Profile Image

## DR. MARINAH BINTI OTHMAN

PENSYARAH UNIVERSITI DS13

### CONTACT

**Phone:** 6787

E-mail:

marinah@usim.edu.my

Faculty: Fakulti Kejuruteraan

Dan Alam Bina

## **SUPERVISION**

PhD - Completed: 0, Ongoing: 2 Master - Completed: 1, Ongoing: 1

## **AREAS OF EXPERTISE**

### **ACADEMIC QUALIFICATION**

PhD in Laser (2010)

Master in Engineering Science (2002)

Bachelor in Electronic & Electrical Engineering (1998)

### RESEARCH

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

2022 GERAN PENYELIDIKAN AGENSI KERAJAAN COMPLETED CO-RESEARCHER

2. DEVELOPMENT OF LASER ILLUMINATION WARNING SYSTEM BASED ON LASER PHOTODIODE AND DETECTION TECHNOLOGY

2022 GERAN PENYELIDIKAN INDUSTRI COMPLETED CO-RESEARCHER

3. STUDY OF RAINFALL EFFECT TO OPTIMIZE POWER LINES PERFORMANCE

2020 GERAN PENYELIDIKAN USIM RACER COMPLETED CO-RESEARCHER

4. BIOCLIMATIC ARCHITECTURE AND INTEGRATED HYBRID SOLAR COOLING SYSTEM FOR ENGAGING RESILIENT COMMUNITY TO CLIMATE CHANGE

2019 GERAN PENYELIDIKAN USIM COMPLETED CO-RESEARCHER

5. MODELLING OF QUANTUM BASED TUNNEL DIODE FOR THZ MEDICAL IMAGING

2019 GERAN PENYELIDIKAN USIM COMPLETED CO-RESEARCHER

### RESEARCH

6. ULTRA-HIGH SENSITIVE BIOANALYTICAL DETERMINATION OF LARD USING NANOHYBRID BIOSENSING APPROACH AS A TOOL FOR HALAL PRODUCT INVESTIGATION

2018 GERAN PENYELIDIKAN KHAS ON GOING CO-RESEARCHER

7. MIZAN SOLAR HOME MODEL FOR SUSTAINABLE LIVELIHOOD

2017 GERAN PENYELIDIKAN KHAS COMPLETED CO-RESEARCHER

8. DETERMINATION OF ZT FOR SEGMENTED THERMOELECTRIC GENERATOR (TEG) UNDER LARGE TEMPERATURE DIFFERENCE (L?T) USING "OPEN-SHORT CIRCUIT" TECHNIQUE

2015 GERAN KPT COMPLETED CO-RESEARCHER

9. AB INITIO CALCULATION OF VIBRATIONAL SPECTRA OF ZINC CLUSTER OF THE STANNITE-KESTERITE AND THE RAMAN SPECTRA

2013 GERAN KPT COMPLETED CO-RESEARCHER

10. NEW POLYNOMIAL FOR LINEAR FEEDBACK SHIFT REGISTERS (LFSRS)-BASED A5/1 STREAM CIPHERS FOR GSM COMMUNICATIONS

2013 GERAN KPT COMPLETED CO-RESEARCHER

1. TORQUE ASSESSMENT FOR LOW VOLTAGE AERIAL BUNDLE CABLE (ABC) INSULATED PIERCING CONNECTOR (IPC) USING ALANALYSIS

2024 IEEE INTERNATIONAL CONFERENCE ON APPLIED ELECTRONICS AND ENGINEERING

2024 PROCEEDING SCOPUS CO-AUTHOR

2. PRELIMINARY STUDY ON LIDAR PERFORMANCE IN VIBRATION MEASUREMENT

IEEE ASIA-PACIFIC CONFERENCE ON APPLIED ELECTROMAGNETICS

2024 PROCEEDING SCOPUS CO-AUTHOR

3. HANDOVER PERFORMANCE OF MOBILITY ROBUSTNESS OPTIMIZATION FOR BEYOND 5G NETWORKS

2024 IEEE 14TH SYMPOSIUM ON COMPUTER APPLICATIONS & INDUSTRIAL ELECTRONICS

2024 PROCEEDING SCOPUS CO-AUTHOR

4. INVESTIGATION OF TRENCH NO-CORE FIBER SENSOR FOR HIGH REFRACTIVE INDEX SENSING

2024 14TH INTERNATIONAL CONFERENCE ON SYSTEM ENGINEERING AND TECHNOLOGY (ICSET)

2024 PROCEEDING SCOPUS CO-AUTHOR

5. SINGLE MODE FIBER BASED SPR SENSOR FOR THE DETECTION OF AIR CONTAMINANTS

SEMINAR ANTARABANGSA ISLAM DAN SAINS 2024

2024 PROCEEDING OTHER DATABASE MAIN AUTHOR

6. COMPUTATIONAL ANALYSIS OF NO-CORE FIBER SENSOR FOR DETECTING AGING TRACES IN TRANSFORMER OIL

2024 IEEE INTERNATIONAL CONFERENCE ON ADVANCED TELECOMMUNICATION AND NETWORKING TECHNOLOGIES

2024 PROCEEDING NON-INDEX CO-AUTHOR

7. SURFACE PLASMON RESONANCE BASED PCF SENSOR FOR DOM DETECTION

2024 IEEE INTERNATIONAL CONFERENCE ON APPLIED ELECTRONICS AND ENGINEERING

2024 PROCEEDING NON-INDEX MAIN AUTHOR

8. A COMSOL MULTIPHYSICS FOR POLY (VINYL-ALCOHOL) PVA HYDROGEL EFFECT ON PHOTOVOLTAIC SOLAR CELL BY USING HEAT TRANSFER MODULE

2024 IEEE INTERNATIONAL CONFERENCE ON APPLIED ELECTRONICS AND ENGINEERING (ICAEE)

2024 PROCEEDING SCOPUS MAIN AUTHOR

9. TEMPERATURE DEPENDENT GAIN AND NOISE ANALYSIS OF AN ERBIUM DOPED FIBER AMPLIFIER WITH DIFFERENT PUMPING CONFIGURATIONS

ADVANCEMENT IN ENGINEERING AND TECHNOLOGY

2024 CHAPTER IN BOOK MAIN AUTHOR

10. A5/1 STREAM CIPHER IN GLOBAL SYSTEM FOR MOBILE (GSM) (EMPIRICAL PERSPECTIVES).

ADVANCEMENT IN ENGINEERING AND TECHNOLOGY

2024 CHAPTER IN BOOK CO-AUTHOR

11. HANDOVER PARAMETER FOR SELF-OPTIMISATION IN 6G MOBILE NETWORKS: A SURVEY

AEJ - ALEXANDRIA ENGINEERING JOURNAL

2023 JOURNAL SCOPUS CO-AUTHOR

12. CRYPTOGRAPHY (STREAM CIPHER) IN HARDWARE IMPLEMENTATION

TECHNOLOGIES IN SCIENCE AND ENGINEERING

2023 CHAPTER IN BOOK CO-AUTHOR

13. DESIGN OF SINGLE STAGE C BAND ERBIUM DOPED FIBER AMPLIFIER (EDFA) FOR OPTICAL COMMUNICATIONS

TECHNOLOGIES IN SCIENCE AND ENGINEERING

2023 CHAPTER IN BOOK MAIN AUTHOR

## 14. PRINCIPLES, CHARACTERISTICS AND APPLICATIONS OF OPTICAL FIBRE IN TELECOMMUNICATION AND SENSORY SYSTEMS

TECHNOLOGIES IN SCIENCE AND ENGINEERING

2023 CHAPTER IN BOOK CO-AUTHOR

#### 15. UTILITY FUNCTION BASED RESOURCE BLOCK SCHEDULING IN WIRELESS NETWORKS

ASIA PACIFIC CONFERENCE ON COMMUNICATIONS 2021

2021 PROCEEDING NON-INDEX CO-AUTHOR

#### 16. EFFECTIVENESS OF EARTHING SYSTEM IN VERTICAL CONFIGURATIONS

INTERNATIONAL CONFERENCE ON ELECTRICAL ENGINEERING AND SMART GRIDS

2021 PROCEEDING NON-INDEX CO-AUTHOR

## 17. ELECTROCHEMICAL DETECTION OF TRIBUTYRIN USING PRUSSIAN BLUE FUNCTIONALIZED GLASSY CARBON ELECTRODE

IEEE INTERNATIONAL CONFERENCE ON SENSORS AND NANOTECHNOLOGY 2021

2021 PROCEEDING NON-INDEX CO-AUTHOR

# 18. ANALYSIS OF CURRENT-VOLTAGE CHARACTERISTICS ASSOCIATED TO THE QUANTUM STRUCTURE OF ASYMMETRIC SPACER LAYER TUNNEL DIODE (ASPAT): A PROMISING TERAHERTZ DEVICE

ADVANCES IN SUSTAINABLE LIVING: ENGINEERING & TECHNOLOGY

2021 CHAPTER IN BOOK CO-AUTHOR

## 19. IMPROVING ELECTRO-THERMAL CALCULATION OF OVERHEAD LINES CONDUCTORS FOR MORE ON-GRID RENEWABLE ENERGY RESOURCES

ADVANCES IN SUSTAINABLE LIVING: ENGINEERING & TECHNOLOGY

2021 CHAPTER IN BOOK CO-AUTHOR

#### 20. EFFECT OF THE DOPING CONCENTRATION AND JUNCTION DEPTH ON THE PERFORMANCE OF SOLAR CELLS

ADVANCES IN SUSTAINABLE LIVING: ENGINEERING & TECHNOLOGY

2021 CHAPTER IN BOOK CO-AUTHOR

#### 21. RADIO OVER FIBRE FREE SPACE OPTICS (ROFSO) SYSTEM

ADVANCES IN SUSTAINABLE LIVING: ENGINEERING & TECHNOLOGY

2021 CHAPTER IN BOOK CO-AUTHOR

#### 22. EFFECT OF THE SLOT SHAPE AND GROUND PLANE ON THE MICROSTRIP PATCH ANTENNA PERFORMANCE

ADVANCES IN SUSTAINABLE LIVING: ENGINEERING & TECHNOLOGY

2021 CHAPTER IN BOOK CO-AUTHOR

#### 23. APPLICATION OF FINITE ELEMENT METHOD (FEM) IN THE ELECTRICAL SAFETY ASSESSMENT

ADVANCES IN SUSTAINABLE LIVING: ENGINEERING & TECHNOLOGY

2021 CHAPTER IN BOOK CO-AUTHOR

### 24. DC ANALYSIS OF GAAS/ALAS SINGLE BARRIER ASYMMETRIC SPACER TUNNEL DIODE

SEMINAR ANTARABANGSA ISLAM DAN SAINS 2020

2020 PROCEEDING NON-INDEX CO-AUTHOR

#### 25. IMPACT OF IDEALITY FACTOR AND SEMICONDUCTING MATERIAL ON PV MODULE PERFORMANCES

SEMINAR ANTARABANGSA ISLAM DAN SAINS 2020

2020 PROCEEDING NON-INDEX CO-AUTHOR

# 26. PRINCIPLES AND CHARACTERISTICS OF RANDOM LASERS AND THEIR APPLICATIONS IN MEDICAL, BIOIMAGING AND BIOSENSING

THE 2ND INTERNATIONAL CONFERENCE ON APPLIED PHOTONICS AND ELECTRONICS

2020 PROCEEDING NON-INDEX CO-AUTHOR

## 27. BAND ANTI-CROSSING MODELLING ON TAILORED GA1-XINXN YAS1-Y BAND GAP ENERGY BASED NITROGEN FRACTION

UNIVERSAL JOURNAL OF ELECTRICAL AND ELECTRONIC ENGINEERING

2019 JOURNAL SCOPUS CO-AUTHOR

28. ELECTRICAL PROPERTIES OF A GA0.952IN0.048N0.016AS0.984 P-I-N SCHOTTKY BARRIER DIODE

ASM SCIENCE JOURNAL

2019 JOURNAL SCOPUS CO-AUTHOR

29. FINITE ELEMENT MODELING OF OVERHEAD LINE THERMAL RATING METHOD

SEMINAR ANTARABANGSA ISLAM DAN SAINS 2019

2019 PROCEEDING NON-INDEX CO-AUTHOR

30. PERFORMANCE ANALYSIS OF SISO AND MIMO FSO COMMUNICATION UNDER MALAYSIA WEATHER CONDITION BY EMPLOYING OPTISYSTEM

SEMINAR ANTARABANGSA ISLAM DAN SAINS 2019

2019 PROCEEDING NON-INDEX CO-AUTHOR

31. OUTCOME-BASED EDUCATION FOR ENGINEERING PROGRAMME: A CASE STUDY OF USIM

2019 BOOK MAIN AUTHOR

32. PHOTOVOLTAIC TEHCHNOLOGY: A REVIEW

ADVANCES IN SUSTAINABLE LIVING

2019 CHAPTER IN BOOK MAIN AUTHOR

33. INFLUENCE OF REMOTE EARTH AND IMPULSE POLARITY ON EARTHING SYSTEMS BY FIELD MEASUREMENT

IET SCIENCE, MEASUREMENT & TECHNOLOGY

2018 JOURNAL SCOPUS CO-AUTHOR

34. COMPARATIVE PERFORMANCE OF GAINNAS/GAAS MULTI QUANTUM WELL PHOTODETECTOR FOR 1.0?M WAVELENGTH

31ST INTERNATIONAL MICROPROCESSES AND NANOTECHNOLOGY CONFERENCE (MNC2018)

2018 PROCEEDING NON-INDEX CO-AUTHOR

35. IMPULSE CHARACTERISTICS OF EARTH ELECTRODES IN DIFFERENT SOIL RESISTIVITY BY FIELD MEASUREMENTS

2018 IEEE PES ASIA-PACIFIC POWER AND ENERGY ENGINEERING CONFERENCE (APPEEC2018)

2018 PROCEEDING NON-INDEX CO-AUTHOR

36. PERFORMANCE COMPARISON ON CURRENT CONSUMPTION BETWEEN ARDUINO NANO AND ARM CORETEX M3 FOR PORTABLE DIALYSIS SYSTEM

IEEE INTERNATIONAL CONFERENCE ON SEMICONDUCTOR ELECTRONICS (ICSE2018)

2018 PROCEEDING NON-INDEX CO-AUTHOR

37. COMPACT U-SHAPED SLOTTED ANTENNA WITH CONDUCTOR-BACKED PLANE FOR ULTRA-WIDEBAND (UWB) APPLICATIONS

3RD INTERNATIONAL CONFERENCE ON ELECTRICAL, ELECTRONIC, COMMUNICATION AND CONTROL ENGINEERING (ICEECC 2018)

2018 PROCEEDING NON-INDEX CO-AUTHOR

38. EFFECT OF THE NUMBER OF TAPPING BITS OF THE A5/1 STREAM CIPHER TOWARDS HARDWARE PERFORMANCE SCIENCE INTERNATIONAL JOURNAL

2017 JOURNAL SCOPUS CO-AUTHOR

39. THE EFFECT OF TOTAL BITS AND NUMBER OF LFSRS ON THE HARDWARE PERFORMANCE OF MODIFIED A5/1 STREAM CIPHERS

ADVANCED SCIENCE LETTERS

2017 JOURNAL SCOPUS CO-AUTHOR

## 40. CHARACTERIZATIONS OF A SINGLE ROD ELECTRODE UNDER HIGH IMPULSE CURRENTS WITH DIFFERENT POLARITIES

1ST IEEE INTERNATIONAL CON-FERENCE ON ELECTRICAL MATERIALS AND POWER EQUIPMENT (ICEMPE 2017)

2017 PROCEEDING NON-INDEX CO-AUTHOR

#### 41. HARDWARE PERFORMANCE ANALYSIS ON MODIFIED A5/1 STREAM CIPHER

2016 WORLD INTERNATIONAL CONFERENCE ON ISLAMIC SCIENCES 2016

2016 PROCEEDING NON-INDEX CO-AUTHOR

#### 42. HARDWARE IMPLEMENTATION OF MODIFIED A5/1 STREAM CIPHER

2016 INTERNATIONAL CONFERENCE ON COMMUNICATION AND INFORMATION SYSTEMS

2016 PROCEEDING NON-INDEX CO-AUTHOR

# 43. RANDOMNESS EVALUATION OF MODIFIED A5/1 STREAM CIPHER FOR GLOBAL SYSTEM FOR MOBILE COMMUNICATION

KOLOKIUM SISWAZAH SAINS & TEKNOLOGI

2016 PROCEEDING NON-INDEX CO-AUTHOR

## 44. EFFECT OF THE NUMBER OF TAPPING BITS OF THE A5/1 STREAM CIPHER TOWARDS HARDWARE PERFORMANCE

2ND INTERNATIONAL CONFERENCE ON ENGINEERING SCIENCE AND TECHNOLOGY

2016 PROCEEDING NON-INDEX CO-AUTHOR

## 45. METHODOLOGIES OF IMPULSE TESTS ON EARTHING SYSTEMS BY FIELD MEASUREMENTS WITH DIFFERENT REMOTE EARTH

2016 IEEE INTERNATIONAL CONFERENCE ON HIGH VOLTAGE ENGINEERING AND APPLICATION

2016 PROCEEDING NON-INDEX CO-AUTHOR

#### 46. IMPROVING GSM SECURITY BY ENHANCING THE RANDOMNESS PROPERTY OF THE A5/1 DESIGN

AUSTRALIAN JOURNAL OF BASIC AND APPLIED SCIENCES

2015 JOURNAL SCOPUS MAIN AUTHOR

#### 47. ANALYSIS OF THE CHARACTERISTICS OF AN EARTHING SYSTEM BASED ON FINITE ELEMENT METHOD

POSTGRADUATE COLLOQUIUM 2014, FACULTY OF SCIENCE AND TECHNOLOGY

2014 PROCEEDING NON-INDEX CO-AUTHOR

# 48. FEASIBILITY STUDY OF "OPEN-SHORT CIRCUIT" DIMENSIONLESS FIGURE-OF-MERIT (ZT) MEASUREMENT TECHNIQUE FOR THERMOELECTRIC DEVICE

PIONEERING ISLAMIC SCIENCE, SPEARHEADING KNOWLEDGE

2013 CHAPTER IN BOOK

#### 49. MULTIWAVELENGTH BRILLOUIN ERBIUM FIBER LASER

PIONEERING ISLAMIC SCIENCE, SPEARHEADING KNOWLEDGE

2013 CHAPTER IN BOOK

## **CONSULTATION**

1. FASILITATOR PROGRAM "TRAINING ON CURRICULUM DEVELOPMENT", INSTITUT AGAMA ISLAM NEGERI (IAIN) WALISONGO INDONESIA

INSTITUT AGAMA ISLAM NEGERI (IAIN) INDONESIA

2013 INTERNATIONAL

### AWARDS/RECOGNITION

2013 KEBANGSAAN BRONZE

1. ACADEMIC ADVISOR JPT 2023 NATIONAL 2. ACADEMIC ADVISOR 2022 NATIONAL 3. ACADEMIC ADVISOR USIM 2022 UNIVERSITY 4. SMART PARCEL DROP BOX PERTANDINGAN REKACIPTA INOVASI INTERNASIONAL & NASIONAL 2022 (PRIIN 2022) 2022 ANTARABANGSA SILVER 5. I-SOLD: A PROTOTYPE OF SOLAR COOLING INTEGRATED FACADE FOR BALANCING HUMAN COMFORT, SUSTAINABILITY IN WORKING AND LEARNING SPACE 8th EXPOSITION ON ISLAMIC INNOVATION (i-INOVA) 2018 2018 UNIVERSITI BRONZE 6. USIM MIZAN HOMESTAY THE INTERNATIONAL CONFERENCE AND EXPOSITION ON INVENTION (PECIPTA 17) 2017 UNIVERSITI BRONZE 7. MIZAN SOLARHOME 27TH INTERNATIONAL INVENTION & INNOVATION EXHIBITION 2017 (ITEX 2017) 2017 ANTARABANGSA SILVER 8. SILVER; NOVEL RESEARCH & INNOVATION COMPETITION 2015 (NRIC 2015) 2015 NATIONAL 9. QIBLAH FINDER FOR VISUALLY IMPAIRED PERSON NOVEL RESEARCH & INNOVATION COMPETITION (NRIC) 2015 2015 KEBANGSAAN SILVER 10. NEW POLYNOMIAL STRUCTURE FOR A5/1 STREAM CIPHER TO STRENGTHEN GSM SECURITY EKSPO INOVASI ISLAM I-INOVA 2014 2014 KEBANGSAAN CERTIFICATE OF APPRECIATION 11. SECOND RUNNER UP; "QIBLAT COMPASS FOR THE BLIND -- I SEE"; COMMUNITY RESEARCH & INNOVATION **COMPETITION 2013 (CORIC 2013)** 2013 NATIONAL 12. ANUGERAH E-NILAI - SEMESTER 2 2012/2013 2013 UNIVERSITY 13. SENIOR MEMBER IEEE 2013 INTERNATIONAL 14. MOTION DETECTION OF BREAST TUMORS BASED ON TISSUE ELASTICITY FROM B MODE ULTRASOUND IMAGES **USING GRA** 4TH EXPOSITION ON ISLAMIC INNOVATION 2013 (I-INOVA"13)