



## IR. TS. DR. NORHIDAYU BINTI RAMELI

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### CONTACT

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**Faculty:** Fakulti  
Kejuruteraan Dan Alam  
Bina

### SUPERVISION

PhD - Completed: 1, Ongoing: 0

Master - Completed: 0,  
Ongoing: 0

### AREAS OF EXPERTISE

Electric Discharges

Electrical Power Generation And Supply

High Voltage

Power System

### ACADEMIC QUALIFICATION

PhD in Kejuruteraan Elektrik Kuasa (2017)

Master in Kejuruteraan Elektrik Kuasa (2013)

Bachelor in Kejuruteraan Elektrik Kuasa (2010)

### RESEARCH

#### 1. INVESTIGATION OF THE IMPACT OF CORROSIVE SULFUR ON THE DIELECTRIC PERFORMANCE OF SUSTAINABLE ESTER-BASED TRANSFORMER OILS

2026 GERAN PENYELIDIKAN FUNDAMENTAL ON GOING CO-RESEARCHER

#### 2. ADVANCING BATTERY MONITORING SYSTEM WITH STATE-OF-HEALTH METRIC AT JAYALAX RESOURCES

2025 GERAN KPT ON GOING CO-RESEARCHER

#### 3. INTEGRATING BATTERY MONITORING SYSTEM WITH THE STATE-OF-HEALTH METRIC AT JAYALAX RESOURCES

2025 GERAN PENYELIDIKAN INDUSTRI ON GOING CO-RESEARCHER

#### 4. DEVELOPMENT OF DATA BASED ENERGY EFFICIENCY MANAGEMENT SYSTEM AT KAMPUS BAROKAH USIM FOR COST EFFECTIVE PRACTISE USING PREDICTIVE AND MACHINE LEARNING CAPABILITY

2022 GERAN PENYELIDIKAN USIM ON GOING CO-RESEARCHER

## 5. BATTERY MONITORING SYSTEM FOR GENERATOR SETS

2022 GERAN PENYELIDIKAN AGENSI KERAJAAN COMPLETED CO-RESEARCHER

# RESEARCH

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## 6. DEVELOPMENT OF MOBILE APPLICATION FOR "EDUCATIONAL GAMES FOR KIDS WITH LEARNING DISABILITIES: KID WONDERS - KINDERS"

2022 GERAN PENYELIDIKAN AGENSI KERAJAAN COMPLETED CO-RESEARCHER

## 7. CORROSION-AMPACITY MODELLING FOR AMPACITY PERFORMANCE INDEX FORMULATION ON OVERHEAD CONDUCTORS

2022 GERAN KPT ON GOING CO-RESEARCHER

## 8. INVESTIGATION OF INDUCED VOLTAGE ON UNDERGROUND TRANSMISSION CABLES WITHIN LINE CORRIDORS FOR URBAN PLANNING.

2021 GERAN KPT COMPLETED MAIN RESEARCHER

# PUBLICATION

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## 1. ANALYSIS OF UNDERGROUND TRANSMISSION CABLE AMPACITY FOR ON-SITE APPLICATIONS

JOURNAL OF ELECTRICAL AND ELECTRONIC SYSTEMS RESEARCH

2024 JOURNAL MYCITE CO-AUTHOR

## 2. INVESTIGATION OF LIGHTNING ELECTROMAGNETIC FIELDS ON THE DISTRIBUTION POWER LINES CLOSE TO THE LINE CORRIDOR TOWERS

2024 IEEE 4TH INTERNATIONAL CONFERENCE IN POWER ENGINEERING APPLICATIONS (ICPEA)

2024 PROCEEDING NON-INDEX MAIN AUTHOR

## 3. DEVELOPMENT OF BATTERY MONITORING SYSTEM FOR POWER GENERATORS: INSIGHTS AND EXPERIENCE

2024 POSTGRADUATE AND INDUSTRY RESEARCH COLLOQUIUM (PIRC)

2024 PROCEEDING NON-INDEX CO-AUTHOR

## 4. ANALYSIS OF ELECTRIC FIELD ON OVERHEAD DISTRIBUTION LINE DUE TO LIGHTNING STRIKE

2024 POSTGRADUATE AND INDUSTRY RESEARCH COLLOQUIUM (PIRC)

2024 PROCEEDING NON-INDEX CO-AUTHOR

## 5. PALM OIL AS A TRANSFORMER INSULATING FLUID: A REVIEW

2024 POSTGRADUATE AND INDUSTRY RESEARCH COLLOQUIUM (PIRC)

2024 PROCEEDING NON-INDEX CO-AUTHOR

## 6. HIGH-TEMPERATURE LOW SAG CONDUCTOR: THE NEW TREND TO TRANSMIT ELECTRICITY

ADVANCEMENT IN ENGINEERING AND TECHNOLOGY

2024 CHAPTER IN BOOK CO-AUTHOR

## 7. CHAPTER 2 HIGH TEMPERATURE LOW SAG CONDUCTOR: THE NEW TREND TO TRANSMIT ELECTRICITY

ADVANCEMENT IN ENGINEERING AND TECHNOLOGY

2024 CHAPTER IN BOOK CO-AUTHOR

## 8. EFFECTS OF LIGHTNING ELECTROMAGNETIC FIELD DUE TO LIGHTNING STRIKES ON A TALL STRUCTURE

JOURNAL OF ELECTRICAL & ELECTRONIC SYSTEMS RESEARCH (JEESR)

2023 JOURNAL MYCITE MAIN AUTHOR

## 9. COMPARISON TECHNIQUES FOR OPTIMIZATION SWITCHING FREQUENCY IN ENERGY ENCRYPTION OF WIRELESS POWER TRANSFER SYSTEM

JOURNAL OF ADVANCED RESEARCH IN APPLIED SCIENCES AND ENGINEERING TECHNOLOGY

2022 JOURNAL MYCITE CO-AUTHOR

## 10. COMPARISON TECHNIQUES FOR OPTIMIZATION SWITCHING FREQUENCY IN ENERGY ENCRYPTION OF WIRELESS POWER TRANSFER SYSTEM

JOURNAL OF ADVANCED RESEARCH IN APPLIED SCIENCES AND ENGINEERING TECHNOLOGY

2022 JOURNAL OTHER DATABASE CO-AUTHOR

## 11. THE EFFECT OF THE AMBIENT TEMPERATURE PROFILE IN THE DETERMINATION OF POWER CABLE RATINGS

2022 IEEE INTERNATIONAL CONFERENCE ON POWER SYSTEMS TECHNOLOGY (POWERCON)

2022 PROCEEDING SCOPUS CO-AUTHOR

## 12. ANALYSIS OF PERMITTIVITY AND TEMPERATURE EFFECT ON CHARGE ACCUMULATION WITHIN CROSS-LINKED POLYETHYLENE (XLPE) VIA NUMERICAL SIMULATION

13TH INTERNATIONAL CONFERENCE ON THE PROPERTIES AND APPLICATIONS OF DIELECTRIC MATERIALS (ICPADM 2021)

2021 PROCEEDING NON-INDEX CO-AUTHOR

## 13. PARTIAL DISCHARGE DETECTION USING ROGOWSKI COIL SENSOR ON MEDIUM VOLTAGE AERIAL BUNDLE CABLE

JOURNAL OF ELECTRICAL & ELECTRONIC SYSTEMS RESEARCH (JEESR)

2020 JOURNAL MYCITE MAIN AUTHOR / CONTACT PERSON IN USIM

# PUBLICATION

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## 14. PARTIAL DISCHARGE DETECTION DEVICE USING ULTRASONIC SENSOR ON MEDIUM VOLTAGE XLPE CABLE

INDONESIAN JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCE

2019 JOURNAL SCOPUS CO-AUTHOR

## 15. LIGHTNING-INDUCED VOLTAGE ON DISTRIBUTION LINE DUE TO INCLINED LIGHTNING CHANNEL

2018 BOOK MAIN AUTHOR

## 16. VARIATIONS IN RETURN STROKE VELOCITY AND ITS EFFECT ON THE RETURN STROKE CURRENT ALONG LIGHTNING CHANNEL

INTERNATIONAL CONFERENCE ON LIGHTNING PROTECTION (ICLP)

2016 PROCEEDING NON-INDEX MAIN AUTHOR

## 17. EFFECT OF SOIL RESISTIVITY ON MAGNETIC FIELD IN THE CASE OF LIGHTNING STRIKE TO A TALL STRUCTURE

INTERNATIONAL CONFERENCE ON LIGHTNING PROTECTION (ICLP)

2016 PROCEEDING NON-INDEX MAIN AUTHOR

## 18. EFFECT OF THE GROUNDING SYSTEM ON THE LIGHTNING CURRENT PROFILE ALONG A TALL STRUCTURE

IET SCIENCE, MEASUREMENT & TECHNOLOGY

2015 JOURNAL JCR MAIN AUTHOR / CONTACT PERSON IN USIM

## 19. EFFECT OF THE GROUNDING SYSTEM ARRANGEMENT ON THE LIGHTNING CURRENT ALONG TALL STRUCTURES

INTERNATIONAL CONFERENCE ON LIGHTNING PROTECTION (ICLP),

2014 PROCEEDING NON-INDEX MAIN AUTHOR

## 20. ON THE BEHAVIOR OF LIGHTNING CURRENT AND CHARGE DENSITY IN THE CASE OF TALL TOWER

INTERNATIONAL CONFERENCE ON LIGHTNING PROTECTION (ICLP 2014)

2014 PROCEEDING NON-INDEX CO-AUTHOR

## 21. CHARACTERIZATION PRELIMINARY BREAKDOWN IN THE MEASURED LIGHTNING ELECTRIC FIELDS

IEEE 8TH INTERNATIONAL POWER ENGINEERING AND OPTIMIZATION CONFERENCE (PEOCO2014)

2014 PROCEEDING NON-INDEX CO-AUTHOR

## 22. ON THE BEHAVIOR OF LIGHTNING RETURN STROKE CURRENT INCIDENCE TO TALL TOWERS

IEEE 8TH INTERNATIONAL POWER ENGINEERING AND OPTIMIZATION CONFERENCE (PEOCO2014), LANGKAWI, THE JEWEL OF KEDAH, MALAYSIA.

2014 PROCEEDING NON-INDEX CO-AUTHOR

## 23. EVALUATION OF LIGHTNING INDUCED VOLTAGE DUE TO THE EFFECT OF DESIGN PARAMETERS ON MEDIUM VOLTAGE DISTRIBUTION LINE

JURNAL TEKNOLOGI (SCIENCES AND ENGINEERING)

2013 JOURNAL SCOPUS AND ERA MAIN AUTHOR / CONTACT PERSON IN USIM

## 24. EVALUATION OF LIGHTNING INDUCED OVER-VOLTAGE DUE TO VARIATIONS OF CHANNEL ANGLE

2013 IEEE 7TH INTERNATIONAL POWER ENGINEERING AND OPTIMIZATION CONFERENCE (PEOCO 2013)

2013 PROCEEDING NON-INDEX MAIN AUTHOR

## 25. ON THE INFLUENCE OF INCLINED LIGHTNING CHANNEL ON LIGHTNING INDUCED VOLTAGE EVALUATION

2012 INTERNATIONAL CONFERENCE ON LIGHTNING PROTECTION

2012 PROCEEDING NON-INDEX MAIN AUTHOR

# CONSULTATION

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## 1. PENILAIAN TEKNIKAL SIJIL GUNA PAKAI BAGI LIMA PRODUK FEEDER PILLAR

TNB LABS SDN BHD

2023

NATIONAL

## 2. LOW VOLTAGE HRC BLADE CONTACT TYPE

TNB LABS SDN BHD

2022

UNIVERSITY

## 3. BATTERY STORAGE MANAGEMENT SYSTEM (BSMS) AND TECHNICAL KNOWLEDGE

TECHNOPRENEUR UNIMAP SDN BHD (TUSB)

2021

UNIVERSITY

## 4. Penilaian Teknikal Sijil Guna Pakai bagi Dua Product Feeder Pillar

TNB Labs Sdn Bhd

Others

# AWARDS/RECOGNITION

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## 1. ANUGERAH PERKHIDMATAN CEMERLANG

2025 UNIVERSITY

## 2. FEASIBILITY STUDY OF HYBRID RENEWABLE ENERGY SYSTEM (HRES) FOR SUSTAINABLE COMMUNITIES DEVELOPMENT

Final Year Project & Postgraduate (FYPP): Research & Innovation Poster Competition 2025

2025 KEBANGSAAN GOLD

## 3. INVESTIGATION OF ELECTRICAL EARTHING HAZARDOUS VOLTAGE AT SEREMBAN, NEGERI SEMBILAN

Final Year Project & Postgraduate (FYPP): Research & Innovation Poster Competition 2025

2025 KEBANGSAAN GOLD

## 4. BEST PROJECT AWARD OF FINAL YEAR PROJECT

2024 UNIVERSITY

## 5. FINAL YEAR PROJECT & POSTGRADUATE: RESEARCH & INNOVATION POSTER COMPETITION (RIPC) 2024/ GOLD AWARD

2024 UNIVERSITY

## 6. IUM RESEARCH & INNOVATION DAY 2024/ BRONZE AWARD

2024 UNIVERSITY

## 7. IUM RESEARCH & INNOVATION DAY 2024/ BRONZE AWARD

2024 UNIVERSITY

## 8. INVESTIGATION OF LIGHTNING ELECTROMAGNETIC FIELDS ON THE DISTRIBUTION POWER LINES CLOSE TO THE LINE CORRIDOR TOWERS

2024 IEEE 4th International Conference in Power Engineering Applications

2024 ANTARABANGSA BEST PAPER AWARD

## 9. IOT- BASED BATTERY MONITORING SYSTEM

PERTANDINGAN REKACIPTA INOVASI INTERNASIONAL & NASIONAL 2022 (PRIIN 2022)

2022 ANTARABANGSA SILVER

## 10. PROJECT BASED LEARNING-ELECTRICAL POWER SYSTEM SIMULATION

Electrical Power System Simulation Competition (EPSSCOM)

2022 KEBANGSAAN CERTIFICATE OF APPRECIATION

## 11. PROJECT BASED LEARNING-ELECTRICAL POWER SYSTEM SIMULATION

2022 TheGreatLab Grand Design Challenge

2022 KEBANGSAAN CERTIFICATE OF APPRECIATION