



2025

STAFF HANDBOOK

WELCOME TO PHYSICS UNMUL



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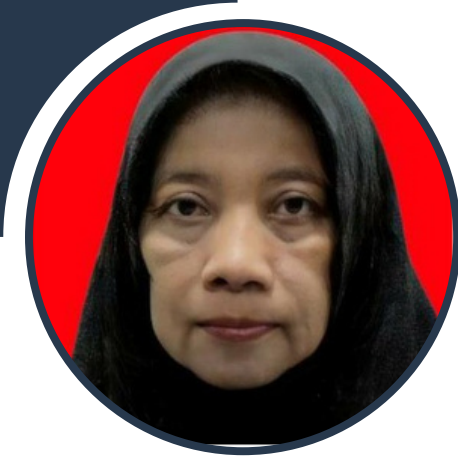
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PRATIWI SRI WARDANI

Associate Professor of Physics



EMPLOYMENT

Lecturer of Physics Department

Faculty of Mathematics and Natural Science
Universitas Mulawarman

1990 - Now

ACADEMIC CAREER

Universitas Negeri Surabaya

Doctorate Degree (Science Education)

Universitas Brawijaya

Master Degree (Public Health)

IKIP Malang

Bachelor Degree (Physics Education)

PATENTS AND PROPRIETARY RIGHTS

INDUSTRY COLLABORATIONS OVER THE LAST 5 YEARS

ACTIVITIES IN SPECIALIST BODIES OVER THE LAST 5 YEARS

AREA OF EXPERTISE

- Medical Physics
- Health Physics

CONTACT



wardani_pratiwisri@yahoo.com

RESEARCH AND DEVELOPMENT PROJECTS OVER THE LAST 5 YEARS

IMPROVING THE QUALITY OF CT-SCAN IMAGES OF STROKE PATIENTS BASED ON DOSE USING SSDE TECHNIQUE AND K-MEANS SEGMENTATION METHOD IN RADIOLOGY INSTALLATION RSUD A. W. SJAHRANIE SAMARINDA (2023) **10 Million**

SYNTHESIS AND FABRICATION OF BONE-LIKE RADIOLOGICAL PHANTOMS FROM BLOOD CLAM SHELLS (2024) **10 Million**

IMPORTANT PUBLICATIONS OVER THE LAST 5 YEARS

1. Norliani, N., Mislani, M., **Wardani, P.S.**, Putri, E.R. 2023. Analysis of Skin Protection from the Dangers of Sun Exposure Using Color Variations and Types of Cotton Fabrics. Vol 20, No. 1 (31-37) <http://dx.doi.org/10.20527/flux.v20i1.15172>
2. Jordan, A.R., **Wardani, P.S.**, Subagiada, K., Putri, D.R.P.S., Natalisanto, A.I. 2023. Assessment of Work Posture Risk Levels Using the REBA Method and Biomechanics in Lifting Activities. Vol. 4, No. 1 (231-238) <https://doi.org/10.30872/ppj.v4i1.1021>
3. Fathunnisa, M., **Wardani, P.S.**, Perwitasari, D.R. 2023. Analysis of the Effect of Age on the Absorption Dose of X-ray Radiation in Thorax Examination. Vol. 8, No. 2 (284-289) <https://doi.org/10.31572/inotera.Vol8.Iss2.2023.ID255>
4. Hemelia, J., **Wardani, P.S.**, Intifadhah, S.H., Zarkasi, A., Putri, D.R.P.S. 2024. Verification of Co-60 Source in Brachytherapy Equipment Using TW33005 Well-Type Chamber. Vol. 7, No.1 (12-16) <https://doi.org/10.14710/jpa.v7i1.24100>
5. Alya, N., Stevenly, R.J., **Wardani, P.S.**, Putri, E.R. Effect of Radiation Position of Photon Beam at Axis Point and Field Edge on Absorbed Dose on Linear Accelerator (Linac). 2024. Vol.9, No.1 (103-110) <https://doi.org/10.31572/inotera.Vol9.Iss1.2024.ID307>
6. Khadijah, S., Natalisanto, A.I., **Wardani, P.S.** 2024. Mapping of electromagnetic field radiation intensity in the jl base transceiver station (bts) area. kenangan 05 and the impact of health in society. Vol. 9, No. 1 (76-80) <https://doi.org/10.31572/inotera.Vol9.Iss1.2024.ID295>

MISLAN

Associate Professor of Physics



EMPLOYEMENT

Lecturer of Physics Department

Faculty of Mathematics and Natural Science
Universitas Mulawarman

1992 - Now

ACADEMIC CAREER

Universitas Mulawarman

Doctorate Degree (Forestry) 2015

Universitas Gadjah Mada

Master Degree (Geophysics) 1988

Universitas Jember

Bachelor Degree (Physics Education) 1990

PATENTS AND PROPRIETARY RIGHTS

INDUSTRY COLLABORATIONS OVER THE LAST 5 YEARS

ACTIVITIES IN SPECIALIST BODIES OVER THE LAST 5 YEARS

AREA OF EXPERTISE

- Environmental Physics
- Climatology
- Watershed Monitoring

CONTACT



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RESEARCH AND DEVELOPMENT PROJECTS OVER THE LAST 5 YEARS

HYDROMETRIC STUDY OF THE KARANG MUMUS RIVER TO SUPPORT DISASTER RISK REDUCTION IN THE KARANG MUMUS SUB-BASIN OF SAMARINDA CITY. (2022) **17 Million**

SOIL STRATIFICATION STUDY OF LANDSLIDE AREA IN BANTUAS ROAD SECTION USING RESISTIVITY GEOELECTRIC METHOD FOR DISASTER MITIGATION. (2023) **10 Million**

IDENTIFICATION OF GROUNDWATER AQUIFERS AND THEIR DISTRIBUTION IN THE NORTH SAMARINDA AREA TO DETERMINE THE POSITION OF DRILLING POINTS. (2024) **10 Million**

DESIGN OF A LOW-COST UNDERWATER SOUND RECORDING INSTRUMENT. (2024) **10 Million**

IMPORTANT PUBLICATIONS OVER THE LAST 5 YEARS

1. Syadariah, P., Putri, D.R.P.S., Wardani, P.S., **Mislan, M.**, Natalisanto, A.I. 2022. Whole Body Vibration Analysis of Public Transportation Drivers in Samarinda. Vol. 3 , No. 2 (164-169) <https://doi.org/10.30872/ppj.v3i2.915>
2. Ditya, Y.C., Dwirastina, M., Triharyuni, S., Herlina, N., **Mislan.**, Husnah. Identification components to assess the status of fisheries management in a tributary of the Balikpapan River East Kalimantan. 2023. Vol 442, 01032 <https://doi.org/10.1051/e3sconf/202344201032>
3. Fakhrudin, M., Turmudi., Setiawan, F., **Mislan.** Hydrological characteristics of Mahakam cascade lake as a reference for the sustainability management. 2023. doi:10.1088/1755-1315/1260/1/012032
4. **Mislan, M.**, Dani, A.T.R. 2024. Forecasting maximum water level data for post sangkuliman using an artificial neural network backpropagation algorithm. Vol. 8, No. 2 (465-478) <https://doi.org/10.31764/jtam.v8i2.20112>
5. Dani, A.T.R., **Mislan, M.**, Putra, F.B. 2024. The Modeling Maximum Water Level in Sangkuliman East Borneo using Singular Spectrum Analysis. Vol. 4, No. 2 (89-98) <https://doi.org/10.35877/mathscience2945>
6. **Mislan, M.**, Khoirunnisa, N., Rahmiari, R., Djayus, D., Supriyanto, S. 2024. Assessment of Land Use and Topographic Conditions in Karang Mumus Sub Watershed, Samarinda City. Vol. 7, No. 2 (107-115)

DJAYUS

Associate Professor of Physics



EMPLOYEMENT

Lecturer of Physics Department

Faculty of Mathematics and Natural Science
Universitas Mulawarman
2001 - Now

ACADEMIC CAREER

Universitas Mulawarman

Doctorate Degree (Forestry Science -
Forest Environment) 2017

Institut Teknologi Bandung

Master Degree (Geophysical
Engineering) 2008

Universitas Malang

Bachelor Degree (Physics Education)
1992

PATENTS AND PROPRIETARY RIGHTS

INDUSTRY COLLABORATIONS OVER THE LAST 5 YEARS

ACTIVITIES IN SPECIALIST BODIES OVER THE LAST 5 YEARS

- Member of the Indonesian Association of Geophysicists (2000-2025)
- Team and Management Members of the Center for Environmental and Natural Resources Studies (PSLHSDA), Mulawarman University (2001-2025)

AREA OF EXPERTISE

- Environmental Physics & Geophysics
- Exploration Geophysics

CONTACT



djayus_fmipa@yahoo.com

RESEARCH AND DEVELOPMENT PROJECTS OVER THE LAST 5 YEARS

HYDROMETRIC STUDY OF THE KARANG MUMUS RIVER TO SUPPORT DISASTER RISK REDUCTION IN THE KARANG MUMUS SUB-BASIN OF SAMARINDA CITY. (2022) **17 Million**

APPLICATION OF GEOPHYSICS FOR SOIL STRUCTURE FORENSICS IN LANDSLIDE ROAD MANAGEMENT IN MUARA BADAQ SUB-DISTRICT, KUTAI KARTANEGARA DISTRICT, EAST KALIMANTAN. (2022) **15 Million**

SOIL STRATIFICATION STUDY OF LANDSLIDE AREA IN BANTUAS ROAD SECTION USING RESISTIVITY GEOELECTRIC METHOD FOR DISASTER MITIGATION. (2023) **10 Million**

IDENTIFICATION OF GROUNDWATER AQUIFERS AND THEIR DISTRIBUTION IN THE NORTH SAMARINDA AREA TO DETERMINE THE POSITION OF DRILLING POINTS. (2024) **10 Million**

MAPPING CLAY SHALE AND ITS INFLUENCE ON SPONGE CITY PLAN IN IKN AREA WITH RESISTIVITY GEOLISTIC METHOD. (2024) **10 Million**

LANDSLIDE IDENTIFICATION ON THE SAMARINDA-BALIKPAPAN ROAD, LOA JANAN SECTION USING RESISTIVITY GEOELECTRIC METHOD FOR DISASTER MITIGATION. (2025) **20 Million**

IMPORTANT PUBLICATIONS OVER THE LAST 5 YEARS

1. Sadewo, W., Subagiada, K., **Djayus, D.** 2023. Analysis of Erosion Rate Classification Using the Universal Soil Loss Equation (USLE) Method with GIS in Samarinda City. Vol. 6, No. 1 (53-62)
<https://doi.org/10.30872/geofisunmul.v6i1.1011>
2. Sadewo, H.H., **Djayus, D.** 2024. Identification of aquifers using geoelectric mapping and sounding methods in Tanah Merah village, North Samarinda district. Vol. 3095, No. 1
<https://doi.org/10.1063/5.0204787>
3. Mislan, M., Khoirunnisa, N., Rahmiati, R., **Djayus, D.**, Supriyanto, S. 2024. Assessment of Land Use and Topographic Conditions in Karang Mumus Sub Watershed, Samarinda City. Vol. 7, No. 2 (107-115)
4. Arrosyidah, M.R., **Djayus, D.**, Mislan, M., Munir, R. 2024. Water Infiltration Rate in Biopore Holes on Various Soil Types in Loa Bakung Village. Vol. 7, No. 1 (28-36) <https://doi.org/10.30872/geofisunmul.v7i1.1237>
5. Haryono, A., Supriyanto, S., **Djayus, D.**, Mislan, M., Leping, P., Abbas, A.Y.P. 2024. Study of soil stratification in landslide areas on Bantuas road using the resistivity geoelectric method. Vol. 7, No.1 (133-142) DOI: 10.29303/ipr.v7i1.297
6. Wahidah, W., Leping, P., Alamsyah, A., **Djayus, D.**, Supriyanto, S. 2024. Analysis and evaluation of stability for the reactivated road landslide using electrical resistivity and induced polarization in Muara Badak district, East Kalimantan, Indonesia. Vol. 3095, No. 1
<https://doi.org/10.1063/5.0205097>
7. Sadewo, H.H., **Djayus, D.**, Mislan, M., Leping, P., 2025. Continuity Analysis of Groundwater Aquifers Using Geoelectrical Vertical Electrical Sounding (VES) Method with Schlumberger Configuration in Serayu-Citanduy Road and Golf Course, Tanah Merah Village, North Samarinda District, Indonesia Vol. 10, No. 1(104-112),
<https://doi.org/10.25299/jgeet.2025.10.1.10571>

SUPRIYANTO

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EMPLOYEMENT

Lecturer of Physics Department

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1993 - Now

ACADEMIC CAREER

Institut Teknologi Bandung

Doctorate Degree (Geophysical
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Master Degree (Environmental Science)

Universitas Jember

Bachelor Degree (Physics)

PATENTS AND PROPRIETARY RIGHTS

INDUSTRY COLLABORATIONS OVER THE LAST 5 YEARS

ACTIVITIES IN SPECIALIST BODIES OVER THE LAST 5 YEARS

AREA OF EXPERTISE

- Environmental Physics & Geophysics
- Exploration Geophysics

CONTACT



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RESEARCH AND DEVELOPMENT PROJECTS OVER THE LAST 5 YEARS

HYDROMETRIC STUDY OF THE KARANG MUMUS RIVER TO SUPPORT
DISASTER RISK REDUCTION IN THE KARANG MUMUS SUB-BASIN OF
SAMARINDA CITY. (2022) **17 Million**

APPLICATION OF GEOPHYSICS FOR SOIL STRUCTURE FORENSICS IN
LANDSLIDE ROAD MANAGEMENT IN MUARA BADAQ SUB-DISTRICT,
KUTAI KARTANEGARA DISTRICT, EAST KALIMANTAN. (2022) **15 Million**

SOIL STRATIFICATION STUDY OF LANDSLIDE AREA IN BANTUAS ROAD
SECTION USING RESISTIVITY GEOELECTRIC METHOD FOR DISASTER
MITIGATION. (2023) **10 Million**

MAPPING CLAY SHALE AND ITS INFLUENCE ON SPONGE CITY PLAN IN
IKN AREA WITH RESISTIVITY GEOLISTIC METHOD. (2024) 10 Million.

IMPORTANT PUBLICATIONS OVER THE LAST 5 YEARS

1. Khotimah, K., **Supriyanto, S.**, Natalisanto, A.I., Asmaidi, A.
2022. Analysis of changes in the physical properties
(viscosity, density, surface tension and temperature drop
rate coefficient) of coconut oil under multiple heatings.
Vol. 3, No. 2 DOI: 10.30872/ppj.v3i2.931
2. Mislan, M., Khoirunnisa, N., Rahmiati, R., Djayus, D.,
Supriyanto, S. 2024. Assessment of Land Use and
Topographic Conditions in Karang Mumus Sub Watershed,
Samarinda City. Vol. 7, No. 2 (107-115)
3. Haryono, A., **Supriyanto, S.**, Djayus, D., Mislan, M., Lepong,
P., Abbas, A.Y.P. 2024. Study of soil stratification in
landslide areas on Bantuas road using the resistivity
geoelectric method. Vol. 7, No.1 (133-142) DOI:
10.29303/ipr.v7i1.297
4. Wahidah, W., Lepong, P., Alamsyah, A., Djayus, D.,
Supriyanto, S. 2024. Analysis and evaluation of stability for
the reactivated road landslide using electrical resistivity
and induced polarization in Muara Badak district, East
Kalimantan, Indonesia. Vol. 3095, No. 1
<https://doi.org/10.1063/5.0205097>

DADAN HAMDANI

Associate Professor of Physics



EMPLOYEMENT

Lecturer of Physics Department

Faculty of Mathematics and Natural Science
Universitas Mulawarman

2001 - Now

ACADEMIC CAREER

Institut Teknologi Sepuluh Nopember
Doctorate Degree (Physics) 2021

Institut Teknologi Bandung
Master Degree (Physical Oceanography)
2001

Universitas Padjadjaran
Bachelor Degree (Physics) 1997

INDUSTRY COLLABORATIONS OVER THE LAST 5 YEARS

- Project: Preparation of the Greenhouse Gas (GHG) Emission Inventory Document for Kutai Kartanegara Regency, 2024 with DLHK Kabupaten Kutai Kartanegara. **IDR 86 million**
- Project: Preparation of the Greenhouse Gas (GHG) Emission Inventory Document for Kutai Kartanegara Regency, 2024 with DLHK Kabupaten Kutai Kartanegara. **IDR 169 million**
- Project: Preparation of the Greenhouse Gas (GHG) Emission Inventory Document for Bulungan Regency, 2024 with DLHK Kabupaten Bulungan. **IDR 230 million**
- Project: Preparation of the Greenhouse Gas (GHG) Emission Inventory Document for Kutai Kartanegara Regency, 2023 with DLHK Kabupaten Kutai Kartanegara **IDR 154 million**
- Project: Preparation of the Greenhouse Gas (GHG) Emission Inventory Document for Kutai Kartanegara Regency, 2022 with DLHK Kabupaten Kutai Kartanegara **IDR 28 million**

ACTIVITIES IN SPECIALIST BODIES OVER THE LAST 5 YEARS

- Member of Physics Society of Indonesia (PSI) (2019-Now)

CONTACT



d.hamdani1973@gmail.com

RESEARCH AND DEVELOPMENT PROJECTS OVER THE LAST 5 YEARS

Development of Composite Material Based on Eggshell Waste (ES) and Titanium Dioxide (TiO₂) as an Adsorbent for Water Purification (2024). **IDR 129 million**

Synthesis of Activated Carbon Material from Oil Palm Frond Waste (Elaeis guineensis Jacq.) as Electrode Base for Supercapacitors (2024). **IDR 10 million.**

Synthesis and Characterization of TiO₂-Eggshell Powder (ES) Composites with Varying Mass Compositions for Methylene Blue Photodegradation (2024). **IDR 10 million**

Temperature Control of PV Modules Integrated in a Hybrid PV/T System Using Water Spray Cooling Technique: An Experimental Study (2022). **IDR 18 million.**

IMPORTANT PUBLICATIONS OVER THE LAST 5 YEARS

1. Prayogi, S., & **Hamdani, D.** (2025). Optimizing carrier transport properties in the intrinsic layer of a-Si single and double junction solar cells through numerical design. Indonesian Journal of Electrical Engineering and Computer Science, 37(1), 69-77. <http://doi.org/10.11591/ijeecs.v37.i1.pp69-77>
2. Munir, R., **Hamdani, D.**, Marlina, E., Munir, R., Intifadhah, S. H., & Kusuma, R. (2025). The solid state dispersion method for synthesizing eggshells ES/TiO₂ composite to enhance photocatalytic degradation methylene blue. MethodsX, 14, 103150. <https://doi.org/10.1016/j.mex.2024.103150>
3. Intifadhah, S. H., Munir, R., **Hamdani, D.**, Natalisanto, A. I., & Mulyono, S. (2025). Surface Area Analysis of Activated Carbon Material from Palm Frond Waste using Different Activation Agents. Indonesian Journal of Applied Physics, 15(1), 193-203. <https://doi.org/10.13057/ijap.v15i1.96045>
4. **Hamdani, D.**, Zarkasi, A., Nurhanafi, K., Intifadhah, S. H., & Munir, R. (2024, April). Design, operation, and control of PV hybrid power system (PV-HPS). In AIP Conference Proceedings (Vol. 3095, No. 1). AIP Publishing. <https://doi.org/10.1063/5.0205378>
5. Satriani, I. L., Munir, R., Natalisanto, A. I., & **Hamdani, D.** (2023) Analysis of ITO/a-Si: H (p)/a-Si: H (i)/c-Si (n)/Al HIT (Heterostructure with Intrinsic Thin Layer) solar cell performances. ELKHA: Jurnal Teknik Elektro, 15(1), 11-17. Analysis of ITO/a-Si: H (p)/a-Si: H (i)/c-Si (n)/Al HIT (Heterostructure with Intrinsic Thin Layer) solar cell performances. Analysis of ITO/a-Si: H (p)/a-Si: H (i)/c-Si (n)/Al HIT (Heterostructure with Intrinsic Thin Layer) solar cell performances. <https://doi.org/10.26418/elkha.v15i1.61351>
6. Munir, R., Zarkasi, A., **Hamdani, D.**, Intifadhah, S. H., Perdana, A., & Putra, A. S. P. (2023). Synthesis and Modeling of Adsorbents from Natural Materials for Heavy Metal Lead in Mahakam River Water Samples. Jurnal Fisika Flux: Jurnal Ilmiah Fisika FMIPA Universitas Lambung Mangkurat, 20(3), 209-216. <http://dx.doi.org/10.20527/flux.v20i3.16934>
7. Yada'Acang, P., Munir, R., Zarkasi, A., & **Hamdani, D.** (2023, July). Photovoltaic Power Plant Monitoring by Using Low-Cost Internet of Things (IoT): Design and Implementation. In Proceedings of the International Conference of Tropical Studies and Its Applications (ICTROPS 2022) (Vol. 31, p. 258). Springer Nature. https://doi.org/10.2991/978-94-6463-180-7_28
8. Putra, A. S. P., Perdana, A., Zarkasi, A., **Hamdani, D.**, & Munir, R. (2023). Removal of heavy metals (Fe and Pb) in the mahakam river water using eggshells and rubbing ash as adsorbent. In International Conference on Tropical Studies (ICTROPS) (Vol. 2, No. 1, pp. 327-334).
9. **Hamdani, D.**, Prayogi, S., Cahyono, Y., Yudoyono, G., & Darminto, D. (2022). The influences of the front work function and intrinsic bilayer (i1, i2) on pin based amorphous silicon solar cell's performances: A numerical study. Cogent Engineering, 9(1), 2110726. <https://doi.org/10.1080/23311916.2022.2110726>
10. **Hamdani, D.**, Prayogi, S., Cahyono, Y., Yudoyono, G., & Darminto, D. (2022). The Effects of Dopant Concentration on the Performances of the a-SiOx: H (p)/a-Si: H (i1)/a-Si: H (i2)/μc-Si: H (n) Heterojunction Solar Cell. International Journal of Renewable Energy Development, 11(1), 173. <https://doi.org/10.14710/ijred.2022.40193>
11. Prayogi, S., Cahyono, Y., & **Hamdani, D.** (2022). Effect of active layer thickness on the performance of amorphous hydrogenated silicon solar cells. Engineering and Applied Science Research, 49(2), 201-208. <https://doi.org/10.14456/easr.2022.22>
12. **Hamdani, D.**, Cahyono, Y., Yudoyono, G., & Darminto, D. (2021). Performances analysis of heterojunction solar cells through integration of hydrogenated nanocrystalline silicon bilayer by using numerical study. Molecular Crystals and Liquid Crystals, 725(1), 91-110. <https://doi.org/10.1080/15421406.2021.1922226>

AREA OF EXPERTISE

- Theoretical & Material Physics
- Renewable Energy Materials
- Climate Change Adaptation for Humid Tropical Environment

5

IDRIS MANDANG

Associate Professor of Physics



EMPLOYEMENT

Lecturer of Physics Department

Faculty of Mathematics and Natural Science
Universitas Mulawarman

1998 - Now

ACADEMIC CAREER

Kyushu University

Doctorate Degree (Earth System
Science & Technology)

Institut Teknologi Bandung

Master Degree (Oceanography and
Atmospheric Science)

Universitas Hasanuddin

Bachelor Degree (Physics)

PATENTS AND PROPRIETARY RIGHTS

INDUSTRY COLLABORATIONS OVER THE LAST 5 YEARS

ACTIVITIES IN SPECIALIST BODIES OVER THE LAST 5 YEARS

AREA OF EXPERTISE

- Oceanography
- Earth Science

CONTACT



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RESEARCH AND DEVELOPMENT PROJECTS OVER THE LAST 5 YEARS

SPATIAL ANALYSIS OF MORPHOLOGICAL CHANGE DYNAMICS OF THE OUTER SIDE OF THE MAHAKAM DELTA, EAST KALIMANTAN (2024). **10 Million**

ANALYSIS OF THE INFLUENCE OF ENSO AND DIPOLE MODE INDEX ON EVAPORATION IN THE MAKASSAR STRAIT USING THE BOWEN RATIO METHOD (2023). **10 Million**

DEVELOPMENT OF HYDRODYNAMICS AND ECOSYSTEM MODELS FOR CLIMATE CHANGE MITIGATION ESTIMATION OF THE PHYSICAL ENVIRONMENT AND ECOSYSTEMS IN THE MAHAKAM DELTA ESTUARY EAST KALIMANTAN (2022). **17 Million**

Assessment of Marine Ecosystem Resilience due to climate change and human activities in relation to the development of the National Capital in the Balikpapan Bay area, East Kalimantan (2021). **56 Million**

IMPORTANT PUBLICATIONS OVER THE LAST 5 YEARS

1. Putri, M. R., Sari, T., Anwar, I. P., **Mandang, I.**, Setiawan, A., Tatipatta, W. M. 2021. Analysis of sea level changes in Balikpapan Bay as basic data for strategic planning the new capital city of Republic of Indonesia. J. Phys.: Conf. Ser. 1763 012043 DOI : 10.1088/1742-6596/1763/1/012043
2. Anwar, I. P., Putri, M. R., Tarya, A., **Mandang, I.** 2021. Variation of water mass exchange on tidal scale in Balikpapan Bay. IOP Conf. Ser.: Earth Environ. Sci. 925 012013 DOI : 10.1088/1755-1315/925/1/012013
3. nur, A. A., Suprijo, T., **Mandang, I.**, Radjawane, I. M., Park, H., Khadami, F. 2021. Ocean Modeling in the Makassar Strait and Balikpapan Bay Using Online Nesting Method. Journal of Coastal Research <https://www.jstor.org/stable/48638748>
4. Sifriyani, S., **Mandang, I.**, Amijaya, F. D. T., Ruslan, R. 2022. DEVELOPING GEOGRAPHICALLY WEIGHTED PANEL REGRESSION MODEL FOR SPATIO-TEMPORAL ANALYSIS OF COVID-19 POSITIVE CASES IN KALIMANTAN, INDONESIA. Vol. 57, No. 3 <https://doi.org/10.35741/issn.0258-2724.57.3.10>
5. Sifriyani, S., **Mandang, I.**, Amijaya, F. D. T., Solihin, M., Dani, A. T. R. 2022. A SPATIO-TEMPORAL DESCRIPTION OF COVID-19 CASES IN EAST BORNEO USING IMPROVED GEOGRAPHICALLY AND TEMPORALLY WEIGHTED REGRESSION (I-GTWR) <https://doi.org/10.28919/cmbn/7572>
6. **Mandang, I.**, Rahmiati, R. 2022. Influences El Nino Southern Oscillation (ENSO) on rainfall in East Kalimantan-Indonesia AIP Conf. Proc. 2668, 040001. <https://doi.org/10.1063/5.0113918>
7. Putri, M. R., Alghifari, N., Bernawis, L. I., Setiawan, A., **Mandang, I.** 2022. Numerical assessment of flushing time in Balikpapan Bay. AIP Conf. Proc. 2668, 040002. <https://doi.org/10.1063/5.0111776>
8. Sifriyani, S., **Mandang, I.**, Amijaya, F. D. T. 2022. Geographically temporally weighted regression model for GIS mapping of influence covid-19 in East Kalimantan. AIP Conf. Proc. 2668, 070012. <https://doi.org/10.1063/5.0111808>
9. Anwar, I. P., Putri, M. R., Setiawan, A., Tarya, A., **Mandang, I.**, Nurfitri, S., Tatipatt, W. M. 2023. Detecting chlorophyll-a concentration and bloom patterns in the coastal area around Indonesia's new capital city (Nusantara) using ocean color reanalysis data
10. Anwar, I. P., Putri, M. R., Setiawan, A., Tarya, A., **Mandang, I.**, Nurfitri, S., Purnaningtyas, D. W. 2024 Assessment of Phytoplankton Community and Diversity Dynamics on the Neap Tide in Balikpapan Bay, East Kalimantan, Indonesia. Pol. J. Environ. Stud. Vol. 33, No. 1 (77-88) DOI: 10.15244/pjoes/168107



MUSTAID YUSUF

Associate Professor of Physics

RESEARCH AND DEVELOPMENT PROJECTS OVER THE LAST 5 YEARS

Spatial Analysis of the Dynamics of Morphological Changes on the Outer Side of the Mahakam Delta, East Kalimantan (2024) **10 Million**.

ANALYSIS OF THE EFFECT OF ENSO AND DIPOLE MODE INDEX ON EVAPORATION IN THE MAKASSAR STRAIT USING THE BOWEN RATIO METHOD (2023) **10 Million**

Potential Resources of Coastal Areas and Small Islands in East Kalimantan and Management Strategies (2020) **151 Million**

EMPLOYEMENT

Lecturer of Physics Department

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Universitas Mulawarman

1998 - Now

ACADEMIC CAREER

Kyushu University

Doctorate Degree (Earth System
Science & Technology)

Institut Teknologi Bandung

Master Degree (Oceanography and
Atmospheric Science)

Universitas Hasanuddin

Bachelor Degree (Physics)

PATENTS AND PROPRIETARY RIGHTS

INDUSTRY COLLABORATIONS OVER THE LAST 5 YEARS

ACTIVITIES IN SPECIALIST BODIES OVER THE LAST 5 YEARS

AREA OF EXPERTISE

- Hydro-Oceanography
- Oceanographic Modeling

CONTACT



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IMPORTANT PUBLICATIONS OVER THE LAST 5 YEARS

- 1.R Kusmardiyanti, **M Yusuf**, D Djayus, R Rahmiati (2022). Study of the Effect of Sea Surface Temperature in the Makassar Strait on Rainfall Intensity in Balikpapan City. Geosains Kutai Basin 5 (2), 48-54 <https://doi.org/10.30872/geofisunmul.v5i2.794>
- 2.SE Rahman, **M Yusuf**, YN Nasution (2022). Numerical Study of Hydrodynamics in the waters of Balikpapan Bay using Finite Volume Method. GEOSAINS KUTAI BASIN 5 (1), 8-15
- 3.RAD Maulana, **M Yusuf**, DR Perwitasari (2021). Numerical Study of Upwelling in the Waters of East Kalimantan. GEOSAINS KUTAI BASIN 4 (1)

ADRIANUS INU NATALISANTO

Assistant Professor of Physics



EMPLOYEMENT

Lecturer of Physics Department

Faculty of Mathematics and Natural Science
Universitas Mulawarman

2000 - Now

ACADEMIC CAREER

Universitas Gadjah Mada

Doctorate Degree (Physics) 2013

Universitas Gadjah Mada

Master Degree (Physics) 2008

Universitas Gadjah Mada

Bachelor Degree (Physics) 1999

PATENTS AND PROPRIETARY RIGHTS

INDUSTRY COLLABORATIONS OVER THE LAST 5 YEARS

ACTIVITIES IN SPECIALIST BODIES OVER THE LAST 5 YEARS

- Member of Physics Society of Indonesia (PSI) (2020-Now)

AREA OF EXPERTISE

- Theoretical & Material Physics
- Mathematical Modelling for Physical System

CONTACT



adrianus.inu@gmail.com

RESEARCH AND DEVELOPMENT PROJECTS OVER THE LAST 5 YEARS

Synthesis of Activated Carbon Material from Oil Palm Frond Waste (*Elaeis guineensis* Jacq.) as Electrode Base for Supercapacitors (2024). **IDR 10 million.**

Synthesis and Characterization of TiO_2 -Eggshell Powder (ES) Composites with Varying Mass Compositions for Methylene Blue Photodegradation (2024). **IDR 10 million**

IMPORTANT PUBLICATIONS OVER THE LAST 5 YEARS

- Intifadhah, S.H., Munir, R., Hamdani, D., **Natalisanto, A.I.**, Mulyono, S. 2025. SURFACE AREA ANALYSIS OF ACTIVATED CARBON MATERIAL FROM PALM FROND WASTE USING DIFFERENT ACTIVATION AGENTS. Vol. 15, No. 1 (193-203) <https://doi.org/10.13057/ijap.v15i1.96045>
- Ahmad Zarkasi, Muhammad Fauzan Hananda Putra, **Adrianus Inu Natalisanto**, Kholis Nurhanafi, Muhammad Hidayatullah, Amirin Kusmiran, Amalia C. Nuraidha. 2025. A GUI-BASED DATA ACQUISITION SYSTEM FOR EIT USING TWO CURRENT INJECTION METHODS. Vol. 07, Issue 3 (379-397) <https://ipr.unram.ac.id/index.php/ipr/article/view/356/148>
- Feni Eka Novitasaria, **Adrianus Inu Natalisanto**, Devina Rayzy Perwitasari, Retno Zurma. 2024. PRECISION AND STABILITY TESTSANALYSIS OF THE DOSE CALIBRATOR CRC-25R. Vol. 09, No. 1 (15-19) <https://inotera.poltas.ac.id/index.php/inotera/article/view/286/217>
- Aly Hasan, **Adrianus Inu Natalisanto**, Ahmad Zarkasi. 2024. DETERMINING THERELATIONSHIP BETWEEN TEMPERATURE AND TUNINGFORK FREQUENCY CHANGESWITH POLYNOMIAL REGRESSION MODELLING. Vol. 07, Issue 2 (175-184) <https://ipr.unram.ac.id/index.php/ipr/article/view/263/129>
- Akbar Perdana, Ahmad Zarkasi, Dadan Hamdani, **Adrianus Inu Natalisanto**, Rahmawati Munir. 2023. KARAKTERISTIK ADSORBEN AMPAS TEH DALAM MENYERAP ION LOGAM TIMBAL MENGGUNAKAN MODEL ISOTERM LANGMUIR. Vol. 07, No. 1 (90-97) <https://jurnal.unpad.ac.id/jiif/article/view/42746>
- Risma Nur Wahyuni, **Adrianus Inu Natalisanto**, Erlinda Ratnasari Putri, Mislan, Supriyanto. 2023. ANALISIS TINGAT PENCAHAYAAN ALAMI DAN BUATAN RUANG-RUANG KULIAH DI SCIENCE LEARNING CENTER (SLC) FAKULTAS MATEMATIKA DAN ILMU PENGETAHUAN ALAM UNIVERSITAS MULAWARMAN. Vol. 04, No. 2 (283-290) <https://jurnal.fmipa.unmul.ac.id/index.php/ppj/article/view/1022/577>
- Igor Levi Satriani, Rahmawati Munir, **Adrianus Inu Natalisanto**, Dadan Hamdan. ANALYSIS OF ITO/A-Si:H(P)/A-Si:H(I)/C-Si(N)/AL HIT (HETEROSTRUCTURE WITH INTRINSIC THIN LAYER) SOLAR CELL PERFORMANCES. Vol. 15, No. 1 (11-17) <https://jurnal.untan.ac.id/index.php/Elkha/article/view/61351>

SUHADI MULIYONO

Assistant Professor of Physics



EMPLOYEMENT

Lecturer of Physics Department

Faculty of Mathematics and Natural Science
Universitas Mulawarman

2000 - Now

ACADEMIC CAREER

Universitas Gadjah Mada

Master Degree (Physics) 2003

Universitas Brawijaya

Bachelor Degree (Physics) 1997

PATENTS AND PROPRIETARY RIGHTS

INDUSTRY COLLABORATIONS OVER THE LAST 5 YEARS

ACTIVITIES IN SPECIALIST BODIES OVER THE LAST 5 YEARS

- Member of Physics Society of Indonesia (PSI) (2020-Now)

AREA OF EXPERTISE

- Theoretical & Material Physics
- Symmetry in Crystalline Materials
- Energy Gap in Semiconductor Crystals Based on Quantum Mechanics

CONTACT



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RESEARCH AND DEVELOPMENT PROJECTS OVER THE LAST 5 YEARS

Synthesis of Activated Carbon Material from Oil Palm Frond Waste (*Elaeis guineensis* Jacq.) as Electrode Base for Supercapacitors (2024). **IDR 10 million.**

Synthesis and Characterization of TiO_2 -Eggshell Powder (ES) Composites with Varying Mass Compositions for Methylene Blue Photodegradation (2024). **IDR 10 million**

IMPORTANT PUBLICATIONS OVER THE LAST 5 YEARS

1. Intifadhah, S.H., Munir, R., Hamdani, D., Natalisanto, A.I., **Mulyono, S.** 2025. Surface Area Analysis of Activated Carbon Material From Palm Frond Waste Using Different Activation Agents. Vol. 15, No. 1 (193-203)
<https://doi.org/10.13057/ijap.v15i1.96045>
2. Hadi, M., **Mulyono, S.** 2025. A Weak Gravitational Knot (2+1)-Dimensional Empty Space-Time. Vol. 08, No. 1 (238-252)
<https://doi.org/10.29303/ipr.v8i1.346>
3. Hadi, M., **Mulyono, S.** 2024. Geometrical Optics as an Abelian $U(1)$ Gauge Theory in a Vacuum Space-Time. Vol. 07, No. 1 (143-151) <https://doi.org/10.29303/ipr.v7i1.278>
4. Maharani, S., **Mulyono, S.**, Putri, E.R. 2022. The Relationship Between Electrical Conductivity and Concentration of Table Salt Solution. Vol. 3, No. 2 (157-163)
<https://doi.org/10.30872/ppj.v3i2.906>
5. Lestiyani, M., **Mulyono, S.**, Putri, D.R.P.S. 2021. The Relationship Between The Sound Intensity Level and The Distance from a Power Generator Set (Genset) at Dayaku Raja Hospital in Kota Bangun. Vol. 2, No. 2 (70-78) <https://doi.org/10.30872/ppj.v2i2.773>
6. Fitriyana, M., **Mulyono, S.**, Subagiada, K. 2020. Determining of Machine Factor at The Dr. Kanujoso Djatiwibowo Hospital in Balikpapan. Vol. 01, No. 01 (29-39)
<https://doi.org/10.30872/ppj.v1i1.563>

RAHMAWATI MUNIR

Assistant Professor of Physics



EMPLOYEMENT

Lecturer of Physics Department

Faculty of Mathematics and Natural Science
Universitas Mulawarman

2006 - Now

ACADEMIC CAREER

Institut Teknologi Bandung

Doctorate Degree (Physics) 2020

Institut Teknologi Bandung

Master Degree (Physics) 2011

Universitas Hasanuddin

Bachelor Degree (Physics) 2003

PATENTS AND PROPRIETARY RIGHTS

- A Novel Non-Contact Method for Measuring the Elastic Modulus of Materials (Institut Teknologi Bandung) 2019

INDUSTRY COLLABORATIONS OVER THE LAST 5 YEARS

ACTIVITIES IN SPECIALIST BODIES OVER THE LAST 5 YEARS

- Member of Physics Society of Indonesia (PSI) (2019-Now)
- Member of Asosiasi Perguruan Tinggi Fisika dan Pendidikan Fisika Indonesia (APTIFINDO)

CONTACT



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RESEARCH AND DEVELOPMENT PROJECTS OVER THE LAST 5 YEARS

Development of Composite Material Based on Eggshell Waste (ES) and Titanium Dioxide (TiO₂) as an Adsorbent for Water Purification (2024). **IDR 129 million**

Synthesis of Activated Carbon Material from Oil Palm Frond Waste (Elaeis guineensis Jacq.) as Electrode Base for Supercapacitors (2024). **IDR 10 million.**

Design of a Low-Cost Underwater Sound Recording Instrument (2024). **IDR 10 million**

Synthesis and Fabrication of Radiology Phantom Mimicking Bone from Blood Cockle Shells (2024). **IDR 10 million**

Synthesis and Characterization of TiO₂-Eggshell Powder (ES) Composites with Varying Mass Compositions for Methylene Blue Photodegradation (2024). **IDR 10 million**

Temperature Control of PV Modules Integrated in a Hybrid PV/T System Using Water Spray Cooling Technique: An Experimental Study (2022). **IDR 18 million.**

IMPORTANT PUBLICATIONS OVER THE LAST 5 YEARS

1. Munir, R., Hamdani, D., Marlina, E., **Munir, R.**, Intifadhah, S. H., & Kusuma, R. (2025). The solid-state dispersion method for synthesizing eggshells ES/TiO₂ composite to enhance photocatalytic degradation methylene blue. *MethodsX*, 14, 103150. <https://doi.org/10.1016/j.mex.2024.103150>
2. Intifadhah, S. H., **Munir, R.**, Hamdani, D., Natalisanto, A. I., & Mulyono, S. (2025). Surface Area Analysis of Activated Carbon Material from Palm Frond Waste using Different Activation Agents. *Indonesian Journal of Applied Physics*, 15(1), 193-203. <https://doi.org/10.13057/ijap.v15i1.96045>
3. Darnah D., Hayati, M. N., Wahyuningsih, S., Kamaruddin, I., Dani, A. T. R., Goejantoro, R., Yuniarti, D., ... & **Munir, R.** (2025). Locally kernel weighted maximum likelihood estimator for local linear multi-predictor poisson regression. *MethodsX*, 14, 103258. <https://doi.org/10.1016/j.mex.2025.103258>
4. Hamdani, D., Zarkasi, A., Nurhanafi, K., Intifadhah, S. H., & **Munir, R.** (2024, April). Design, operation, and control of PV hybrid power system (PV-HPS). In *AIP Conference Proceedings* (Vol. 3095, No. 1). AIP Publishing. <https://doi.org/10.1063/5.0205378>
5. Abdullah, M., Rahmayanti, H. D., Yuliza, E., & **Munir, R.** (2023). The stable and unstable oscillations of a rod attached to many springs. *European Journal of Physics*, 44(5), 055004. <http://dx.doi.org/10.1088/1361-6404/acdb0f>
6. **Munir, R.**, Zarkasi, A., Hamdani, D., Intifadhah, S. H., Perdana, A., & Putra, A. S. P. (2023). Synthesis and Modeling of Adsorbents from Natural Materials for Heavy Metal Lead in Mahakam River Water Samples. *Jurnal Fisika Flux: Jurnal Ilmiah Fisika FMIPA Universitas Lambung Mangkurat*, 20(3), 209-216. <http://dx.doi.org/10.20527/flux.v20i3.16934>
7. Yada'Acang, P., **Munir, R.**, Zarkasi, A., & Hamdani, D. (2023, July). Photovoltaic Power Plant Monitoring by Using Low-Cost Internet of Things (IoT): Design and Implementation. In *Proceedings of the International Conference of Tropical Studies and Its Applications (ICTROPS 2022)* (Vol. 31, p. 258). Springer Nature. https://doi.org/10.2991/978-94-6463-180-7_28
8. Putra, A. S. P., Perdana, A., Zarkasi, A., Hamdani, D., & **Munir, R.** (2023). Removal of heavy metals (Fe and Pb) in the mahakam river water using eggshells and rubbing ash as adsorbent. In *International Conference on Tropical Studies (ICTROPS)* (Vol. 2, No. 1, pp. 327-334). https://doi.org/10.2991/978-94-6463-180-7_35
9. **Munir, R.**, Amalia, N., & Munir, R. (2022, October). Physic laboratory by video tracker and visual basic for application at home during covid-19 pandemic: Material elasticity measurement. In *AIP Conference Proceedings* (Vol. 2668, No. 1). AIP Publishing. <https://doi.org/10.1063/5.0113768>
10. Abdullah, M., Rahmayanti, H. D., Amalia, N., Yuliza, E., & **Munir, R.** (2021). Effective elastic modulus of wet granular materials derived from modified effective medium approximation and proposal of an equation for the friction coefficient between the object and wet granular materials surfaces. *Granular Matter*, 23(4), 78. <https://link.springer.com/article/10.1007%2Fs10035-021-01144-z>
11. **Munir, R.**, Rahmayanti, H. D., Amalia, N., Utami, F. D., Viridi, S., & Abdullah, M. (2021). Investigation of mechanical properties for Non-Homogeneous by image tracking method. *Materials Today: Proceedings*, 44, 3415-3419. <https://doi.org/10.1016/j.matpr.2020.12.1158>
12. **Rahmawati, M.**, Dany, R. H., Riri, M., Yanto, R. D., Dian, U. F., Sparisoma, V., & Mikrajuddin, A. (2020). Experiment and modeling of the rice winnowing process: granular segregation method from an ancient era. *Granular Matter*, 22(1). <http://dx.doi.org/10.48550/arXiv.1810.11076>

AREA OF EXPERTISE

- Theoretical & Material Physics
- Composite Materials for Water Purification
- Electrolyte Membrane Composite

10

DEVINA RAYZY PERWITASARI S.P

Assistant Professor of Physics



EMPLOYEMENT

Lecturer of Physics Department

Faculty of Mathematics and Natural Science
Universitas Mulawarman

2018 - Now

ACADEMIC CAREER

National Taiwan University of Science & Technology

Master Degree (Physics) 2018

Universitas Mulawarman

Bachelor Degree (Physics) 2013

PATENTS AND PROPRIETARY RIGHTS

INDUSTRY COLLABORATIONS OVER THE LAST 5 YEARS

ACTIVITIES IN SPECIALIST BODIES OVER THE LAST 5 YEARS

- Member of Physics Society of Indonesia (PSI) (2019-Now)

AREA OF EXPERTISE

- Medical Physics
- Computational Biomechanics
- Signal Analysis

CONTACT



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RESEARCH AND DEVELOPMENT PROJECTS OVER THE LAST 5 YEARS

SYNTHESIS AND FABRICATION OF BONE-LIKE RADIOLOGICAL PHANTOMS FROM BLOOD CLAM SHELLS (2024). **10 Million**

IMPROVING THE QUALITY OF CT-SCAN IMAGES OF STROKE PATIENTS BASED ON DOSE USING SSDE TECHNIQUE AND K-MEANS SEGMENTATION METHOD IN RADIOLOGY INSTALLATION RSUD A.W.SJAHRANIE SAMARINDA (2023). **10 Million**

IMPORTANT PUBLICATIONS OVER THE LAST 5 YEARS

1. Aldi Rizki Jordan; Pratiwi Sri Wardani; Kadek Subagiada; Devina Rayzy Perwitasari Sutaji Putri; Adrianus Inu Natalisanto T (2023)
2. Puspa Syadariah; **Devina Rayzy Perwitasari Sutaji Putri**; Pratiwi Sri Wardani; Mislan Mislan; Adrianus Inu Natalisanto (2022) Whole Body Vibration Analysis of Public Transportation Drivers in Samarinda. Progressive Physics Journal. Vol. 3, No. 2 DOI: 10.30872/ppj.v3i2.915
3. Yasinta Erikania Daniartie; Pratiwi Sri Wardani; **Devina Rayzy Perwitasari Sutaji Putri**; Robert Janssen Stevenly; Suryaningsih Suryaningsih (2022) Analysis of Treatment Planning System Using Box Technique and Antero Posterior-Postero Anterior Technique in Cervical Cancer Cases. Progressive Physics Journal. Vol.3, No.1 DOI: 10.30872/ppj.v3i1.873
4. Quintiza Anugerah; Adrianus Inu Natalisanto; **Devina Rayzy PSP** (2022) Coal Quality Test on the Depth of the Mining Area on Bunyu Island using the Proximate Method at Location 4 Pit. Geosains Kutai Basin. Vol. 5, No. 1 DOI: 10.30872/geofisunmul.v5i1.605
5. Asmar Adhan Ramadhan; Pratiwi Sri Wardani; **Devina Rayzy Perwitasari Sutaji Putri** (2021) The relationship between sound intensity and hearing loss in workers. Progressive Physics Journal Vol. 2, No. 2 DOI: 10.30872/ppj.v2i2.781
6. Azizah Bella Azizah Bella; **Devina Rayzy Perwitasari Sutaji Putri**; Idris Mandang (2021) Designing a Temperature and Salinity Monitoring System for Seawater. Progressive Physics Journal Vol. 2, No. 1 DOI: 10.30872/ppj.v2i1.767
7. Melti Lestiyani Lestiyani; Suhadi Mulyono; **Devina Rayzy Perwitasari Sutaji Putri** (2021) The Relationship Between Sound Intensity Levels and Distance from the Power Generator (Genset) at Dayaku Raja General Hospital in Kota Bangun. Progressive Physics Journal Vol. , No.2 DOI: 10.30872/ppj.v2i2.773
8. Rizqi, Puteri Buana; **Perwitasari, Devina Rayzy**; Mandang, Idris. (2021) Study of Lunar Phase Changes on Tidal Range and Slack Water Values Based on the Hijri Calendar. Geosains Kutai Basin Vol. 4, No. 2 DOI: 10.30872/geofisunmul.v4i2.716.

AHMAD ZARKASI

Assistant Professor of Physics

RESEARCH AND DEVELOPMENT PROJECTS OVER THE LAST 5 YEARS

Design of A Low-Cost Underwater Sound Recording Instrument (2021). **10 million**

Design of A Microclimate Parameter Measurement Device (Temperature, Pressure, Humidity, and Solar Radiation) in Coastal Areas Based on Internet Of Things (IoT) (2023). **10 million**

Temperature Control of PV Module Integrated With PV/T Hybrid System Using Water Spray Cooling Technique: An Experimental Study (2022). **18 million**

Socialization on The Production and Utilization of Egg Shell Flour For Water Purification as A Form of Water Conservation Implementation In Senoni Village, Sebulu District, Kutai Kartanegara Regency (2022). **15 million**

IMPORTANT PUBLICATIONS OVER THE LAST 5 YEARS

1. D. Hamdani, **A. Zarkasi**, K. Nurhanafi, S. H. Intifadah, and R. Munir. 2024. Design, operation, and control of PV hybrid power system (PVHPS). AIP Conference Proceedings. AIP Publishing. DOI: <https://doi.org/10.1063/5.0205378>
2. E. R. Putri, **A. Zarkasi**, P. Prajitno, D. S. Soejoko. 2023. Artificial neural network for cervical abnormalities detection on computed tomography images. IAES International Journal of Artificial Intelligence (IJ-AI). 12 (1): 171-179. DOI: 10.11591/ijai.v12.i1.pp171179.
3. **A. Zarkasi**, M. F. H. Putra, A. I. Natalisanto, K. Nurhanafi, M. Hidayatullah, A. Kusmiran, and A. C. Nuraidha. 2024. A GUI-based Data Acquisition System for EIT Using Two Current Injection Methods. Indonesian Physical Review. 7 (3): 379-397. DOI: 10.29303/ipr.v7i3.356.
4. **A. Zarkasi**, K. Nurhanafi, and Syahrir. 2024. An Internet of Things (IoT)based Microclimate Parameter Measurement Tool for Coastal Areas. Jurnal Fisika Flux. 21 (1): 27-37. DOI: <https://doi.org/10.20527/flux.v21i1.17929>

EMPLOYEMENT

Lecturer of Physics Department

Faculty of Mathematics and Natural Science
Universitas Mulawarman

2021 - Now

ACADEMIC CAREER

Universitas Brawijaya

Master Degree (Physics) 2017

Universitas Mataram

Bachelor Degree (Physics) 2012

PATENTS AND PROPRIETARY RIGHTS

INDUSTRY COLLABORATIONS OVER THE LAST 5 YEARS

ACTIVITIES IN SPECIALIST BODIES OVER THE LAST 5 YEARS

AREA OF EXPERTISE

- Electronic and Instrumentation
- Electrical Impedance Tomography

CONTACT



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ERLINDA RATNASARI PUTRI

Assistant Professor of Physics



EMPLOYEMENT

Lecturer of Physics Department

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Universitas Mulawarman

2021 - Now

ACADEMIC CAREER

Universitas Indonesia

Master Degree (Physics) 2018

Universitas Lambung Mangkurat

Bachelor Degree (Physics) 2015

PATENTS AND PROPRIETARY RIGHTS

INDUSTRY COLLABORATIONS OVER THE LAST 5 YEARS

ACTIVITIES IN SPECIALIST BODIES OVER THE LAST 5 YEARS

- Member of Indonesian Association of Physicists in Medicine (AFISMI) (2021 - Now)
- Member of Physical Society of Indonesia (PSI) (2021 - Now)

AREA OF EXPERTISE

- Medical Physics
- Medical Imaging
- Diagnostics and Interventional Radiology

CONTACT



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RESEARCH AND DEVELOPMENT PROJECTS OVER THE LAST 5 YEARS

Segmentation and Classification of Brain Tumor MR Images Using CNN-Transformer Hybrid Model (2025). **10 Million**

Development of Automation of Fan Beam and Cone Beam Computed Tomography Image Registration in Radiotherapy Based on Intermediate Deformable (2023-2024). **32 Million**

Improving the Quality of CT-Scan Images of Stroke Patients Based on Dose Using SSDE Technique and K-Means Segmentation Method in Radiology Installation RSUD A. W. Sjahranie Samarinda (2023). **10 Million**

IMPORTANT PUBLICATIONS OVER THE LAST 5 YEARS

1. Nur, A., Nurhanafi, K., **Putri, E.R.** 2025. Brain tumor segmentation in MR images using Swin Transformer. Accepted in Atom Indonesia Journal (Proofreading in April 2025).
2. Hamid, M., Mu'ti, A., Intifadhah, S.H., **Putri, E.R.** 2025. Brain Tumor Segmentation on MR Images Using Fuzzy C-Means and Active Contour Methods. Atom Indonesia Journal. Vol. 51, No. 1. <https://doi.org/10.55981/aij.2025.1466>.
3. Anthon, R., Intifadhah, S.H., **Putri, E.R.** 2025. Radiation Dose and Image Quality of Bladder Cancer Patients Analysis on Abdominal CT-Scan Examinations. Atom Indonesia Journal. Vol. 51, No. 1. <https://doi.org/10.55981/aij.2025.1526>.
4. Rudyanti, N., Munir, R., **Putri, E.R.** 2025. Diagnostic Reference Levels (DRLs) for SPECT Examinations at the Nuclear Medicine Installation of the RSUD A. W. Sjahranie Samarinda. Buletin Fisika. Vol. 26, No. 1. <https://ojs.unud.ac.id/index.php/buletinfisika/article/view/121491>.
5. Putri, S.S., Intifadhah, S.H., **Putri, E.R.** 2024. Estimation of Organ Dose, Effective Dose, and Cancer Risk in Abdominal CT Scan Patients. Atom Indonesia Journal. Vol. 50, No. 3. <https://doi.org/10.55981/aij.2024.1502>.
6. **Putri, E.R.**, Payon, F.L., Missinychrista, R.A., Putri, D.R.P.S., Wardani, P.S., Subagiada, K. 2024. Improving the Quality of CT-Scan Images of Stroke Patients Based on Dose Using SSDE Technique and K-Means Segmentation Method in Radiology Installation RSUD A. W. Sjahranie Samarinda. Jurnal Fisika Flux. Vol. 21, No. 1. <https://dx.doi.org/10.20527/flux.v21i1.17100>.
7. Putri, A., Zurma, R., Munir, R., **Putri, E.R.** 2023. Analysis of Radiation Exposure Level on Linen and Other Objects in Patient Rooms at Nuclear Medicine Installation. Atom Indonesia Journal. Vol. 49, No. 3. <https://doi.org/10.55981/aij.2023.1291>.
8. Jannah, R., Munir, R., **Putri, E.R.** 2023. Determination of the Diagnostic Reference Level (DRL) in Samarinda Hospitals. Atom Indonesia Journal. Vol. 49, No. 3. <https://doi.org/10.55981/aij.2023.1285>.
9. **Putri, E.R.**, Zarkasi, A., Prajitno, P., Soejoko, D.S. 2023. Artificial neural network for cervical abnormalities detection on computed tomography images. International Journal of Artificial Intelligence (IJ-AI). Vol. 12, No.1. <http://doi.org/10.11591/ijai.v12.i1.pp171-179>.

KHOLIS NURHANAFI

Assistant Professor of Physics



EMPLOYEMENT

Lecturer of Physics Department

Faculty of Mathematics and Natural Science
Universitas Mulawarman

2022 - Now

ACADEMIC CAREER

Universitas Gadjah Mada

Master Degree (Physics) 2018

Universitas Negeri Yogyakarta

Bachelor Degree (Physics) 2015

PATENTS AND PROPRIETARY RIGHTS

INDUSTRY COLLABORATIONS OVER THE LAST 5 YEARS

ACTIVITIES IN SPECIALIST BODIES OVER THE LAST 5 YEARS

- Member of Physical Society of Indonesia (PSI) (2025- Now)

AREA OF EXPERTISE

- Instrumentation Physics
- Geophysics
- Passive Seismic

CONTACT



kholis.nh@gmail.com

RESEARCH AND DEVELOPMENT PROJECTS OVER THE LAST 5 YEARS

Temperature Control of PV Module Integrated PV/T Hybridsystem with Water Spray Cooling Technique: An Experimental Study (2022). **18 Million**

Design of Microclimate Measurement Tools in Coastal Areas Based on the Internet of Things (2023). **10 Million**

Design of A Low-Cost Underwater Sound Recording Instrument (2021). **10 million**

IMPORTANT PUBLICATIONS OVER THE LAST 5 YEARS

- 1.D. Hamdani, A. Zarkasi, **K. Nurhanafi**, S. H. Intifadah, and R. Munir. 2024. Design, operation, and control of PV hybrid power system (PV-HPS). AIP Conference Proceedings. AIP Publishing. DOI: <https://doi.org/10.1063/5.0205378>
- 2.A. Zarkasi, M. F. H. Putra, A. I. Natalisanto, **K. Nurhanafi**, M. Hidayatullah, A. Kusmiran, and A. C. Nuraidha. 2024. A GUI-based Data Acquisition System for EIT Using Two Current Injection Methods. Indonesian Physical Review. 7 (3): 379-397. DOI: 10.29303/ipr.v7i3.356.
- 3.Intifadhah, S. H., **Nurhanafi, K.**, Astuti, F., Munir, R., Hamdani, D., & Darminto, D. (2023). X-ray Absorption Near Edge Structure (XANES) Spectrum Interpretation for LiFePO₄-Silicon Doped Cathode Material. Jurnal Fisika Unand, 12(3), 349-355. DOI: <https://doi.org/10.25077/jfu.12.3.348-354.2023>

SAHARA HAMAS INTIFADHAH

Assistant Professor of Physics

RESEARCH AND DEVELOPMENT PROJECTS OVER THE LAST 5 YEARS

Preparation of Composite Material Based on Egg Shell Waste (CT) and Titanium Dioxide (TiO_2) as Adsorbent for Water Purification (2024). **129 Million**

SYNTHESIS OF ACTIVATED CARBON MATERIAL FROM PALM FROND WASTE (ELAEIS GUINEENSIS JACQ.) AS A BASE MATERIAL FOR SUPERCAPACITOR ELECTRODES (2024). **10 Million**

SYNTHESIS AND FABRICATION OF BONE-LIKE RADIOLOGICAL PHANTOMS FROM BLOOD CLAM SHELLS (2024). **10 Million**

SYNTHESIS AND CHARACTERIZATION OF TiO_2 -EGGSHELL POWDER (CT) COMPOSITES WITH VARYING MASS COMPOSITION FOR MITYLENE BLUE PHOTODEGRADATION (2023). **10 Million**

TEMPERATURE CONTROL OF PV MODULE INTEGRATED PV/T HYBRID SYSTEM WITH WATER SPRAY COOLING TECHNIQUE: AN EXPERIMENTAL STUDY (2022). **18 Million**

IMPORTANT PUBLICATIONS OVER THE LAST 5 YEARS

1. **Intifadhah, S.H.**, Munir, R., Hamdani, D., Natalisanto, A.I., Muliyo, S. 2025. SURFACE AREA ANALYSIS OF ACTIVATED CARBON MATERIAL FROM PALM FROND WASTE USING DIFFERENT ACTIVATION AGENTS. Vol. 15, No. 1 (193-203) <https://doi.org/10.13057/ijap.v15i1.96045>
2. Hamid, M., Mu'ti, A., **Intifadhah, S.H.**, Putri, E.R. 2025. Brain Tumor Segmentation on MR Images Using Fuzzy C-Means and Active Contour Methods. Atom Indonesia Journal. Vol. 51, No. 1. <https://doi.org/10.55981/aij.2025.1466>.
3. Anthon, R., **Intifadhah, S.H.**, Putri, E.R. 2025. Radiation Dose and Image Quality of Bladder Cancer Patients Analysis on Abdominal CT-Scan Examinations. Atom Indonesia Journal. Vol. 51, No. 1. <https://doi.org/10.55981/aij.2025.1526>.
4. Munir, R., Hamdani, D., Darnah., Marliana, E., **Intifadhah, S.H.**, Kusuma, R. 2025. The solid state dispersion method for synthesizing eggshells ES/ TiO_2 composite to enhance photocatalytic degradation methylene blue. Vol. 14 <https://doi.org/10.1016/j.mex.2024.103150>
5. Putri, S.S., **Intifadhah, S.H.**, Putri, E.R. 2024. Estimation of Organ Dose, Effective Dose, and Cancer Risk in Abdominal CT Scan Patients. Vol. 30, No. 3 (289-294) <https://doi.org/10.55981/aij.2024.1502>
6. **Intifadhah, S.H.** & Syauma, H. 2024. Mini Review: Mini-Review: The Influence of Coating and Doping on The Crystal Volume and Discharge Capacity of Lithium Iron Phosphate-Based Materials as Battery Cathode. Vol.7, No.2 (74-83) <https://doi.org/10.33369/jkf.7.2.74-83>
7. Hamdani, D., Zarkasi, A., Nurhanafi, K., **Intifadhah, S.H.**, Munir, R. 2024. Design, operation, and control of PV hybrid power system (PV-HPS). Vol. 3095, No. 1. <https://doi.org/10.1063/5.0205378>
8. Astuti, F., Maghfirohtuzzoimah, V.L., **Intifadhah, S.H.**, Azzahra, P., Ramadhan, M.R., Zainuri, M. Darminto. 2023. Study on structure and morphology of silicon-substituted LiFePO_4/C doped material. Vol. 2604, No. 1 <https://doi.org/10.1063/5.0114693>
9. Astuti, F., Maghfirohtuzzoimah, V.L., **Intifadhah, S.H.**, Azzahra, P., Sari, D.P., Watanabe, I., Zainuri, M. Darminto. 2023. Investigation on chemical and physical properties of silicon-substituted lithium iron phosphate. Vol. 2853, No.1 <https://doi.org/10.1063/5.0162445>

EMPLOYMENT

Lecturer of Physics Department

Faculty of Mathematics and Natural Science
Universitas Mulawarman

2022 - Now

ACADEMIC CAREER

Institut Teknologi Sepuluh Nopember

Master Degree (Physics) 2021

Universitas Negeri Surabaya

Bachelor Degree (Physics) 2018

PATENTS AND PROPRIETARY RIGHTS

- Making Process of Activated Carbon/rGO Composite as Supercapacitor's Electrode From Coconut Shell (Cocos nucifera) (Universitas Negeri Surabaya) 2022

INDUSTRY COLLABORATIONS OVER THE LAST 5 YEARS

ACTIVITIES IN SPECIALIST BODIES OVER THE LAST 5 YEARS

- Member of Physics Society of Indonesia (PSI) (2023-Now)

AREA OF EXPERTISE

- Theoretical & Material Physics
- Carbon Material
- Electrode Material

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