



PROF. MADYA TS. DR. WAN ZAKIAH BINTI WAN ISMAIL

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Address: Fakulti
Kejuruteraan Dan Alam Bina

SUPERVISION

PhD - Completed: 0, Ongoing: 6

Master - Completed: 3, Ongoing: 4

AREAS OF EXPERTISE

Electronic Sensors
Optical/photonic Sensor
Sensor In Environmental Monitoring

BIOGRAPHY

A lecturer from Fakulti Kejuruteraan Dan Alam Bina. Holds a Phd in Lasers And Quantum Electronics.

ACADEMIC QUALIFICATION

Phd in Lasers And Quantum Electronics (2016)
Master in Electronics (telecommunication) (2007)
Bachelor in Electronics (2005)

RESEARCH

1. ANOMALY DETECTION IN WATER QUALITY PARAMETERS AND POLLUTION PREDICTION BASED ON REGRESSION AND RANDOM FOREST THEORY

2026 ON GOING MAIN RESEARCHER

2. DATA COLLECTION AND ANALYSIS OF HEMOGLOBIN USING REAGENTLESS BLOOD TESTING AND VITAL SIGN ANALYSER

2025 ON GOING MAIN RESEARCHER

3. A NOVEL WATER QUALITY ANOMALIES SENSING AND FORECASTING METHOD USING TIME SERIES REGRESSION FOREST (TSRF) FOR SUSTAINABLE MODERN AGRICULTURE.

2024 ON GOING MAIN RESEARCHER

4. STUDY OF HEMOGLOBIN AND GLUCOSE USING VISIBLE (VIS) AND NEAR INFRA-RED (NIR)-BASED HEALTHCARE PLATFORM AND DEVICES

2024 ON GOING MAIN RESEARCHER

5. DEVELOPMENT OF A SPECTROMETER FOR DETECTING CHEMICAL CONTAMINANT IN WATER

2023 COMPLETED MAIN RESEARCHER

6. DEVELOPMENT OF INTELLIGENT WATER QUALITY MONITORING SYSTEM FOR AGRICULTURE SECTOR IN MALAYSIA

2022 ON GOING MAIN RESEARCHER

7. TESTING AND DATA COLLECTION OF VITAL SIGNS USING REVA AND MASSIMO DEVICES

2022 COMPLETED MAIN RESEARCHER

8. DEVELOPMENT OF MICROELECTRONICS SYSTEMS, RELATED TECHNOLOGY AND PRODUCTS FOR VIS NIR-BASED HEALTHCARE PLATFORM AND DEVICES

2022 COMPLETED MAIN RESEARCHER

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

2022 COMPLETED MAIN RESEARCHER

10. FORMULATING A METHOD TO DETECT CONTAMINANT IN WATER BASED ON LIGHT PROPAGATION THEORY FOR CONSERVING NATURAL WATER RESOURCES

2021 ON GOING MAIN RESEARCHER

11. INVESTIGATING LIGHT SCATTERING ON PROPERTIES OF RANDOM LASERS BASED ON SCATTERING PROBABILITY THEORY FOR POTENTIAL USE IN MEDICAL AND BIOSENSING APPLICATIONS

2019 COMPLETED MAIN RESEARCHER

12. ANALYZING PERFORMANCE OF RANDOM LASERS AS THE OPTICAL DEVICES FOR BIOSENSING AND MEDICAL APPLICATIONS

2018 COMPLETED MAIN RESEARCHER

PUBLICATION

1. DETECTION OF CONTAMINATION IN WATER USING SPECTROSCOPY

2024 CHAPTER IN BOOK

2. SIMULATION STUDY OF ULTRASONIC TOMOGRAPHY APPROACH IN DETECTING FOREIGN OBJECT IN MILK PACKAGING

2023 JOURNAL

3. STUDY OF LIGHT EMITTING DIODE (LED) AND HIGH-PRESSURE SODIUM VAPOUR (HPSV) LAMP BASED ON PHOTOMETRIC METHOD FOR ROAD LIGHTING IN MALAYSIA

2023 PROCEEDING

4. DETECTION ON CHEMICAL CONTAMINANTS IN WATER FOR IRRIGATION SYSTEMS: A SYSTEMATIC REVIEW

2023 PROCEEDING

5. SYNTHESIS AND CHARACTERIZATION OF SILVER-GOLD BIMETALLIC NANOPARTICLES FOR RANDOM LASING

2022 JOURNAL

6. INVESTIGATING LIGHT PROPAGATION IN FULL AND SKIMMED MILK BASED ON SPECTROSCOPY AND MONTE CARLO ANALYSIS

2020 JOURNAL

7. PROPERTIES OF RANDOM LASERS IN A HOLLOW CORE PHOTONIC CRYSTAL FIBER

2020 JOURNAL

8. AN OVERVIEW OF RANDOM LASER

2020 BOOK

9. ENHANCEMENT OF RANDOM LASER PROPERTIES ON SOLID POLYMER FILMS BY INCREASING SCATTERING EFFECT

2019 JOURNAL

10. PLASMONIC EFFECT ON PERFORMANCE OF RANDOM LASERS

2018 JOURNAL

11. PLASMONIC EFFECT ON PERFORMANCE OF RANDOM LASERS

2017 PROCEEDING

12. DOPAMINE SENSING AND MEASUREMENT USING THRESHOLD AND SPECTRAL MEASUREMENTS IN RANDOM LASERS

2016 JOURNAL

13. EXTENDED EMISSION WAVELENGTH OF RANDOM DYE LASERS BY EXPLOITING RADIATIVE AND NON-RADIATIVE ENERGY TRANSFER

2016 JOURNAL

14. W. Z. WAN ISMAIL, T. P. VO, E. M. GOLDYS AND J. M. DAWES

2015 JOURNAL

15. SPECTRAL AND COHERENCE SIGNATURES OF THRESHOLD IN RANDOM LASERS

2014 JOURNAL

AWARDS/RECOGNITION

1. ANUGERAH STAFF CONTOH FAKULTI

2025

UNIVERSITY

2. PHOTOACOUSTIC TOMOGRAPHY CONCEPT FOR EARLY DETECTION OF PREMOLAR CARIES

2025

Antarabangsa

Silver

3. ANUGERAH PENYELIDIKAN TERBAIK

2024

UNIVERSITY

4. ANUGERAH PENYELIDIK CEMERLANG

2024

OTHERS

5. BEST PAPER AWARD

2024

UNIVERSITY