CURRICULUM VITAE OF RIKSON SIBURIAN



A. Personal Information

1	Full Name (including academic titles)	Prof. Rikson Asman Fertiles Siburian, Ph.D
2	Gender	Male
3	Employee Identification Number (NIP)	197409042000121001
4	National Lecturer Identification Number (NIDN)	0004097404
5	Place and Date of Birth	North Tapanuli, 4 September 1974
6	E-mail	rikson@usu.ac.id
7	Phone/Mobile Number	08123770541
8	Institution	Department of Chemistry, Faculty of Mathematics and Natural Sciences, Universitas Sumatera Utara
9	Office Address	Bioteknologi, Faculty of Mathematics and Natural Sciences Campus, Universitas Sumatera Utara, Medan 20155, Indonesia
10	Office Phone/Fax Number	(061) 8211375

B. Educational Background

	Bachelor's Degree (B.Sc.)	**Master's Degree (M.Sc.)**	**Doctoral Degree (Ph.D.)**
University	Universitas Sumatra Utara, Indonesia	Universitas Sumatra Utara, Indonesia	University of Tsukuba, Japan
Field of Study	Chemistry	Polymer Chemistry	Analytical Chemistry of Materials
Years Attended	1993-1998	1999-2001	2010-2013
Thesis/Dissertation Title	The Effect of Chitosan Addition on the Reduction of Palm Oil Mill Effluent Concentration in the Final Pond	Impregnation of Oil Palm Wood with Polypropylene and Acrylic Acid	Catalytic Properties and Interface Interaction of Platinum Subnanoclusters on Graphene Nano Sheets

Supervisor(s)	1. Prof. H. Marpaung, Ph.D 2. Prof. Dr.H. Agusnar	1. Purboyo, Ph.D 2. Prof.Basuki, Ph.D 3. Prof. H. Marpaung, Ph.D	1. Prof. Dr. J. Nakamura

C. Research Experience

Numb	Year	Research Title	Funding	
			Source	Amount (IDR)
1	2025	Effect of Ammonium Chloride and Sodium Chloride Electrolytes on the Performance of Nanosheet Graphene Electrodes Derived from Candlenut Shells as Primary Battery Cathodes	RKI EQUITY-USU	65.000.000
2	2025	Fabrication of N-Graphene by Chemical Vapor Deposition on Nickel Foam with Zn Metal as the Anode of Secondary Batteries	Kemenristekdikti	60.000.000
3	2025	Development of Bionanocarbon for Bioelectrodes, Sensors, and Adsorbents	RKI-USU	150.000.000
4	2024	Utilization of Carbon Nanomaterials and Their Derivatives for Energy, Medical, and Environmental Applications	RKI-USU	150.000.000
5	2024	Fabrication of N-Graphene by Chemical Vapor Deposition on Nickel Foam with Zn Metal as the Anode of Secondary Batteries	Kemenristekdikti	55.390.000
6	2023	Application of Graphene and N-Graphene for Battery Nanomaterials, Biosensors, and Catalysts	RKI-USU	150.000.000
7	2023	Synthesis of Ce/N-Graphene and Nd/N-Graphene from Candlenut Shell Waste as Supercapacitor Electrodes for Battery Applications	Kemenristekdikti	29.200.000
8	2023	Standardization of Nanosheet Graphene Products	Talenta USU	70.000.000
9	2022	Performance of Carbon (C-π)/d-Orbital Metal Alloys (Graphite/N-Graphene, Graphene/N-Graphene, Graphite/Fe-Graphene, Graphite/Mg-Graphene, Graphite/Mn-Graphene, Graphite/Fe-N-	Kemenristekdikti	116.120.000

		Graphene, Graphite/Mg-N-Graphene, Graphite/Mn-N-Graphene, Graphene/Fe-N-Graphene, Graphene/Mg-N-Graphene, and Graphene/Mn-N-Graphene) in Primary Battery Electrode Systems		
10	2022	Performance of Graphitic Carbon Alloys (Graphene and N-Graphene) Derived from Graphite and Coconut Shell Charcoal with Iron, Sodium, and Manganese Metals as Secondary Battery Anodes	Kemenristekdikti	54.000.000
11	2022	Performance of Coconut-Derived Graphene as a Battery Electrode	RKI-USU	150.000.000
12	2021	Analysis of Mn/Graphene and Zn/Graphene as Secondary Battery Electrodes	Kemenristekdikti	60.000.000
13	2021	Performance of Graphitic Carbon Alloys (Graphene and N-Graphene) Derived from Graphite and Coconut Shell Charcoal with Iron, Sodium, and Manganese Metals as Secondary Battery Anodes	Kemenristekdikti	59.020.000
14	2021	Performance of Carbon (C-π)/d-Orbital Metal Alloys in Primary Battery Electrode Systems	Kemenristekdikti	132.240.000
15	2021	Distribution Model of Copper (Cu) and Nickel (Ni) Particles on Graphene Using Scanning Electron Microscopy–Energy Dispersive X-Ray (SEM–EDX)	Talenta USU	60.000.000
16	2020	Electron Distribution Model and Electrode Performance of Cu/N-Graphene and Ni/N-Graphene in Primary Battery Systems	Talenta USU	110.000.000
17	2020	Production of Non-Metal-Based Primary Battery Electrodes (Graphite/Graphene, Graphite/N-Graphene, and Graphene/N-Graphene)	Kemenristekdikti	143,523,700
18	2020	Performance of Carbon (C-π)/d-Orbital Metal Alloys in Primary Battery Electrode Systems	Kemenristekdikti	127.633.600
19	2019	Formation Model of Fe/Graphene and Mg/Graphene Sub-Nanocluster Catalyst Electrodes	Talenta USU	60.000.000
20	2019	Production of Non-Metal-Based Primary Battery Electrodes (Graphite/Graphene, Graphite/N-Graphene, and Graphene/N-Graphene)	Kemenristekdikti	170.000.000

21	2018	Production of Non-Metal-Based Primary Battery Electrodes (Graphite/Graphene, Graphite/N-Graphene, and Graphene/N-Graphene)	Kemenristekdikti	185.000.000
22	2018	Preparation of Switching Graphene Nanosheets from Coconut Shells	Talenta USU	60.000.000
23	2018	Production of Non-Metal-Based Primary Battery Electrodes (Graphite/Graphene, Graphite/N-Graphene, and Graphene/N-Graphene)	Kemenristekdikti	135.000.000
24	2018	Performance of Graphene/N-Graphene and Graphite/N-Graphene Catalyst Electrodes as Fuel Cell Catalyst Electrodes	Talenta USU	60.000.000
25	2017	Effect of TiO_2 Catalyst on Hydrogen Gas Production from Water under UV Initiation	Talenta USU	60.000.000
26	2017	Performance of N-Doped Graphene as a Fuel Cell Electrode	Talenta USU	85.000.000
27	2017	Production of Non-Metal-Based Primary Battery Electrodes (Graphite/Graphene and Graphite/N-Graphene)	Kemenristekdikti	135.000.000
28	2015	Mechanism of Pt Sub-Nanocluster Formation within Graphene (Fundamental Research Grant)	Kemenristekdikti	50.000.000
29	2015	Performance of Graphene as a Support Material in Hydrogen Fuel Cells (Competency-Based Research Grant)	Kemenristekdikti	125.000.000
30	2014	Mechanism of Pt Sub-Nanocluster Formation within Graphene (Fundamental Research Grant)	Kemenristekdikti	50.000.000
31	2013	Catalytic Properties And Interface Interaction of Platinum Subnanoclusters On Graphene Nano Sheets	Mandiri	10.000.000

32	2013	Control of Pt Subnanoclusters within Graphene Nanosheets	Mandiri	10.000.000,
33	2012	Formation Process of Pt Subnanoclusters within Graphene Nanosheets	Mandiri	10.000.000,-

D. Community Service Experience

Numb	Year	Community Service Activity Title	Funding	
			Source	Amount (IDR)
1	2025	Capacity and Quality Improvement of Liquid Supplementary Fertilizer Production through Human Resource Training and Reactor Development for CV Tabita Jaya in Medan	Talenta Community Service Grant (Societal Impact Scheme)	20.000.000
2	2023	Capacity and Quality Improvement of Coconut Shell Charcoal Products through Human Resource Training for the Coconut Shell Charcoal SME in Patumba Villag	Talenta Community Service Grant, Universitas Sumatera Utara (Single-Year Scheme	28.000.000
3	2020	Application of N-Graphene as a Novel Battery Technology for Primary Battery Cells at Muhammadiyah 2 Private Senior High School, Medan	Talenta Community Service Grant, Universitas Sumatera Utara (Research-Based Scheme)	50.000.000
4	2020	Application of Adsorption Methods for Metal Ion Removal in Well Water Treatment at Free Methodist Senior High School, Medan	Talenta Community Service Grant, Universitas Sumatera Utara (Regular Scheme)	25.000.000
5	2019	Utilization of Coconut Shell Waste as Electrodes for Primary Battery Production	Talenta Community Service Grant, Universitas Sumatera Utara (Regular Scheme)	29.000.000
6	2018	Chemistry-Based Entrepreneurship through the Utilization of Household Waste at Eka Hudda Junior High School and Islamic Senior High School	Talenta Community Service Grant, Universitas Sumatera Utara (Single-Year Scheme)	35.000.000

E. Scientific Publications in Journals

Year	Title	Journal/Publisher
2026	Microstructure and property evolution of pyrolysed epoxy-derived CFRP/SiC composites for non-structural thermal protection applications	Frontiers in Mechanical Engineering 12, 1790709
2026	Exploring the antibacterial and antibiofilm potential of graphene nanosheets synthesized from candlenut shell waste	Microbial Pathogenesis, 108426
2025	Facile Synthesis of Neodymium-Doped Biomass-Derived Graphene Nanosheets and Electrochemical Properties	Current Research in Green and Sustainable Chemistry, 2025, Vol.11, No. 100491
2025	Comprehensive Review of Graphene Synthesis Techniques: Advancements, Challenges, and Future Directions	Microscale Materials Science, Vol. 5, No. 3
2025	Synthesis of Graphene Nanosheets from Coconut and Candlenut Shells: Large-Scale Production and Application in Fe Ion Adsorption and Electrochemical Properties	ACS Omega 10(4), pp. 3338-3350
2025	New Route Producing Large-Scale Graphene Nanosheets from Corn Waste for Electrochemical Material	Advanced Journal of Chemistry, Section A 8(2), pp. 443-455
2025	The Effect of Nitrogen Doped Graphene-Like Carbon Synthesized from Coconut Shell on Conductivity property	AIP Conference Proceedings 3223(1)
2025	Controlled Growth Of Semiconducting Zno Nanorods For Piezoelectric Energy Harvesting-Based Nanogenerators	NANOMATERIALS, Volume 15, Issue 19
2025	Correction: Abubakar Et Al. Controlled Growth Of Semiconducting Zno Nanorods For Piezoelectric Energy Harvesting-Based Nanogenerators	Nanomaterials, Volume 15, Issue 19
2025	Envisioning The Future Of Sustainable Transportation In Jakarta: A Study On Perceptions And Influential Factors In Electric Vehicle Adoption	SAGE Open, Volume 15, Issue 3
2025	Biofilms And Multidrug Resistance: An Emerging Crisis And The Need For Multidisciplinary Interventions	Frontiers in Bioengineering and Biotechnology, Volume 13, Pages 1625356
2025	Review Of Recovery And Purification Processes Of Rare Earth Elements From Nickel-Metal Hydride Spent Batteries: Circular Economy For Renewable Resources.	Johnson Matthey Technology Review, Volume 69, Issue 2
2025	Effectiveness Evaluation Of Pyrometallurgy And Hydrometallurgy Methods In The Recycling Process Of Neodymium-Iron-Boron Permanent Magnet And Rare Earth Metals Recovery: A Review: Circular Economy Of Critical Raw Materials.	Johnson Matthey Technology Review, Volume 69, Issue 2

2025	Controlled Growth Of Semiconducting Zno Nanorods For Piezoelectric Energy Harvesting-Based Nanogenerators	Nanomaterials 2023; 13 (6): 1025
2025	Structure Guided Design And Molecular Modelling Of A Novel Peptide–SWCNT Biosensor Targeting NS1 Dengue Virus	RSC advances, Volume 15, Issue 52
2025	A Mini Review On Biofilm-Mediated Water Pollution: Mechanistic Interactions, Preventive Approaches, And Removal Strategies	Sci Lett, Volume 19, Pages 88-103
2025	Review Of Recovery And Purification Processes Of Rare Earth Elements From Nickel-Metal Hydride Spent Batteries	Johnson Matthey Technology Review, Volume 69, Issue 2
2024	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	Sensors and Actuators Reports, Volume 8, Pages 100223
2024	Investigation Of Far Infrared Emission And UV Protection Properties Of Polypropylene Composites Embedded With Candlenut-Derived Biochar For Health Textiles	Molecules, Volume 29, Issue 20
2024	Synthesis Of Environmentally Friendly, Renewable, And Sustainable Natural Fiber Composite Based On Polylactic Acid/Coir With Bentonite Addition.	Rasayan Journal of Chemistry, Volume 17, Issue 4
2024	Evaluation Of Electrodeposition Synthesis Of Gold Nanodendrite On Screen-Printed Carbon Electrode For Nonenzymatic Ascorbic Acid Sensor	Scientific Reports, Volume 14, Issue 1
2024	Edible Coating, Food-Contact Surface Coating, And Nanosensor For Biofilm Mitigation Plans In Food Industry	Food Materials Research, Volume 4, Issu 1
2024	Ratio Design Of Bimetallic Pd-Rh Nanoparticles On MoS_2 Nanosheets: Excellent Electrocatalysts For Hydrogen Evolution Reaction	Applied Organometallic Chemistry, Volume 38, Issue 7
2024	Sustainable Porous Silica Material Extracted From Volcanic Ash Of Mount Sinabung Indonesia As Corrosion Inhibitor	International Journal of Technology
2024	Evaluation of electrodeposition synthesis of gold nanodendrite on screen-printed carbon electrode for nonenzymatic ascorbic acid sensor	Scientific Reports 14(1)

2024	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	Sensors and Actuators Reports 8
2024	Investigation of Far Infrared Emission and UV Protection Properties of Polypropylene Composites Embedded with Candlenut-Derived Biochar for Health Textiles	Molecules 29(20)
2024	Synthesis of environmentally friendly, renewable, and sustainable natural fiber composite based on polylactic acid/coir with bentonite addition	Rasayan Journal of Chemistry 17(4), pp. 1640-1646
2024	Edible coating, food-contact surface coating, and nanosensor for biofilm mitigation plans in food industry	Food Materials Research 4
2024	Synthesis and Characterization of Coconut-Derived Graphene Nano Sheet (GNS) and Its Properties in Nickel/GNS and Zinc/GNS Hybrid Electrodes	Processes 12(9)
2024	Converting Candlenut Shell Waste into Graphene for Electrode Applications	Processes 12(8)
2024	Ratio design of bimetallic Pd-Rh nanoparticles on MoS2 nanosheets: Excellent electrocatalysts for hydrogen evolution reaction	Applied Organometallic Chemistry 38(7)
2024	Fabrication and Optimization of Primary Batteries Using Ni/Graphene Nanosheet Electrodes	Science and Technology Indonesia 9(2), pp. 413-426
2024	The physical properties of red mud as absorbance	Herald of the Bauman Moscow State Technical University, Series Natural Sciences 115(4), pp. 109-120
2024	Sustainable Porous Silica Material Extracted from Volcanic Ash of Mount Sinabung Indonesia as Corrosion Inhibitor	International Journal of Technology 15(4), pp. 880-889
2024	Manufacture of Bagasse Activated Carbon Using H_2SO_4Activator	Journal of Physics: Conference Series 2733(1)
2023	Time-series analysis of satellite imagery for detecting vegetation cover changes in Indonesia	Scientific Reports 13(1)
2023	Effect of Hexamethylenetetramine of Zinc Oxide Nanowires Using Chemical Bath Deposition Method	Crystal Research and Technology 58(11)
2023	Coconut waste to green nanomaterial: Large scale synthesis of N-doped graphene nano sheets	Nano-Structures and Nano-Objects 36
2023	Distribution model of Iron (Fe) on Fe/Graphene Nano Sheets	Ceramics International 49(17), pp. 28571 28579

2023	Electrochemical and capacitive behavior of reduced graphene oxide from green reduction of graphene oxide by urea for supercapacitor electrodes	Journal of Materials Science: Materials in Electronics 34(22)
2023	Performance of Primary Battery Prototype: Nickel/Graphene Nano Sheets (GNS)//Electrolyte//Graphite and GNS	AIP Conference Proceedings 2626
2023	Application of Fe 30% Mass on Graphene as Potential Electrode on Cell Battery	AIP Conference Proceedings 2626
2023	Controlled Growth of Semiconducting ZnO Nanorods for Piezoelectric Energy Harvesting-Based Nanogenerators	Nanomaterials 13(6)
2023	The New Materials for Battery Electrode Prototypes	Materials 16(2)
2023	Controlled Growth Of Semiconducting Zno Nanorods For Piezoelectric Energy Harvesting-Based Nanogenerators	Nanomaterials, Volume 13, Issue 6
2022	Facile Synthesis Of Graphene Oxide/Fe_3O_4 Nanocomposite For Electrochemical Sensing On Determination Of Dopamine	Nanocomposites, Volume 8, Issue 1
2022	Espotensio: A Low-Cost And Portable Potentiostat With Multi-Channel And Multi-Analysis Electrochemical Measurements	Ieee Access, Volume 10, Pages112578-112593
2022	Effect Of Seed Layer On The Growth Of Zinc Oxide Nanowires By Chemical Bath Deposition Method	Coatings, Volume 12, Issue 4
2022	Chemical Compounds Contained Saurauia Vulcani (Korth.) And Its Antibacterial Activity Against Staphylococcus Aureus And Escherichia Coli	Rasayan Journal of Chemistry, Volume 15, Issue 2
2022	Performance of Primary Battery Prototype: Cu/Graphene Nano Sheets//Electrolyte//C-π (Graphite, Graphene Nano Sheets, N-Graphene Nano Sheets)	AIP Conference, Proceedings 2638
2022	Facile method to synthesize of magnesium-graphene nano sheets for candidate of primary battery electrode	Colloids and Interface Science Communications 48
2022	Developing Nickel/Graphene Nano Sheets as an alternative primary battery anode	Ceramics International 48(9), pp. 12897-12905
2022	Effect of Seed Layer on the Growth of Zinc Oxide Nanowires by Chemical Bath Deposition Method	Coatings 12(4)
2022	ESPotensio: A Low-Cost and Portable Potentiostat with Multi-Channel and Multi-Analysis Electrochemical Measurements	IEEE Access 10, pp. 112578-112593
2022	Facile synthesis of graphene oxide/Fe3O4 nanocomposite for electrochemical sensing on determination of dopamine	Nanocomposites 8(1), pp. 155-166
2021	The loading effect of Pt clusters on Pt/graphene nano sheets catalysts	Scientific Reports | (2021) 11:2532 | https://doi.org/10.10 38/s41598-020-80472-1
2021	Visible-Light Driven Ni-Incorporated Cds Photocatalytic Activities For Azo-Bond Cleavages With Hydrogenation Reaction	ChemistrySelect, Volume 6, Issue 9

2020	Facile And Benign Method To Produce Large Scale Graphene Nano Sheets	Iranian Journal of Chemistry and Chemical Engineering (IJCCE), Volume 39, Issue 6
2020	Properties of Mg/graphite and Mg/graphene as cathode electrode on primary cell battery	Heliyon 6 (2020) e03118, 1-5. https://doi.org/10.1016/j.heliyon.2019.e03118 (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6938904/pdf/main.pdf)
2020	New route: Convertion of coconut shell tobe graphite and graphene nano sheets	Journal of King Saud University – Science, Volume 32, Issue 1, January 2020, Pages 189-190. https://doi.org/10.1016/j.jksus.2018.04.016 (https://www.sciencedirect.com/science/article/pii/S1018364718300971).
2020	Analysis Of Harmful Ingredients In Student Snacks At Lubuk Pakam, Deli Serdang District, Indonesia	Rasayan J. Chem.
2020	Fabrication Of Silica-Based Chitosan Biocomposite Material From Volcanic Ash And Shrimp Husk By Sol Gel Method For Adsorbent Of Cadmium (Ii) Ions	Indian Journal of Chemical Technology, Volume 27, Issue 5
2020	Properties Of Mg/Graphite And Mg/Graphene As Cathode Electrode On Primary Cell Battery	Heliyon, Volume 6, Issue 1
2019	Analysis Of Nitrosamines In Processed Meat Products In Medan City By Liquid Chromatography-Mass Spectrometry	Open Access Macedonian Journal of Medical Sciences, Volume 7, Issue 8
2019	Phytochemical Screening And Antidiabetic Activity Of N-Hexane, Ethyl Acetate And Water Extract From Durian Leaves (Durio Zibethinus L.)	Oriental Journal of Chemistry, Volume 35, Issue 1
2019	Analysis of Nitrosamines in Processed Meat Products in Medan City by Liquid Chromatography- Mass Spectrometry	Open Access Maced J Med Sci. 2019; 7(8): 1382–1387. doi:10.3889/oamjms.2019.261 (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6514351/).
2018	Facile Method to Synthesize of N-Graphene Nano Sheets	Oriental Journal of Chemistry, Volume 34, Issue 4
2018	New Route to Synthesize of Graphene Nano Sheets	Oriental Journal of Chemistry, Volume 34, Issue 1
2018	The Influence Of Storage Condition On Nitrite, Nitrate And Vitamin C Levels In Vegetables	F1000Research, Volume 7, Pages 1899
2018	Role Of Tio2 Pillared Bentonite-Co Catalyst Ni To Convert Glucose Hydrogenation To Be Sorbitol	Journal of Physics: Conference Series,

		Volume 1116, Issue 4
2018	Role Of Tio_2 Pillared Bentonit And Catalyst Nickel For Hydrogenation Glucose To Generate Sorbitol	Oriental Journal of Chemistry, Volume 34, Issue 6
2018	The Influence Of Fertilizer On Nitrate, Nitrite And Vitamin C Contents In Vegetables	Oriental Journal of Chemistry, Volume 34, Issue 5
2018	Effect Of Tio2 For Generation Of H2/O2 Gases, Based On Splited Water And UV As Inisiator	Oriental Journal of Chemistry, Volume 34, Issue 2
2018	Synthesis And Application Of Silica Gel Based On Mount Sinabung Fly Ash For Cd (Ii) Removal With Fixed Bed Column	Rasāyan Journal of Chemistry [RJC], Volume 11, Issue 02
2018	Graphene Nanosheets Effect To Improve CO-Tolerance Of Pt/Graphene Nanosheets Catalyst	Oriental Journal of Chemistry, Volume 34, Issue 6
2017	Effect of Platinum loading on Graphene Nano Sheets at Cathode	Oriental Journal of Chemistry, Volume 33, Issue 1
2017	Effect of N-Doped Graphene for Properties of Pt/N-Doped Graphene Catalyst	ChemistrySelect, Volume 2, Issue 3
2014	Support Material Effect for Pt Catalytic Activity at Cathode	International Research Journal of Pure and Applied Chemistry, Volume 4, Issue 5
2013	Size Control to A Sub-Nanometer Scale in Platinum Catalysts on Graphene	The Journal of Physical Chemistry C, Volume 117, Issue 7
2012	Formation Process of Pt Subnano-Clusters on Graphene Nanosheets	The Journal of Physical Chemistry C, Volume 116, Issue 43

F. Intellectual Property Rights

Year	Title	Type of Intellectual Propert	Application Number
2025	Graphene for Energy Technology: Catalyst Applications and Future Fuel Cell Systems	Copyright	EC002025118404
2025	Reference Book Gender and Digital Entrepreneurship: Digital Skilland Empowerment Of Farmers In Indonesia	Copyright	EC002025150857
2024	Process for the Fabrication of Nickel/Nanosheet Graphene (GBN) as a Primary Battery Anode	Patent	S00202411989
2014	Performance of Coconut- and Candlenut-Based Primary Battery Electrodes	Copyright	EC00202432138
2022	Method for Producing Graphite from Coconut Shells through the Coconut Nucleation Stage	Patent	
2022	Performance of Magnesium/Nanosheet Graphene (Mg/GBN) and Nickel/Nanosheet	Copyright	EC002022114820

	Graphene (Ni/GBN) as Primary Battery Anodes		
2020	Application of Graphene as a Battery Electrod	Copyright	EC00202028393
2019	Synthesis of Nitrogen-Doped Graphene	Copyright	EC00201940726
2019	Room-Temperature Fabrication of N-Graphene	Simple Patent	S00201907443
2019	Graphene: Synthesis, Analysis, and Applications	Copyright	EC00201939080
2019	Analytical Chemistry Laboratory Manual (Qualitative Analysis)	Copyright	EC00201948448
2018	Polymer Materials Science	Copyright	EC00201825506
2018	Fabrication of Nanosheet Graphene from Coconut Shells	Patent	S00201802651
2017	Process for Producing Nanosheet Graphene from Graphite Raw Materials	Patent	P00201709425

G. Books Published in the Last Five Years

Numb	Title	Year	Number of Pages	Publisher
1	Performance of Coconut- and Candlenut-Based Primary Battery Electrodes	2024	70	USU Press
2	Performance of Graphitic Carbon-Based Secondary Battery Anodes	2024	70	PT Tri Selaras Cendekia
3	Application of Graphene as a Battery Electrode	2019	80	Pilar
4	Analytical Chemistry Laboratory Manual II: Quantitative Analysis	2018	70	SPS USU
5	Analytical Chemistry Laboratory Manual I: Qualitative Analysis	2018	70	SPS USU
6	Basic Chemistry I: Textbook	2018	150	Perdana Mulya Sarana
7	Graphene: Synthesis, Analysis, and Applications	2018	80	USU Press
8	Polymer: Materials Science	2017	90	USU Press
9	Prospect Graphene Nano Sheets for Fuel Cell	2014	200	Lambert Publishers

H. Conference Presentations and Scientific Meetings

Numb	Conference / Scientific Meeting	Scientific Paper / Presentation Title	Date and Venue
1	Joint Indonesia-UK Conference on Porous Materials	Synthesize Graphene Nano Sheets	Bali, 14-17 February 2015
2	2015 Indonesian-American Kavli Frontiers of Science Symposium	Properties of Graphene for Fuel Cell	Makassar, 26 July-1 August 2015
3	4th Annual Basic Science International Conference (BaSIC) 2014 in conjuction with 5th International Conference on Global Resource Concervation (ICGRC) 2014	Catalytic Activity and Interface Interaction between Pt and Graphene	Batu, February 12-13th 2014
4	3rd International Conference on Advanced Material and Practical Nanotechnology	Support Material Effect for Fuel Cell Electrode Catalyst	JIExpo Kemayoran, 14-16 August 2014
5	2nd National Science and Technology Seminar, Universitas Nusa Cendana	Synthesis of Graphene Using NH_3 as a Reducing Agent	Hotel Aston Kupang, 15-16 Oktober 2014
6	ICFCHT2013	Prospect of Graphene for Fuel Cell	Inna Garuda Hotel Yogyakarta, October 7-10,2013
7	IACIS2013	Synthesis Graphene by using hydrazine and sodium borohydride	Sendai, Japan, May 13- 18, 2012
8	SACSEM 2018	Graphene: Miracle material	November 8-9, 2018, Tsukuba University
9	ICST 2018	Graphene for Battery	May 4-6, 2018, MICC Medan
10	ICNRSD 2018	Prospect Graphene for Renewable Energy	August,2-3, 2018, Gramd Inna Hotel
11	Scientific Seminar and Research Dissemination Forum, Research Center for Drugs and Food	Direct Analysis untuk Analisis Bahan Makanan dan Minuman	Jakarta, 23-24 Mei 2017
12	ASAF Kyoto University	Social Changes and Effects on Health and Environment in Indonesia	10-20 January 2017

13	SELFUEL, Universiti Kebangsaan Malaysia (UKM)	Prospect Graphene for Fuel Cell	UKM, Malaysia 3-4 August 2017
14	Public Lecture at South Nias Education Foundation	Research Methodology	Teluk Dalam, 8 April 2017
15	Universiti Teknologi MARA (UiTM)	Research Collaboration	21-23 August 2019
16	The 9th ICICS, University of Mataram	Performance of Primary Battery Prototype: Cu/Graphene Nano Sheets//Electrolyte//C-Ï€ (Graphite, Graphene, N-Graphene)	11-12 Agustus 2021
17	Collaboration Innovation: Socio-Culture, Health, Science and Technology	Silver Doped Graphene Nanosheets: Structural Characterization and Electrochemical Properties for Primary Battery Applications	18 November 2025

Medan, 05 June 2026



Prof. Rikson Siburian, Ph.D

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