARI, M.Si , MARPONGAHTUN , MAHYUNI HARAHAP

2022

Jurnal internasional bereputasi

## **Synthesis and application of silicon nanoparticles prepared from rice husk for lithium-ion batteries**

ANDRIAYANI , MARPONGAHTUN , SAHARMAN GEA

2023

Jurnal nasional terakreditasi

## **Synthesis of Carbon Dots From Empty Fruit Bunch Biochar an Acid-Free Hydrothermal Method**

MARPONGAHTUN , SAHARMAN GEA , RUFINA PRAMUDITA , AMRU DAULAY

2018

Prosiding seminar internasional

## **Abdillah, 2018. Preparation of Semi-IPN Hidrogel from Starch Nanoparticles of Magrove Fruit and Monomer Acrylic Acid Using Crosslinker N, N'Methylene Bisacrylamide**

MARPONGAHTUN , TAMRIN , DARWIN YUNUS NASUTION , ABDILLAH , GIMELLIYA SARAGIH

2021

Jurnal internasional bereputasi

## **INFLUENCE OF ACETYLATED CELLULOSE NANOCRYSTAL INCORPORATED INTO POLY(E-CAPROLACTONE) NANOCOMPOSITES ON ITS THERMAL, MECHANICAL, AND PHYSICOCHEMICAL PROPERTIES**

MARPONGAHTUN

2023

Jurnal internasional bereputasi

## **IMPROVING CARBON DOTS OPTICAL PROPERTIES OF MOLASSES USING EDTA AS A PASSIVATION AGENT WITH THE MICROWAVE METHOD**

IRAWATI PUTRI H. SIREGAR , MARPONGAHTUN

2024

## **Synthesis, properties, and utilization of carbon quantum dots as photocatalysts on degradation of organic dyes: A mini review**

ANDRIAYANI , AVERROES FAZLUR RAHMAN PILIANG , A. MUHAMMAD AFDHAL SAPUTRA , DELLYANSYAH , Ronn Goei , RISKY RAMADHAN HTS , SAHARMAN GEA , MARPONGAHTUN

2024

Jurnal internasional bereputasi

## **Pioneering bio-oil extraction: The role of transition metal oxide zeolite catalysts in co-pyrolyzing palm fronds and high-density polyethylene**

SAHARMAN GEA , MARPONGAHTUN , ANDRIAYANI , DIANA ALEMIN BARUS , MUHAMMAD IRVAN HASIBUAN , ALWI KHAIRUNSYAH PINEM , A. MUHAMMAD AFDHAL SAPUTRA , FARAH ARFANI DAULAY , SHIPLU SARKER

2019

Artikel ilmiah

## **Fluorescent Property of Carbon Nanodots Synthesized by Microwave Method from Crystal Nanocellulose as Precursor**

MARPONGAHTUN , SAHARMAN GEA

2019

Jurnal internasional

## **Bioactive Compounds in Pegagan Leaf (*Centella asiatica* L. Urban) for Wound Healing**

MARPONGAHTUN , TAMRIN , LAMEK MARPAUNG

2025

Jurnal internasional bereputasi

## **A Green Approach to N, S-doped Carbon Dots from Jengkol Peel (*Archidendron pauciflorum*) for Ratiometric Sensing of Amaranth Dye**

AGUS RIMUS LIANDI , MARPONGAHTUN , AMIR HAMZAH SIREGAR , ANIZA SALVIANA PRAYUGO , RIRIN ANNISA , Salmiati , Amru Dauly

2023

Prosiding seminar internasional

## **Charaterization of Nanocellulose from Liquid Wasted of Tofu by *Acetobacter xylinum***

MARPONGAHTUN , ANDRIAYANI

2018

Prosiding seminar internasional

## **Preparation of semi-IPN hydrogel from starch nanoparticles of magrove fruit and monomer acrylic acid using crosslinker N,N- $\epsilon$ ™ methylene bisacrylamide**

MARPONGAHTUN

2026

Jurnal internasional bereputasi

## **Green one-pot synthesis of rGO/AgNPs- $\beta$ -cyclodextrin nanocomposites using *Miconia crenata* leaf extract: Insights into structural, interfacial, optical, and textural evolution.**

SAHARMAN GEA , MARPONGAHTUN , YENI WAHYUNI HARTATI , A. MUHAMMAD AFDHAL SAPUTRA , Stergios Goutianos , Ni Luh Wulan Septiani

2023

Jurnal internasional bereputasi

## **IMPROVING CARBON DOTS OPTICAL PROPERTIES OF MOLASSES USING EDTA AS A PASSIVATION AGENT WITH THE MICROWAVE METHOD**

MARPONGAHTUN , WARDATUL HUSNA IRHAM , SRI WAHYUNA SARAGIH , IRAWATI PUTRI H. SIREGAR

2023

Prosiding seminar internasional

## **The properties of hardness and swelling of styrene butadiene rubber/silica/oleamide composites**

MARPONGAHTUN , INDRA SURYA

2020

Prosiding seminar internasional

## **Characterization of bacterial cellulose from coconut water supplemented**

## **<i>Curcuma Longa Linn</i> and <i>Ziziphus Mauritiana</i> extract**

MARPONGAHTUN

2023

Prosiding seminar internasional

### **Charaterization of nanocellulose from liquid wasted of tofu by Acetobacter xylinum**

MARPONGAHTUN , ANDRIAYANI , HERMAWAN PURBA

2021

Jurnal internasional bereputasi

### **A Review on Emerging Pollutants in the Water Environment: Existences, Health Effects and Treatment Processes. Water, 13, 3258**

MARPONGAHTUN

2025

Jurnal nasional terakreditasi

### **Indonesian Journal of Chemical Research**

SAHARMAN GEA , MARPONGAHTUN , YUNI ALDRIANI LUBIS , Woei Wu Larry Pai , Muhammad Frassetia Lubis

2023

Buku referensi

### **CARBON DOTS: Sintesis, Karakterisasi dan Aplikasinya.**

MARPONGAHTUN

2025

Jurnal internasional bereputasi

### **Optimising cellulose nanofiber extraction from water hyacinth (Eichhornia crassipes) stems: Effects of steam explosion pretreatment and ultrasonication time**

CUT FATIMAH ZUHRA , SAHARMAN GEA , MARPONGAHTUN

2023

Jurnal internasional bereputasi

### **Distribution of Silver (Ag) and Silver Nanoparticles (AgNPs) in Aquatic Environment**

MARPONGAHTUN

2019

Artikel ilmiah

### **Improvements in the degree of filler dispersion and tensile properties of N550 and N220 carbon blacks-filled natural rubber composites using alkanolamide**

INDRA SURYA , MARPONGAHTUN

2025

Jurnal internasional bereputasi

### **ENVIRONMENTALLY SYNTHESISED YELLOW FLUORESCENT CARBON DOTS FOR ANTIBACTERIAL APPLICATIONS**

SAHARMAN GEA , Heri Sutanto , ANIZA SALVIANA PRAYUGO , MARPONGAHTUN

2019

Artikel ilmiah

### **Bioactive Compounds In Pegagan Leaf (Centella asiatica L. Urban) for Wound Healing**

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2020

Prosiding seminar internasional

### **Characterization of bacterial cellulose from coconut water supplemented Curcuma Longa Linn and Ziziphus Mauritiana extract**

MARPONGAHTUN , LAMEK MARPAUNG , TAMRIN , WARDATUL HUSNA IRHAM

2021

Prosiding seminar internasional

### **Antibacterial analysis and thermal properties of polycaprolactone/chitosan/TiO<sub>2</sub> porous composite**

2020

Jurnal internasional bereputasi

## **The Synthesis of Superabsorbent Polymer from Carboxymethyl Selulose, Aluminum Sulfate and Oxidized Bread Fruit Starch**

DARWIN YUNUS NASUTION , MARPONGAHTUN

2025

Jurnal nasional

## **Exploring the Effect of Ethylenediamine Concentration on the Optical Properties of Carbon Dots Synthesized from Candlenut Shell Biomass**

MARPONGAHTUN , AMIR HAMZAH SIREGAR , TJUT SITI SAFHURA

2025

Prosiding seminar internasional

## **Absorbance spectral analysis of obtained nitrogen doped carbon dots from Jengkol pee**

MARPONGAHTUN , SAHARMAN GEA , ANIZA SALVIANA PRAYUGO

2022

Jurnal internasional bereputasi

## **Synthesis Si nanoparticles from rice husk as material active electrode on secondary cell battery with X-Ray diffraction analysis**

SAHARMAN GEA , MARPONGAHTUN , ANDRIAYANI

2020

Jurnal internasional bereputasi

## **Phytochemicals screening and antibacterial activity of Curcuma longa Linn, Ziziphus mauritiana and Centella asiatica L. Urban extract.**

MARPONGAHTUN , TAMRIN , LAMEK MARPAUNG , WARDATUL HUSNA IRHAM

2023

Buku referensi

## **CARBON DOTS. Sintesis, Karakterisasai dan Aplikasinya.**

MARPONGAHTUN

2018

Artikel ilmiah

## **Acetylation of breadfruit utarch by Using Acetic Anhydride**

MARPONGAHTUN

2013

Jurnal internasional bereputasi

## **Physical-Mechanical Properties And Microstructure Of Breadfruit Starch Edible Films With Various Plasticizer**

MARPONGAHTUN

2021

Jurnal internasional bereputasi

## **A review on emerging pollutants in the water environment: Existences, health effects and treatment processes**

MARPONGAHTUN

2022

Jurnal nasional terakreditasi

## **Coconut oil effect on the hygroscopic properties of Simalambuo wood (Lophopetalum spp.)**

SAHARMAN GEA , APRI HERI ISWANTO , MARPONGAHTUN

2025

Jurnal internasional bereputasi

## **COAL-DERIVED GRAPHENE@POLIANILIN-ZINC OXIDE HYBRID NANOCOMPOSITE: A NEW MATERIAL WITH HIGH PERFORMANCE FOR PHOTOCATALYTIC APPLICATIONS**

MARPONGAHTUN , Ronn Goei , Isnaeni , MAHYUNI HARAHAP , HENNY SYAPITRI , Ir. VIVI PURWANDARI, M.Si

2021

Prosiding seminar nasional

## **ANALISA MORFOLOGI CARBON DOTS (C-Dots) DARI AIR TEBU**

MARPONGAHTUN , CHAIRUL AMRI

2021

Prosiding seminar internasional

## **Effect of Particle Size From Oil PalmWood Powder as Pore Forming Agent on Porosity and Hardness of Porous Ceramics Based on Clay and Polyvinyl Alcohol**

MARPONGAHTUN , DARWIN YUNUS NASUTION , TAUFIK HIDAYAT

2026

Jurnal internasional bereputasi

## **Enhancement of the Photocatalytic Activity of TiO<sub>2</sub> Modified with Carbon Dots from Tamarind Seeds (*Tamarindus indica* L.) for Eco-friendly Naphthol B Dye Degradation**

SAHARMAN GEA , MARPONGAHTUN , ANDRIAYANI

2024

Jurnal internasional bereputasi

## **Pioneering bio-oil extraction: The role of transition metal oxide zeolite catalysts in co-pyrolyzing palm fronds and high-density polyethylene**

ANDRIAYANI , SAHARMAN GEA , MARPONGAHTUN , DIANA ALEMIN BARUS , MINTO SUPENO , MUHAMMAD IRVAN HASIBUAN , ALWI KHAIRUNSYAH PINEM , FARAH ARFANI DAULAY , A. MUHAMMAD AFDHAL SAPUTRA , SHIPLU SARKER

2020

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## **Green Synthesis of Silver Nanoparticles Using *Muntingia calabura* Leaf Extract and Evaluation of Antibacterial Activities**

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2021

Jurnal internasional bereputasi

## **EXTRACTION SILICA FROM RICE HUSK WITH NaOH LEACHING AGENT WITH TEMPERATURE VARIATION BURNING RICE HUSK**

MARPONGAHTUN , ANDRIAYANI , SAHARMAN GEA

2023

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## **Improving mechanical properties of bacterial cellulose with supplemented *Curcuma Longa* Linn extract for wound healing**

MARPONGAHTUN , WARDATUL HUSNA IRHAM , SAJARATUD DUR

2022

Jurnal internasional

## **METHANOL MASS VARIATION OF MESOPOROUS SILICA SYNTHESIS USING RICINOLEIC METHYL ESTER AS A TEMPLATE**

MARPONGAHTUN , YUGIA MUIS , ANDRIAYANI

2025

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## **The application of ethanolamine-modified stearin on the compounding of natural rubber: Mechanical and Crosslinking behaviours**

INDRA SURYA , MARPONGAHTUN

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## **METHANOL MASS VARIATION OF MESOPOROUS SILICA SYNTHESIS USING RICINOLEIC METHYL ESTER AS A TEMPLATE**

MARPONGAHTUN , ANDRIAYANI , AMRU DAULAY

2023

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## **Improving mechanical properties of bacterial cellulose with supplemented *Curcuma Longa* Linn extract for wound healing**

2023

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**Charaterization of nanocellulose from liquid wasted of tofu by Acetobacter xylinum**

HERMAWAN PURBA , ANDRIAYANI , MARPONGAHTUN

2022

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**ANALYSIS FABRICATION OF POROUS CERAMICS FROM CLAY AND COPPER POWDER USING PALM OIL POWDER AS A PORE-FORMING AGENT FOR FILTERS IN MOTOR VEHICLE GAS**

DARWIN YUNUS NASUTION , MARPONGAHTUN , Ir. VIVI PURWANDARI, M.Si

2022

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**ANALYSIS FABRICATION OF POROUS CERAMICS FROM CLAY AND COPPER POWDER USING PALM OIL POWDER AS A PORE-FORMING AGENT FOR FILTERS IN MOTOR VEHICLE GAS**

MARPONGAHTUN , DARWIN YUNUS NASUTION

2018

Jurnal internasional bereputasi

**Characterization of composite boards made of oil palm trunk flour/maleic anhydride grafted polypropylene**

MARPONGAHTUN

2021

Prosiding seminar internasional

**Synthesis and Characterization of Superabsorbent Polymer based on Carboxymethyl Cellulose, Breadfruit Starch and Aluminum Sulfate**

MARPONGAHTUN , DARWIN YUNUS NASUTION , DEDE IBRAHIM MUTHAWALI

2023

Prosiding seminar internasional

**Oleamide as an Environment-friendly Additive for Styrene Butadiene Rubber/Silica Compound: The Strength and Elasticity Behaviours**

MARPONGAHTUN , INDRA SURYA

2025

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**Green Synthesis of Bacteria Cellulose Using Liquid Wasted of Tofu Impregnated Ag<sub>2</sub>O-ZnO and Antibacterial Activity Tests for Staphylococcus aureus**

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2021

Jurnal internasional bereputasi

**A Review on Emerging Pollutants in the Water Environment: Existences, Health Effects and Treatment Processes**

MARPONGAHTUN

2022

Jurnal internasional bereputasi

**Synthesis of fluorescent citric acid carbon dots composites derived from empty fruit bunches of palm oil tree and its anti-bacterial property**

MARPONGAHTUN , SAHARMAN GEA , MAHYUNI HARAHAHAP

2023

Jurnal internasional bereputasi

**Stability of Mesoporous Silica Using Ricinoleic Methyl Ester as a Template with the Addition of HCl and Application of Cd<sup>2+</sup> Adsorption Optimized by Box-Behnken design**

MARPONGAHTUN , ANDRIAYANI

2025

Prosiding seminar internasional

## **ZIF-8 modified with N-doped Carbon Dots using the direct mixing method at room temperature**

SAHARMAN GEA , ANIZAR , MARPONGAHTUN , Heri Sutanto

2015

Jurnal internasional bereputasi

## **Determination of para-arsanilic acid with improved diazotization reaction using differential pulse cathodic stripping voltammetry in aqueous system**

MARPONGAHTUN

2018

Prosiding seminar internasional

## **The influence of hydrolisis time on the crystallinity degree of cellulose and Î±-cellulose of oil palm wood (Elais guinensis Jack)**

MARPONGAHTUN , DARWIN YUNUS NASUTION , YULY PUJIARTI , NAMI PANINDIA

2023

Prosiding seminar internasional

## **Application mesoporous silica with methyl ester ricinoleate castor oil (Ricinus communis) as template in absorbent of Cd ions**

SAHARMAN GEA , ANDRIAYANI , MARPONGAHTUN

2025

Jurnal internasional bereputasi

## **rGO/ZnO nanocomposite with XRD-structural characterization for electrochemical detection of palmitic acid as Ganoderma boninense biomarker**

MARPONGAHTUN , SAHARMAN GEA , ANDRIAYANI , A. MUHAMMAD AFDHAL SAPUTRA , MUHAMMAD HARSA , MUTIARA SANI HARAHAHAP , Sumiyah Sabar , Ronn Goei

2023

Jurnal internasional bereputasi

## **Highly fluorescent nitrogen-doped carbon dots derived from jengkol peels (Archidendron pauciflorum) by solvothermal synthesis for sensitive Hg<sup>2+</sup> ions detection**

MARPONGAHTUN , ANIZA SALVIANA PRAYUGO , Ronn Goei , MAHYUNI HARAHAHAP , SAHARMAN GEA

2021

Jurnal internasional bereputasi

## **PREPARATION AND CHARACTERIZATION OF BACTERIAL CELLULOSE SUPPLEMENTED Centella Asiatica L. Urban EXTRACT TO IMPROVE MECHANICAL PROPERTIES**

MARPONGAHTUN , TAMRIN , LAMEK MARPAUNG

2023

Prosiding seminar internasional

## **Oleamide as palm-oil based substance for silica-loaded styrene butadiene rubber compound: The cure and crosslinks behaviors**

MARPONGAHTUN , INDRA SURYA

2025

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## **Comparison of B, S, and N-doped carbon dots from palm sugar and its optical properties**

MARPONGAHTUN

2024

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## **Facile synthesis and electrochemical performance of bacterial cellulose/reduced graphene oxide/NiCo-layered double hydroxide composite film for self-standing supercapacitor electrode**

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2025

## **Green synthesis of N-doped carbon dots from cocoa fruit skin as antibacterial**

MARPONGAHTUN

2022

Artikel ilmiah

## **Coconut oil effect on the hygroscopic properties of Simalambuo wood (Lophopetalum spp.)**

APRI HERI ISWANTO , MARPONGAHTUN , SAHARMAN GEA

2020

Jurnal internasional bereputasi

## **PHYTOCHEMICAL SCREENING AND TOXICITY OF ETHANOLIC EXTRACT OF MANGROVE (Rhizophora mucronata) LEAVES FROM LANGSA, ACEH TIMUR**

GIMELLIYA SARAGIH , ABDILLAH , TAMRIN , MARPONGAHTUN , DARWIN YUNUS NASUTION

2018

Prosiding seminar internasional

## **The analysis of thermal and mechanical properties of biocomposite policaprolactone/ cellulose nanofiber from oil palm empty fruit bunches**

SAHARMAN GEA , MARPONGAHTUN

2018

Prosiding seminar internasional

## **Preparation of Semi-IPN Hidrogel from Starch Nanoparticles of Mangrove Fruit and Monomer Acrylic Acid Using Crosslinker N, N'Methylene Bisacrylamide**

MARPONGAHTUN

2020

Jurnal internasional bereputasi

## **Phytochemical screening and toxicity of ethanolic extract of mangrove (Rhizophora mucronata) leaves from Langsa, Aceh Timur**

MARPONGAHTUN , DARWIN YUNUS NASUTION , TAMRIN

2023

Jurnal internasional bereputasi

## **Bacterial cellulose-based paper production coated with poly-ethylene oxide/poly-vinyl alcohol**

SAHARMAN GEA , DARWIN YUNUS NASUTION , MARPONGAHTUN , Khatarina Meldawati Pasaribu

2019

Prosiding seminar internasional

## **Marpongahtun. bioactive compounds in pegagan leaf (Centella asiatica L. Urban) for wound healing**

MARPONGAHTUN , TAMRIN , LAMEK MARPAUNG , WARDATUL HUSNA IRHAM

2025

Prosiding seminar internasional

## **The effects of ethanolamine-modified stearin on tensile and ageing behaviours of natural rubber**

INDRA SURYA , MARPONGAHTUN

2022

Jurnal internasional bereputasi

## **Scalable synthesis of porous silicon nanoparticles from rice husk with the addition of KBr as a scavenger agent during reduction by the magnesiothermic method as anode lithium-ion batteries with sodium alginate as the binder**

MARPONGAHTUN , ANDRIAYANI , TAMRIN , SAHARMAN GEA

2023

Jurnal internasional bereputasi

## **Highly fluorescent nitrogen-doped carbon dots derived from jengkol peels (Archidendron pauciflorum) by solvothermal synthesis for sensitive Hg<sup>2+</sup> ions detection**

2024

Jurnal nasional terakreditasi

## **Synthesis and Characterization Nitrogen-doped Carbon Dots from Candlenut Shells using Hydrothermal and Solvothermal Methods**

RISKA , SAHARMAN GEA , MARPONGAHTUN

## **Researches**

2025

### **Efektivitas Nanokomposit Fe<sub>3</sub>O<sub>4</sub>/ N- Doped Carbon Dots/ ZIF-67 sebagai Fotokatalis dalam Degradasi Pewarna Kongo Merah**

MINTO SUPENO , AMIR HAMZAH SIREGAR , MARPONGAHTUN , RAHMADANI FITRI , ANIZA SALVIANA PRAYUGO

2023

Penelitian Dana Lokal Perguruan Tinggi

### **SINTESIS S,N-DOPED CARBON DOTS DARI KULIT JENGKOL UNTUK MENDETEKSI PEWARNA AMARANTH PADA MINUMAN BERWARNA**

AMIR HAMZAH SIREGAR , MARPONGAHTUN

2020

Penelitian Unggulan Perguruan Tinggi

### **Modifikasi Carbon-dots dari Selulosa Nanokristal Tandan Kosong Sawit sebagai Prekursor dengan Metode Pirolisis**

ANDRIAYANI , MARPONGAHTUN

2025

### **Efektivitas Nanokomposit Fe<sub>3</sub>O<sub>4</sub>/N-Doped Carbon Dots sebagai Fotokatalis dalam Degradasi Pewarna Kongo Merah: Sintesis, Karakterisasi, dan Kinerja di Bawah Sinar UV**

ANDRIAYANI , MARPONGAHTUN , RAHMADANI FITRI

2023

Penelitian Kompetensi

### **Preparasi Hidrogel Polivinil alkohol dengan bahan pengisi grafena batubara untuk aplikasi foto-elektrokatalis**

MUHAMMADIN HAMID , MAHYUNI HARAHAHAP , Ir. VIVI PURWANDARI, M.Si , MARPONGAHTUN

2019

Penelitian Unggulan Perguruan Tinggi

### **Modifikasi Carbon-dots dari Selulosa Nanokristal Tandan Kosong Sawit sebagai Prekursor dengan Metode Pirolisis**

ANDRIAYANI , YUGIA MUIS , MARPONGAHTUN

2018

Penelitian Unggulan Perguruan Tinggi

### **Pemanfaatan Serbuk Batang Kelapa Sawit Sebagai Agen Pembentuk Pori Pada Pembuatan Keramik Berpori Dari Tanah Liat Dan Polivinyl Alkohol Untuk Filter Gas Buangan Kendaraan Bermotor**

DARWIN YUNUS NASUTION , MARPONGAHTUN

2021

Penelitian Disertasi Doktor

### **Imobilisasi Enzim Glukosa Oksidase dan Horseradish Peroxidase dalam Nanocellulosa (NC-GOX/HRP) Sebagai Biosensor Glukosa Secara Kolorometri**

ANDRIAYANI , MARPONGAHTUN

2022

Penelitian Tim Pasca Sarjana

### **LIMBAH KULIT JENGKOL (ARCHIDENDRON PAUCIFLORUM) SEBAGAI PREKURSOR CARBON DOTS UNTUK DETEKSI LOGAM MERKURI PADA**

## KOSMETIK

SAHARMAN GEA , MARPONGAHTUN

2020

Ipteks Unggulan Perguruan Tinggi

### **Modifikasi Carbon-dots dari Selulosa Nanokristal Tandan Kosong Sawit sebagai Prekursor dengan Metode Pirolisis**

ANDRIAYANI , YUGIA MUIS , MARPONGAHTUN

## Community Services

2012

Ipteks Bagi Masyarakat

### **Pelatihan Pembuatan Sabun Colek Dan Sabun Cair Untuk Skala Kecil Dan Menengah Di Desa Percut, Kecamatan Percut Sei Tuan, Kabupaten Deli Serdang**

YUGIA MUIS , SAHARMAN GEA , DARWIN YUNUS NASUTION , MARPONGAHTUN

2013

### **Pelatihan Pemeriksaan Formalin Dalam Bahan Makanan Dan Pembuatan Sabun Cair Pada Kelurahan Rambung Dalam, Kota Binjai**

YUGIA MUIS , SAHARMAN GEA , AMIR HAMZAH SIREGAR , DARWIN YUNUS NASUTION , MARPONGAHTUN

2011

### **Pelatihan Pemeriksaan Formalin Dalam Bahan Makanan Dan Pembuatan Sabun Cair Pada Siswa-Siswa SMA Negeri Tanjung Tiram Kabupaten Batubara**

YUGIA MUIS , AMIR HAMZAH SIREGAR , DARWIN YUNUS NASUTION , MARPONGAHTUN , HARLEM MARPAUNG

2019

Ipteks Bagi Masyarakat

### **Penyuluhan Cara Pengolahan Limbah Minyak Goreng Bekas Menjadi Minyak Goreng Layak Konsumsi**

MARDININGSIH , DARWIN YUNUS NASUTION , MARPONGAHTUN , DEDE IBRAHIM MUTHAWALI

2011

Ipteks Bagi Masyarakat

### **Penyuluhan Tentang Penggunaan Pestisida di Desa Lumban Matio Kecamatan Sipahutar Tapanuli Utara**

HERLINCE SIHOTANG , NURHAIDA PASARIBU , AMIR HAMZAH SIREGAR , RUMONDANG BULAN , MARPONGAHTUN , EMMA ZAIKAR , ALBERT PASARIBU

2011

Ipteks Bagi Masyarakat

### **Penyuluhan Tentang Penggunaan Pestisida Di Desa Lumban Matio Kecamatan Sipahutar Tapanuli Utara**

HERLINCE SIHOTANG , NURHAIDA PASARIBU , AMIR HAMZAH SIREGAR , RUMONDANG BULAN , MARPONGAHTUN , EMMA ZAIKAR , ALBERT PASARIBU

2014

Ipteks Bagi Masyarakat

### **Pelatihan Pembuatan Shampo Untuk Kendaraan Bermotor Pada Siswa-Siswa Sma Negeri Tanjung Tiram Kabupaten Batubara**

YUGIA MUIS , MARPONGAHTUN

2022

Ipteks Bagi Masyarakat

### **Pengelolaan Integrasi Ekologi Lubuk Larangan Tambangan JAE, Kabupaten Mandailing Natal**

MUHAMMAD TURMUZI , MARPONGAHTUN

## Intellectual Property Rights

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2024

Paten nasional

**PROSES PEMBUATAN SELULOSA BAKTERI-EKSTRAK RIMPANG KUNYIT  
DENGAN METODE STIRRING**

MARPONGAHTUN , WARDATUL HUSNA IRHAM

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2024

Paten nasional

**Metode Pembuatan Carbon Dots dan Nitrogen Doped Carbon Dots dari Bottom  
Ash Batubara Menggunakan Teknik Ultrasonikasi dan Hidrotermal**

MARPONGAHTUN , WIDAYATI , ANIZA SALVIANA PRAYUGO

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2024

Paten nasional

**Metode Pembuatan Carbon Dots dan Nitrogen Doped Carbon Dots dari Bottom  
Ash Batubara Menggunakan Teknik Ultrasonikasi dan Hidrotermal**

ANIZA SALVIANA PRAYUGO , WIDAYATI , MARPONGAHTUN

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2024

Paten nasional

**KOMPOSIT BERPORI BIOKERAMIK POLIKAPROLAKTON , KITOSAN TiO<sub>2</sub>  
MENGUNAKAN TEKNIK FREEZE-DRYING**

Ir. VIVI PURWANDARI, M.Si , MARPONGAHTUN , SYAHMAN ZHAFIRI

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