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*Dr. Ir. Iriany, M.Si. dilahirkan di Medan pada tanggal 13 June 1964 merupakan seorang dosen di Universitas Sumatera Utara dengan bidang ilmu Teknik Kimia. Beliau menyelesaikan pendidikan terakhirnya pada jenjang Doktor di Fakultas Kejuruteraan Program Studi Kejuruteraan Mekanik dan Bahan Universiti Kebangsaan Malaysia pada tahun 2003.*

## Publications

2026

Jurnal internasional bereputasi

### **Corrosion effects on a leakage steam control valve: analysis and risk assessment on the biodiesel plant case study**

Barbara Ernst , Yacine Benguerba , ANGGARA DWITA BURMANA , RONDANG TAMBUN , DR.TASLIM, IR, MSC , DR IRIANY, IR, MSC

2023

Prosiding seminar internasional

### **Kinetics study of regeneration spent bleaching earth by microwave-assisted extraction**

ERNI MISRAN , DR IRIANY, IR, MSC

2025

Prosiding seminar internasional

### **Multistage pectin extraction from lemon ( Citrus limon) peel: Effect of nitric acid solvent pH and number of stages**

DR.TASLIM, IR, MSC , MICHAEL , MASYTHA , DR IRIANY, IR, MSC

2024

Jurnal internasional bereputasi

### **Investigating the catastrophic roof failure of a fatty acid storage tank: Causes, mechanisms, and safety implications**

DR.TASLIM, IR, MSC , ROSDANELLI HASIBUAN , ANGGARA DWITA BURMANA , WAN RIZKI ANSARI , SILVIA NOVA , VIKRAM ALEXANDER , DWINA RAHMAYANI HASIBUAN , DR IRIANY, IR, MSC , SRI APRILIA

2024

Jurnal nasional terakreditasi

### **Karakterisasi Biofilm Selulosa Bakteri dengan Modifikasi Gliserol secara Ex Situ**

LILIS SUKEKSI , DR IRIANY, IR, MSC

2021

Jurnal nasional terakreditasi

### **Ekstraksi Tanin dari Buah Balakka (Phyllanthus emblica L.) dengan Bantuan Microwave: Pengaruh Daya Microwave, Perbandingan Massa Kering Terhadap Jumlah Pelarut Etil Asetat**

DR IRIANY, IR, MSC

2020

Tulisan ilmiah

### **Moringa Leaves (Moringa Oleifera) Potential as Green Catalyst for Biodiesel Production**

2022

Prosiding seminar internasional

**The role of various plastisizers and fillers additions in improving tensile strength of starch-based bioplastics: A mini review**

DR IRIANY, IR, MSC , ZUHRINA MASYITHAH , HALIMATUDDAHLIANA , HAMIDAH HARAHAP , ROSDANELLI HASIBUAN

2021

Jurnal nasional terakreditasi

**Potential Formulation of Coconut Oil Solid Soap Preparation with Bentonite Filling as Najis Mughallazah Cleansing Media**

SISWARNI MZ , DR IRIANY, IR, MSC , LILIS SUKEKSI

2025

Jurnal internasional bereputasi

**Improving efficiency and product quality by optimizing methanol purification in biodiesel plant: Addressing abnormalities in distillation column performance**

DR IRIANY, IR, MSC , DR. TASLIM, IR, MSC , ANGGARA DWITA BURMANA , VIKRAM ALEXANDER , SILVIA NOVA

2021

Jurnal internasional bereputasi

**Characterization of the Chemical and Physical Properties of Bar Soap Made with Different Concentrations of Bentonite as a Filler**

DR IRIANY, IR, MSC

2017

Jurnal nasional

**Rancangan Pengering Energi Surya Menggunakan Kolektor dan Kipas untuk Pengeringan Kakao Fermentasi**

FATIMAH , RONDANG TAMBUN , MUHAMMAD TURMUZI , DR IRIANY, IR, MSC

2023

Artikel ilmiah

**Processing and Utilization of Natural Resources of Gulamah Fish with Boiling and Steaming Method**

DR IRIANY, IR, MSC , RENITA MANURUNG , HAMIDAH HARAHAP

2024

Jurnal internasional bereputasi

**Failure investigation of canned motor pump high temperature at yellow Teikoku Rotary Guardian as circulating pumps on the refining column**

DR. TASLIM, IR, MSC , ANGGARA DWITA BURMANA , VIKRAM ALEXANDER , DR IRIANY, IR, MSC

2016

Jurnal internasional bereputasi

**Physical and biophysical pretreatment of water hyacinth biomass for cellulase enzyme production**

FATIMAH , DR IRIANY, IR, MSC , Darin Khumsupan , FENI AMRIANI

2020

Jurnal internasional

**Furfural Synthesis from Mikania micrantha using Tamarind Extract as Catalyst**

DR IRIANY, IR, MSC

2017

Jurnal nasional

**EKSTRAKSI TANIN DARI KULIT KAYU AKASIA DENGAN MENGGUNAKAN MICROWAVE: PENGARUH DAYA MICROWAVE, WAKTU EKSTRAKSI DAN JENIS PEL...**

DR IRIANY, IR, MSC

2025

Jurnal internasional bereputasi

## **Life cycle assessment of reusing by-products from esterification reaction: Through the acidification process**

RENITA MANURUNG , MAYA SARAH , DR IRIANY, IR, MSC , ANGGARA DWITA BURMANA , RONDANG TAMBUN

2025

Jurnal internasional bereputasi

### **Corrosion Effect in Safety Implication of a Leakage Steam Traps: A Case Studies in Biodiesel Storage Tank**

DR IRIANY, IR, MSC , DR.TASLIM, IR, MSC , ANGGARA DWITA BURMANA , DWINA RAHMAYANI HASIBUAN

2023

Jurnal nasional terakreditasi

### **Pengaruh Komposisi Bahan Baku dan Ukuran Partikel Terhadap Kualitas Biobriket dari Cangkang Buah Karet dan Ranting Kayu**

ROSDANELLI HASIBUAN , DR IRIANY, IR, MSC

2020

Prosiding seminar internasional

### **Extraction of tannin from garlic skins by using microwave with ethanol as solvent**

DR IRIANY, IR, MSC , RONDANG TAMBUN

2025

Prosiding seminar internasional

### **The properties of green polybag from empty fruit bunch compost and wet decanter solid with chitosan as additive**

HAMIDAH HARAHAHAP , ICHSAN HABIBI HASIBUAN , DR IRIANY, IR, MSC

2025

Jurnal internasional bereputasi

### **Sustainable production of CaO rich-indigofera (Indigofera zollingeriana) as heterogeneous catalyst of biodiesel from refined bleached deodorized palm olein using associated transesterification process**

DR.TASLIM, IR, MSC , RENITA MANURUNG , DR IRIANY, IR, MSC , SILVIA NOVA , VIKRAM ALEXANDER , ANGGARA DWITA BURMANA

2019

Tulisan ilmiah

### **Biodiesel Synthesis from Waste Cooking Oil using Heterogeneous Catalyst from Corn cob Ash Impregnated with KOH**

DR IRIANY, IR, MSC

2021

Jurnal nasional terakreditasi

### **Studi Model Isoterm Adsorpsi Kristal Violetoleh Biosorben Kulit Ubi Kayu (Manihot esculenta)**

DR IRIANY, IR, MSC , ERNI MISRAN , MUHAMMAD TURMUZI

2026

Jurnal internasional bereputasi

### **Valorization of durian and jengkol shell waste into high-performance green solid fuel through the effect of molasses-tar binder ratio on biobriquette properties**

DR IRIANY, IR, MSC , DR.TASLIM, IR, MSC , CHLOE LYANTO , TANIAH STEPANI BR MANURUNG , VIKRAM ALEXANDER

2020

Tulisan ilmiah

### **Effect of Wuluhstarfruit (Averrhoa bilimbi) electrolyte filtrate addition on making hydrogel aluminum battery based on carboxymethyl cellulose**

DR IRIANY, IR, MSC

2021

Tulisan ilmiah

### **Potential of papaya seeds as a heterogenous catalyst in biodiesel synthesis**

DR IRIANY, IR, MSC

2025  
Jurnal internasional bereputasi

## **Loss prevention of cooling tower with an open loop system at cooling tower pipeline on a biodiesel plant: Analysis and safety implications**

ROSDANELLI HASIBUAN , DR IRIANY, IR, MSC , ANGGARA DWITA BURMANA , DR.TASLIM, IR, MSC

2021  
Tulisan ilmiah

## **Polyisoprenoids composition in mulberry (Morus alba L.)**

DR IRIANY, IR, MSC

2020  
Tulisan ilmiah

## **Preparation and Characterization of Coconut Oil Based Soap with Kaolin as Filler**

DR IRIANY, IR, MSC

2020  
Jurnal internasional

## **Reuse of chicken eggshell ash and natural zeolite catalyst on palm oil transesterification**

DR IRIANY, IR, MSC

2024  
Jurnal nasional terakreditasi

## **ANTHOCYANIN EXTRACTION FROM RED SPINACH UTILIZING MICROWAVE IRRADIATION AND ITS APPLICATION IN FOOD PRODUCTS**

DR.TASLIM, IR, MSC , ZUHRINA MASYITHAH , DR IRIANY, IR, MSC

2025  
Jurnal internasional

## **Production of liquid fuels from co-pyrolysis of high-density polyethylene (HDPE) and spent coffee grounds: Comparison of microwave energy and liquified petroleum gas as heat source on the fuel properties**

RENITA MANURUNG , DR IRIANY, IR, MSC , HAMIDAH HARAHAP , WAN RIZKI ANSARI

2023  
Prosiding seminar internasional

## **Regeneration of spent bleaching earth using microwave assisted extraction method with hexane as solvent for the bleaching of crude palm oil**

DR IRIANY, IR, MSC

2018  
Jurnal internasional bereputasi

## **Isolation and Characterization of Nanocrystal from Corn cob Waste Using H<sub>2</sub>SO<sub>4</sub> Hydrolysis Method**

DR IRIANY, IR, MSC

2020  
Jurnal internasional

## **Furfural synthesis from mikania mircantha using sulfonated carbon catalyst derived from candlenut shell**

DR IRIANY, IR, MSC

2026  
Jurnal internasional bereputasi

## **Investigate biodiesel products using heterogeneous catalysts in variations lauric acid feedstock through elemental analysis and emissions testing using diesel engines**

ANGGARA DWITA BURMANA , RENITA MANURUNG , DR IRIANY, IR, MSC , DR.TASLIM, IR, MSC

2025  
Jurnal internasional bereputasi

## **Loss prevention of cooling tower with an open loop system at cooling tower pipeline on a biodiesel plant: Analysis and safety implications**

ROSDANELLI HASIBUAN , DR IRIANY, IR, MSC , Mohammad Yazdi , DR.TASLIM, IR, MSC , ANGGARA DWITA BURMANA

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2026

Jurnal internasional bereputasi

### **Corrosion effects on a leakage steam control valve: analysis and risk assessment on the biodiesel plant case study**

RONDANG TAMBUN , DR IRIANY, IR, MSC , DR.TASLIM, IR, MSC , ANGGARA DWITA BURMANA

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2024

Jurnal internasional bereputasi

### **Biodiesel production using waste cooking oil and Amberlite 62i as heterogeneous catalyst: Sustainability energy solution**

RONDANG TAMBUN , ANGGARA DWITA BURMANA , DWINA RAHMAYANI HASIBUAN , ERWIN NAZRI , DR IRIANY, IR, MSC

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2025

Jurnal internasional bereputasi

### **Application of choline chloride-based deep eutectic solvent (DES) as catalyst for glycerolysis of palm fatty acid distillate (PFAD) and glycerol**

ALWI GERY AGUSTAN SIREGAR , RENITA MANURUNG , DR IRIANY, IR, MSC , DWINA RAHMAYANI HASIBUAN

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2026

Jurnal internasional bereputasi

### **Energy investigation of pressure pulsation and flow instability in centrifugal pumps used in biodiesel plants**

DR IRIANY, IR, MSC , DR.TASLIM, IR, MSC , VIKRAM ALEXANDER , RURI RIZKI SYAHPUTRI ZUHRI , ANGGARA DWITA BURMANA , Yacine Benguerba

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2021

Prosiding seminar internasional

### **Potential of lime as a green catalyst in the manufacture of furfural from *Mikania micrantha***

DR IRIANY, IR, MSC

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2023

Prosiding seminar internasional

### **Citronella oil extraction using microwave-assisted extraction (MAE) with various solvents**

DR IRIANY, IR, MSC , SERI MAULINA

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2024

Jurnal internasional bereputasi

### **Inlet diverters and oil collectors in distillation columns for reducing COD and BOD5 in biodiesel plants**

VIKRAM ALEXANDER , ANGGARA DWITA BURMANA , SILVIA NOVA , DR IRIANY, IR, MSC , DR.TASLIM, IR, MSC

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2017

Jurnal nasional

### **PEMBUATAN KARBON AKTIF DARI CANGKANG BUAH KARET DENGAN AKTIVATOR H<sub>3</sub>PO<sub>4</sub> 4 DAN APLIKASINYA SEBAGAI PENJERAP Pb (II)**

DR IRIANY, IR, MSC

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2021

Tulisan ilmiah

### **Preparation of activated carbon-based catalyst from nipa palm (*Nypa fruticans*) shell modified with KOH for biodiesel synthesis**

DR IRIANY, IR, MSC

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## **Researches**

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2020

Pendidikan Magister Doktor Sarjana Unggul

### **Pengaruh Variabel Ekstraksi Menggunakan Gelombang Mikro terhadap Proses Regenerasi Spent Bleaching Earth pada Proses Pemucatan Miyak Kelapa Sawit**

ERNI MISRAN , DR IRIANY, IR, MSC

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2019  
Penelitian Dana Lokal Perguruan Tinggi

## **FORMULASI SEDIAAN SABUN PADAT MINYAK KELAPA DENGAN PENGISI KAOLIN DAN BENTONIT SEBAGAI MEDIA PEMBERSIH NAJIS MUGHALLAZAH**

DR IRIANY, IR, MSC , LILIS SUKEKSI

2024  
Penelitian Disertasi Doktor

## **Microwave Assisted Co-Pyrolysis Limbah Plastik dan Ampas Kopi sebagai Upaya untuk Meningkatkan Yield Bahan Bakar**

DR IRIANY, IR, MSC , RENITA MANURUNG , WAN RIZKI ANSARI

2023  
Pendidikan Magister Doktor Sarjana Unggul

## **KARAKTERISASI BIOFILM MENYERUPAI KULIT DARI SELULOSA BAKTERI NATA DE COCO DENGAN MODIFIKASI EX-SITU (PERENDAMAN GLISEROL) DAN VARIASI METODE PENGERINGAN**

DR IRIANY, IR, MSC , LILIS SUKEKSI

2021  
Penelitian Dana Lokal Perguruan Tinggi

## **Analisa Kemampuan Daya Hambat Antibakteri dan Jamur pada Sediaan Sabun Padat dengan Bahan Baku Minyak Nabati Menggunakan Pengisi Daun Sirih**

DR IRIANY, IR, MSC , LILIS SUKEKSI

## **Community Services**

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2021  
Ipteks Bagi Masyarakat

## **Pelatihan pembibitan budi daya ikan lele di Desa Sentang Kecamatan Teluk Mengkudu Kabupaten Serdang Bedagai**

FATIMAH , DR IRIANY, IR, MSC , HALIMATUDDAHLIANA , MAULIDA , DR.TASLIM, IR, MSC

2026  
**Yayasan Baitul Hijaiyyah**

DR IRIANY, IR, MSC , DR.TASLIM, IR, MSC

2023  
**Panitia Qurban 2023**

DR IRIANY, IR, MSC , DR.TASLIM, IR, MSC

## **Intellectual Property Rights**

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2021  
Paten nasional

## **PEMBUATAN SABUN SIRIH PADAT DENGAN METODE DINGIN SEBAGAI ANTIBAKTERI (P.acne & S. epidermis) DAN ANTIJAMUR (C. albican)**

DR IRIANY, IR, MSC , DR.TASLIM, IR, MSC , LILIS SUKEKSI