

Prof. Rikson Asman Fertiles Siburian, S.Si., M.Si., Ph.D

Lecturer of Undergraduate Program in Chemistry Study Program
Fakultas Matematika Dan Ilmu Pengetahuan Alam
Universitas Sumatera Utara

✉ rikson@usu.ac.id

🏢 USU Faculty of Mathematics and Natural Sciences

🌐 fmipa.usu.ac.id/en/lecturer/rikson-asman-fertiles-siburian

Prof. Rikson Asman Fertiles Siburian, S.Si., M.Si., Ph.D. was born in North Tapanuli on September 4, 1974, and is a lecturer in Chemistry at Universitas Sumatera Utara. He completed a Doctoral Program in Material Science at the University of Tsukuba, Japan, in 2013.

Publications

2026

Jurnal internasional bereputasi

Microstructure and property evolution of pyrolysed epoxy-derived CFRP/SiC composites for non-structural thermal protection applications

RIKSON A F SIBURIAN , YUDAN WHULANZA

2024

Jurnal internasional bereputasi

Ratio design of bimetallic Pd-Rh nanoparticles on MoS₂ nanosheets: Excellent electrocatalysts for hydrogen evolution reaction

RIKSON A F SIBURIAN

2025

Artikel ilmiah

Effect of Electrochemical Enhancement on Antibacterial Activity of Silver/Graphene Nano Sheets from Candlenut Shell Biomass against Staphylococcus aureus

RIKSON A F SIBURIAN

2024

Jurnal nasional

PENINGKATAN KAPASITAS DAN KUALITAS PRODUK ARANG TEMPURUNG KELAPA MELALUI PELATIHAN SDM UMKM USAHA ARANG BATOK DI DESA PATUMBAK

LISNAWATY SIMATUPANG , RIKSON A F SIBURIAN

2021

Prosiding seminar internasional

Preliminary activity test of pirdot (Saurauia Vulcani, Korth) leaves collected from Aek Nauli forest, North Sumatera (Indonesia)

TAMRIN , RIKSON A F SIBURIAN , LAMEK MARPAUNG

2024

Jurnal internasional bereputasi

Enhanced uric acid detection using functionalized multi-walled carbon nanotube/AgNi nanocomposites: A comparative study on screen-printed carbon electrode (SPCE) and fabric-based biosensors

RIKSON A F SIBURIAN , Murni Handayani , SAMUEL PRIYANTORO KUSUMOCAHYO , YENI WAHYUNI HARTATI , ISA ANSHORI , BENI RIO HERMANTO , NUNI WIDIARTI , Uperianti , CEPI KURNIAWAN , RIZKY INDAH SARI , YUAN ALFINSYAH SIHOMBING , MOKHAMAD FAKHRUL ULUM

2023

Jurnal internasional bereputasi

Performance of primary battery prototype: Nickel/graphene nano sheets (GNS)//electrolyte//graphite and GNS

MINTO SUPENO , RIKSON A F SIBURIAN

2023

Jurnal internasional bereputasi

Time-series analysis of satellite imagery for detecting vegetation cover changes in Indonesia

RIKSON A F SIBURIAN

2023

Jurnal nasional terakreditasi

Kinerja Ratio Silika-Cat Dengan Metode Dipcoating Pada Permukaan Logam Untuk Penghambat Laju Korosi

RIKSON A F SIBURIAN

2024

Jurnal internasional bereputasi

Synthesis of Graphene Nano Sheets from Coconut and Candlenut Shells: Large-Scale Production and Application in Fe Ion Adsorption and Electrochemical Properties

RIKSON A F SIBURIAN , YOSIA GOPAS OETAMA M , GOH BOON TONG , Prof. Dr. Yatimah binti Alias, Ph.D

2025

Jurnal internasional bereputasi

Structure guided design and molecular modelling of a novel peptide-SWCNT biosensor targeting NS1 dengue virus

RIKSON A F SIBURIAN

2024

Buku referensi

Hewan Invertebrata

FAISAL IRSAN PASARIBU , RIKSON A F SIBURIAN , RISNAWATI , LITA NASUTION

2025

Jurnal internasional bereputasi

LOW-COST SYNTHESIS OF BIOCHAR-LIKE GRAPHENE FROM COCONUT SHELLS: ENHANCING CONDUCTIVITY FOR ELECTROCHEMICAL APPLICATIONS

RIKSON A F SIBURIAN

2025

Jurnal internasional bereputasi

Effectiveness Evaluation of Pyrometallurgy and Hydrometallurgy Methods in The Recycling Process of Neodymium-Iron-Boron Permanent Magnet and Rare Earth Metals Recovery: A Review

RIKSON A F SIBURIAN

2022

Jurnal internasional bereputasi

Performance of primary battery prototype: Cu/graphene nano sheets//electrolyte// C-Ĥ (graphite, graphene nano sheets, nĤ“ graphene nano sheets)

RIKSON A F SIBURIAN

2024

Jurnal internasional bereputasi

Sustainable Porous Silica Material Extracted from Volcanic Ash of Mount Sinabung Indonesia as Corrosion Inhibitor

BINSAR MARULI TUA PAKPAHAN , LISNAWATY SIMATUPANG , RIKSON A F SIBURIAN , ELFRIDA GINTING

2025

Jurnal internasional bereputasi

Comprehensive Review of Graphene Synthesis Techniques: Advancements,

Challenges, and Future Directions

RIKSON A F SIBURIAN

2025

Jurnal internasional bereputasi

OPTIMIZED HYDROLYSIS IMPROVES sn-2 FATTY ACID PROFILE AND NUTRITIONAL QUALITY OF *Thunnus sp.*

MASFRIA , SITI MORIN SINAGA , RIKSON A F SIBURIAN , YOSY CINTHYA ERIWATY SILALAHI

2024

Jurnal internasional bereputasi

Investigation of Far Infrared Emission and UV Protection Properties of Polypropylene Composites Embedded with Candlenut-Derived Biochar for Health Textiles

RIKSON A F SIBURIAN , YOSIA GOPAS OETAMA M

2024

Buku referensi

KINERJA ELEKTRODA BATERAI PRIMER BERBAHAN BAKU KELAPA DAN KEMIRI

Dr. KERISTA TARIGAN, M.Eng.Sc. , RIKSON A F SIBURIAN

2023

Jurnal internasional bereputasi

Distribution model of Iron (Fe) on Fe/Graphene Nano Sheets

RIKSON A F SIBURIAN

2017

Jurnal internasional bereputasi

Analysis Of Harmful Ingredients In Studentsnacks At Lubuk Pakam, Deli Serdang District,Indonesia

ZULHAIDA LUBIS , JANSEN SILALAHI , RIKSON A F SIBURIAN , HERU SANTOSA

2020

Jurnal internasional

Aplikasi Limbah Padat Kelapa Menjadi Grafena Sebagai Elektroda Alternatif Pada Sel Baterai Primer

RIKSON A F SIBURIAN

2023

Jurnal internasional bereputasi

Synthesis and Characterization of Fe on Graphene Nanosheets

RIKSON A F SIBURIAN , TAMRIN

2024

Jurnal nasional

PENINGKATAN KAPASITAS DAN KUALITAS PRODUK ARANG TEMPURUNG KELAPA MELALUI PELATIHAN SDM UMKM USAHA ARANG BATOK DI DESA PATUMBAK

LISNAWATY SIMATUPANG , RIKSON A F SIBURIAN

2024

Jurnal internasional bereputasi

Evaluation of electrodeposition synthesis of gold nanodendrite on screen-printed carbon electrode for nonenzymatic ascorbic acid sensor

IRKHAM , YENI WAHYUNI HARTATI , ISA ANSHORI , NUNI WIDIARTI , CEPI KURNIAWAN , RIKSON A F SIBURIAN , Murni Handayani , Eduardus Ariasena , Aldyla Nisa Raditya , Nadia Salsabila , Geolita Ihsantia Ning Asih , Uperianti

2025

Jurnal internasional bereputasi

New Route Producing Large-Scale Graphene Nanosheets from Corn Waste for Electrochemical Material

Dr. KERISTA TARIGAN, M.Eng.Sc. , RIKSON A F SIBURIAN , FRIKSON JONY PURBA , LEWITA PASARIBU , YOSIA GOPAS OETAMA M , Liang Wei Tang , Ronn Goei , Fathan Bahfie , MAYKEL MANAWAN , GOH BOON TONG , FAJAR YAN SAHAT T. HUTAGALUNG

2024
Jurnal internasional bereputasi

Converting Candlenut Shell Waste into Graphene for Electrode Applications

LISNAWATY SIMATUPANG , RIKSON A F SIBURIAN

2024
Buku referensi

Hewan Invertebrata

RIKSON A F SIBURIAN , LITA NASUTION

2021
Jurnal internasional bereputasi

Visible-Light Driven Ni-Incorporated CdS Photocatalytic Activities for Azo-Bond Cleavages with Hydrogenation Reaction

RIKSON A F SIBURIAN

2024
Jurnal internasional bereputasi

Evaluation of electrodeposition synthesis of gold nanodendrite on screen-printed carbon electrode for nonenzymatic ascorbic acid sensor

RIKSON A F SIBURIAN , ISA ANSHORI

2023
Jurnal internasional bereputasi

Electrochemical and capacitive behavior of reduced graphene oxide from green reduction of graphene oxide by urea for supercapacitor electrodes

JON AFFI , MURNI HANDAYANI , ISA ANSHORI , RIKSON A F SIBURIAN

2025
Jurnal internasional bereputasi

Envisioning the Future of Sustainable Transportation in Jakarta: A Study on Perceptions and Influential Factors in Electric Vehicle Adoption

RIKSON A F SIBURIAN , CHARLI SITINJAK

2023
Jurnal internasional bereputasi

Application of Fe 30% mass on graphene as potential electrode on cell battery

RIKSON A F SIBURIAN , TAMRIN

2016
Prosiding seminar nasional

Sintesis Silika Gel Terimobilisasi EDTA-Ag Sebagai Bahan Antibakteri Eschericia coli

HERMANIA EM WOGO , RIKSON A F SIBURIAN

2023
Jurnal internasional

PRODUCTION OF GRAPHENE BY COCONUT SHELL AS AN ELECTRODE PRIMARY BATTERY CELL

RIKSON A F SIBURIAN

2022
Jurnal internasional bereputasi

CHEMICAL COMPOUNDS CONTAINED Saurauia vulcani (Korth.) AND ITS ANTIBACTERIAL ACTIVITY AGAINST Staphylococcus aureus AND Escherichia coli

RIKSON A F SIBURIAN , TAMRIN , LAMEK MARPAUNG

2024
Jurnal internasional bereputasi

SYNTHESIS OF ENVIRONMENTALLY FRIENDLY, RENEWABLE, AND SUSTAINABLE NATURAL FIBER COMPOSITE BASED ON POLYLACTIC ACID/COIR WITH BENTONITE ADDITION

RIKSON A F SIBURIAN , RIDWAN , TEUKU RIHAYAT , IRWAN

2023

Coconut waste to green nanomaterial: Large scale synthesis of N-doped graphene nano sheets

RIKSON A F SIBURIAN , Prof. Dr. Yatimah binti Alias, Ph.D

2024

Converting Candlenut Shell Waste into Graphene for Electrode Applications

YOSIA GOPAS OETAMA M , RIKSON A F SIBURIAN , Yatimah Alias

2024

New Route Producing Large-Scale Graphene Nanosheets from Corn Waste for Electrochemical Material

Liang Wei Tang , GOH BOON TONG , RIKSON A F SIBURIAN , Dr. KERISTA TARIGAN, M.Eng.Sc.

2026

Exploring the antibacterial and antibiofilm potential of graphene nanosheets synthesized from candlenut shell waste

RIKSON A F SIBURIAN , FRISCILLA ROMIDUK SAMOSIR , Mohd Fakharul Zaman Raja Yahya

2024

CONDUCTIVITY ANALYSIS OF CU/N-GRAPHENE AND NI/N GRAPHENE AS ELECTRODES ON PRIMARY BATTERY ANODES

RIKSON A F SIBURIAN

2017

Effect of N-doped Graphene for Properties of Pt/N-doped Graphene Catalyst

KERISTA SEBAYANG , MINTO SUPENO , HARLEM MARPAUNG , RIKSON A F SIBURIAN

2022

Facile synthesis of graphene oxide/Fe₃O₄ nanocomposite for electrochemical sensing on determination of dopamine

RIKSON A F SIBURIAN

2023

Controlled Growth of Semiconducting ZnO Nanorods for Piezoelectric Energy Harvesting-Based Nanogenerators

RIKSON A F SIBURIAN

2026

An ONNO Schiff Base-palladium(II) complex as an efficient non-enzymatic electrochemical sensor for hydrogen peroxide

RIKSON A F SIBURIAN , Prof. Yatimah binti Alias, Ph.D

2023

Coconut waste to green nanomaterial: Large scale synthesis of N-doped graphene nano sheets

RIKSON A F SIBURIAN , ISA ANSHORI , CEPI KURNIAWAN

2024

Synthesis and Characterization of Coconut-Derived Graphene Nano Sheet (GNS) and Its Properties in Nickel/GNS and Zinc/GNS Hybrid Electrodes

RIKSON A F SIBURIAN , ISA ANSHORI , YOSIA GOPAS OETAMA M , Prof. Dr. Yatimah binti Alias, Ph.D , GOH BOON TONG , NUNI WIDIARTI , Dr. KERISTA TARIGAN, M.Eng.Sc.

2024

THE PHYSICAL PROPERTIES OF RED MUD AS ABSORBANCE

RIKSON A F SIBURIAN

2024

Jurnal internasional bereputasi

Edible coating, food-contact surface coating, and nanosensor for biofilm mitigation plans in food industry

RIKSON A F SIBURIAN

2024

Jurnal internasional bereputasi

Review of Recovery and Purification Processes of Rare Earth Elements from Nickel-Metal Hydride Spent Batteries

RIKSON A F SIBURIAN

2025

Jurnal internasional bereputasi

Biofilms and multidrug resistance: an emerging crisis and the need for multidisciplinary interventions

RIKSON A F SIBURIAN

2024

Jurnal internasional

Optimising Pyrolysis Synthesis of Biochar-Like Graphene Nano Sheets (BLG) from Coconut Shell: Morphological, Crystallinity, and Yield Analysis

RIKSON A F SIBURIAN

2024

Buku referensi

Kinerja Anoda Baterai Sekunder Berbahan Grafitik Karbon

RIKSON A F SIBURIAN , SRI PRATIWI ARITONANG , EBSAN MARIHOT SIANIPAR

2021

Buku referensi

BUKU PENUNTUN PRAKTIKUM KIMIA ANALITIK I (ANALISA KUALITATIF)

RIKSON A F SIBURIAN

2019

Jurnal internasional

Production of graphene by coconut shell as an electrode primary battery cell

RIKSON A F SIBURIAN

2019

Jurnal internasional bereputasi

Properties of Mg/graphite and Mg/graphene as cathode electrode on primary cell battery

RIKSON A F SIBURIAN , HARLEM MARPAUNG , TAMRIN , CRYSTINA SIMANJUNTAK

2025

Jurnal internasional bereputasi

Facile synthesis of neodymium-doped biomass-derived graphene nanosheets and electrochemical properties

RIKSON A F SIBURIAN , Dr. KERISTA TARIGAN, M.Eng.Sc. , ISA ANSHORI , YUDAN WHULANZA , YOSIA GOPAS OETAMA M , JOYS ALISA ANGELINA HUTAPEA , Prof. Dr. Yatimah binti Alias, Ph.D , Alfred Tok Iing Yoong , Ronn Goei

2024

Jurnal internasional bereputasi

Manufacture of Bagasse Activated Carbon Using H₂SO₄ Activator

RIKSON A F SIBURIAN

2021

Jurnal internasional bereputasi

The New Material Battery Based on Mg/C- $\text{I}\text{\AA}$

CRYSTINA SIMANJUNTAK , RIKSON A F SIBURIAN

2025

Jurnal internasional bereputasi

New Route Producing Large-Scale Graphene Nanosheets from Corn Waste for Electrochemical Material

RIKSON A F SIBURIAN , Dr. KERISTA TARIGAN, M.Eng.Sc. , LEWITA PASARIBU , YOSIA GOPAS OETAMA M , Liang Wei Tang , Ronn Goei , Fathan Bahfie , GOH BOON TONG , MAYKEL MANAWAN , FAJAR YAN SAHAT T. HUTAGALUNG

2026

Jurnal internasional bereputasi

Evaluation of herbicide use by farmers' groups in Langkat regency, Indonesia: Efforts for sustainable agriculture

LITA NASUTION , DESI SRI PASCA SARI SEMBIRING , RIKSON A F SIBURIAN

2024

Jurnal internasional bereputasi

SYNTHESIS OF ENVIRONMENTALLY FRIENDLY, RENEWABLE, AND SUSTAINABLE NATURAL FIBER COMPOSITE BASED ON POLYLACTIC ACID/COIR WITH BENTONITE ADDITION

TEUKU RIHAYAT , RIDWAN , RIKSON A F SIBURIAN , IRWAN

2025

Jurnal internasional bereputasi

The effect of nitrogen doped graphene-like carbon synthesized from coconut shell on conductivity property

RIKSON A F SIBURIAN

Researches

2024

Ipteks

Pemanfaatan Karbon Nanomaterial dan Turunannya untuk Energi, Medis, dan Lingkungan

RIKSON A F SIBURIAN , NUNI WIDIARTI , ISA ANSHORI , Prof. Dr. Yatimah binti Alias, Ph.D

2024

Penelitian Unggulan Perguruan Tinggi

Standarisasi Produk Grafena Berlapis Nano

RIKSON A F SIBURIAN

2026

Ipteks

FABRIKASI DAN OPTIMASI ELEKTRODA BERBASIS BIONANOKARBON UNTUK APLIKASI ENERGI DAN KESEHATAN

RIKSON A F SIBURIAN

2023

Penelitian Kerjasama Antar Perguruan Tinggi

Aplikasi Grafena Dan N-Grafena Untuk Nanomaterial Baterai, Biosensor Dan Katalis

RIKSON A F SIBURIAN

2024

Penelitian Kerjasama Antar Perguruan Tinggi

Pemanfaatan Karbon Nanomaterial dan Turunannya untuk Energi, Medis, dan Lingkungan

RIKSON A F SIBURIAN

2023

Kerjasama Luar Negeri dan Publikasi Internasional

Aplikasi Grafena dan N-Grafena dari Kemiri sebagai Material Penghantar Panas

RIKSON A F SIBURIAN

2022

Penelitian Dana Lokal Perguruan Tinggi

PROGRAM RISET KOLABORASI INDONESIA

RIKSON A F SIBURIAN , Suriati Paiman , Ab Malik Marwan Ali

2023

Penelitian Kerjasama Antar Perguruan Tinggi

Pabrikasi Grafena/N-Grafena dengan Metode Chemical Vapor Deposition dari Cangkang Kemiri (Aleurites moluccana (L.) Wild.) pada Nikel foam dan Aplikasinya sebagai Material Penyimpan Energi-

RIKSON A F SIBURIAN

2020

Penelitian Tim Pasca Sarjana

Kinerja Paduan Grafitik Karbon (Grafena, N-Grafena) Berbahan Dasar Grafit dan Arang Tempurung Kelapa dengan Logam Besi, Natrium dan Mangan sebagai Anoda Baterai Sekunder

RIKSON A F SIBURIAN

2022

Kinerja Grafitik Karbon (Grafena Berlapis Nano dan N-Grafena Berlapis Nano) dari Kelapa (Cocos nucifera L.) sebagai Elektroda Baterai Primer

RIKSON A F SIBURIAN , ISA ANSHORI , YUDAN WHULANZA

2025

Penelitian Kerjasama Antar Perguruan Tinggi

Pengembangan Bionanokarbon untuk Bioelektroda, Sensor dan Absorben

FAJAR YAN SAHAT T. HUTAGALUNG , RIKSON A F SIBURIAN , Dr. KERISTA TARIGAN, M.Eng.Sc. , Prof. Yatimah binti Alias, Ph.D , Isa Anshori

2024

Kerjasama Luar Negeri dan Publikasi Internasional

PUI Energi Terbaru

RIKSON A F SIBURIAN

Community Services

2024

MP3EI

Ketua Bidang Internasional iMAJELIS PENDIDIKAN KRISTEN WILAYAH SUMATERA UTARA DAN ACEH MASA LAYANAN 2024-2029

RIKSON A F SIBURIAN

2025

Ipteks Bagi Inovasi Kreativitas Kampus

“Peningkatan Kapasitas Dan Kualitas Produksi Pupuk Pelengkap Cair Melalui Pelatihan SDM dan Pembuatan Reaktor CV Tabita Jaya di Medan”

RIKSON A F SIBURIAN

2023

Penelitian Dana Lokal Perguruan Tinggi

PENINGKATAN KAPASITAS DAN KUALITAS PRODUK ARANG TEMPURUNG KELAPA MELALUI PELATIHAN SDM UMKM USAHA ARANG BATOK DI DESA PATUMBAK

RIKSON A F SIBURIAN

2020

KKN Pembelajaran Pemberdayaan Masyarakat

Pelatihan Pembuatan Masker Kain dan Handsanitizer

MINTO SUPENO , RIKSON A F SIBURIAN

2020

KKN Pembelajaran Pemberdayaan Masyarakat

Pemberdayaan Kearifan Lokal dan Potensi Masyarakat Desa Durian Lingga Pekan Namu Tating Menuju Masyarakat yang Sehat, Cerdas, Kreatif dan

Mandiri di Era Pandemi Covid-19

RIKSON A F SIBURIAN

2023

KKN Pembelajaran Pemberdayaan Masyarakat

Dosen Modul Nusantara PMM 2022

RIKSON A F SIBURIAN

Intellectual Property Rights

2025

Hak cipta nasional

Buku Grafena untuk Teknologi Energi: Aplikasi Katalis dan Sistem Sel Bahan Bakar Masa Depan

RIKSON A F SIBURIAN

2025

Buku lainnya

Grafena untuk Teknologi Energi: Aplikasi Katalis dan Sistem Sel Bahan Bakar Masa Depan

RIKSON A F SIBURIAN , Dr. KERISTA TARIGAN, M.Eng.Sc.

2025

Paten nasional

PEMBUATAN GRAFENA BERLAPIS NANO DARI KELAPA

RIKSON A F SIBURIAN , MINTO SUPENO

2025

Paten nasional

METODE PEMBUATAN GRAFIT DARI TEMPURUNG KELAPA MELALUI TAHAP NUKLEASI KELAPA

MINTO SUPENO , RIKSON A F SIBURIAN

2025

Hak cipta nasional

REFERENCE BOOK GENDER AND DIGITALENTREPRENEURSHIP: DIGITAL SKILL ANDEMPOWERMENT OF FARMERS IN INDONESIA

RIKSON A F SIBURIAN , LITA NASUTION

2025

Hak cipta nasional

Grafena untuk Teknologi Energi: Aplikasi Katalis dan Sistem Sel Bahan Bakar Masa Depan

RIKSON A F SIBURIAN , Dr. KERISTA TARIGAN, M.Eng.Sc.

2025

Paten nasional

PROSES PEMBUATAN NIKEL/GRAFENA BERLAPIS NANO (GBN) SEBAGAI ANODA BATERAI PRIMER

RIKSON A F SIBURIAN

2025

Hak cipta nasional

Kinerja Anoda Baterai Sekunder Berbahan Grafitik Karbon

SRI PRATIWI ARITONANG , EBSAN MARIHOT SIANIPAR , RIKSON A F SIBURIAN

2025

Hak cipta nasional

HKI-Hewan Invertebrata

LITA NASUTION , RIKSON A F SIBURIAN
