

# Prof. Dr. Ir. Renita Manurung, M.T.

Lecturer of Master's Program in Chemical Engineering Study Program  
Faculty of Engineering  
Universitas Sumatera Utara

✉ [renita.manurung@usu.ac.id](mailto:renita.manurung@usu.ac.id)

🏢 Faculty of Engineering at Universitas Sumatera Utara

🌐 [ft.usu.ac.id/en/lecturer/renita-manurung](http://ft.usu.ac.id/en/lecturer/renita-manurung)

*Prof. Dr. Ir. Renita Manurung, M.T. was born in Pematangsiantar on December 14, 1968, and is a lecturer at the Universitas Sumatera Utara majoring in Chemical Engineering-Oleochemical Process Technology. She completed a Doctoral Program in Chemical Engineering at the Faculty of Engineering of the Universitas Sumatera Utara in 2017.*

---

## Publications

---

2025

Prosiding seminar internasional

### **Extraction of tannin from guava leaves (*Psidium Guajava* L) by soxhletation method and application as iron corrosion inhibitor in sea water medium**

RENITA MANURUNG , YUSUF BIMANTORO SIMANUNGKALIT , FITHRAH AMELIA

2022

Jurnal internasional

### **Utilization of Conventional Battery Framework with Bioelectrolyte Based on Blood Shell and Sugarcane Bagasse**

RENITA MANURUNG

2021

Prosiding seminar internasional

### **Usage of eutectic solvents throughout the dehydration reaction of durian seeds (*Durio zibethinus*) in producing 5-hydroxymethylfurfural**

RENITA MANURUNG

2018

Jurnal internasional bereputasi

### **Minor component extraction from palm methyl ester using potassium carbonate glycerol based Deep Eutectic Solvent (DES).**

RENITA MANURUNG

2024

Jurnal internasional bereputasi

### **THE POTENTIAL OF CATALYST BASED ON PALM LEAVES IN BIODIESEL PRODUCTION AS PART OF PALM OIL LIFE CYCLE ASSESMENT**

RENITA MANURUNG

2021

Jurnal internasional bereputasi

### **Production of 5-hydroxymethylfurfural derived cassava peels using deep eutectic solvent based Choline chloride**

RENITA MANURUNG

2021

Jurnal internasional bereputasi

### **Synthesis and characterization of sodium silicate produced from corncobs as a heterogeneous catalyst in biodiesel production**

RENITA MANURUNG

---

2024

Prosiding seminar internasional

**Production of biosurfactant sodium lignosulfonate (NaLS) using elephant grass based lignin (*Pennisetum purpureum*) and NaHSO<sub>3</sub>**

SYAHRA KHAIRANI LUBIS , WAFI MUFADHAL , RENITA MANURUNG

---

2022

Jurnal internasional

**Synthesis and Characterization of Phosphoric Silica Catalyst from Bamboo Leaves for Production of Triacetin**

RENITA MANURUNG

---

2025

Jurnal nasional terakreditasi

**Pengaruh Waktu Reaksi Katalis Silika Berbasis Tongkol Jagung Terhadap Densitas Dan Viskositas Biodiesel Sawit**

ALWI GERY AGUSTAN SIREGAR , RENITA MANURUNG

---

2024

Prosiding seminar internasional

**Application of Sodium Silicate from Palm Leaf Ash as Heterogeneous Catalyst in Transesterification of Palm Oil**

RENITA MANURUNG

---

2025

Jurnal internasional bereputasi

**Extraction of essential oil from red ginger (*Zingiber officinale* var *rubrum*) by solvent-free microwave extraction method**

ALWI GERY AGUSTAN SIREGAR , RENITA MANURUNG

---

2021

Jurnal internasional bereputasi

**Menthol-carboxylic acid deep eutectic solvent for extraction of carotenoids from palm ester**

RENITA MANURUNG

---

2021

Jurnal internasional bereputasi

**Synthesis of 5-hydroxymethylfurfural from cassava (*Manihot utilissima* pohl) peels through dehydration reaction using deep eutectic solvent based on choline chloride/citric acid**

RENITA MANURUNG

---

2022

Jurnal internasional bereputasi

**Synthesis and Characterization of Polystyrene Sulfonic Acid from Expanded Polystyrene Foam as a Catalyst in the Synthesis of Triacetin**

RENITA MANURUNG

---

2017

Jurnal internasional bereputasi

**Crude palm oil biodiesel by transesterification process using choline hydroxide catalyst.**

RENITA MANURUNG

---

2022

Jurnal internasional

**ESTERIFICATION OF REFINED GLYCEROL BIODIESEL BYPRODUCT USING HETEROGENEOUS CATALYST POLYSTYRENE SULFONIC ACID WASTE-BASED EPS FOAM**

RENITA MANURUNG

---

**Researches**

---

2024

Penelitian Fundamental

**Produksi Mono-Diasilgliserol Sebagai Emulsifier Kompetitif Menggunakan Pelarut Eutectic Sebagai Upaya Mewujudkan Teknologi Ramah Lingkungan**

RENITA MANURUNG , DWINA RAHMAYANI HASIBUAN

---

## Community Services

---

2025

Penelitian Disertasi Doktor

**Asesor Akreditasi Program Studi Diploma 3 Teknologi Proses Industri Petrokimia Politeknik Industri Petrokimia Banten Politeknik Industri Petrokimia Banten**

DWINA MOENTAMARIA , RENITA MANURUNG

---

2025

Penelitian Fundamental

**Asesor Program Studi Sarjana Teknik Kimia Fakultas Teknik Universitas Syiah Kuala untuk LAM Teknik**

MOH. FAHRURROZI , RENITA MANURUNG

---

2025

Ipteks Bagi Masyarakat

**Asesor Akreditasi Program Studi Diploma 3 Teknologi Proses Industri Petrokimia Politeknik Industri Petrokimia Banten Politeknik Industri Petrokimia Banten**

DWINA MOENTAMARIA , RENITA MANURUNG

---

2024

**Asesor Program Studi Teknik Kimia ITERA**

MOH. FAHRURROZI , RENITA MANURUNG

---

2025

Ipteks Bagi Masyarakat

**Asesor akreditasi Program Studi Magister Teknik Kimia Program Pascasarjana Universitas Muhammadiyah Palembang**

EDY SAPUTRA , RENITA MANURUNG

---

## Intellectual Property Rights

---

2022

Paten nasional

**Pembuatan Biodiesel Dari CPO Menggunakan Katalis Heterogen Abu Kulit Markisa**

RENITA MANURUNG

---

2022

Paten nasional

**Metode Pembuatan Pasta Bioelektrik Dari Limbah Ampas Tebu dan Cangkang Kerang Darah**

RENITA MANURUNG

---