

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

PENSYARAH UNIVERSITI DS14

CONTACT

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FACULTY

Fakulti Kejuruteraan Dan Alam Bina

SUPERVISION

	COMPLETED	ONGOING
PhD	0	6
Master	3	4

AREAS OF EXPERTISE

- Electronic Sensors
- Optical/photonic Sensor
- Sensor In Environmental Monitoring

ACADEMIC QUALIFICATION

- 2016 **PhD** - Lasers And Quantum Electronics
- 2007 **Master** - Electronics (telecommunication)
- 2005 **Bachelor** - Electronics

RESEARCH

1. **ANOMALY DETECTION IN WATER QUALITY PARAMETERS AND POLLUTION PREDICTION BASED ON REGRESSION AND RANDOM FOREST THEORY**
   2026 | GERAN SEPADAN ANTARABANGSA | ON GOING | MAIN RESEARCHER
2. **DATA COLLECTION AND ANALYSIS OF HEMOGLOBIN USING REAGENTLESS BLOOD TESTING AND VITAL SIGN ANALYSER**
   2025 | GERAN PENYELIDIKAN INDUSTRI | 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 | GERAN KPT | ON GOING | MAIN RESEARCHER
4. **STUDY OF HEMOGLOBIN AND GLUCOSE USING VISIBLE (VIS) AND NEAR INFRA-RED (NIR)-BASED HEALTHCARE PLATFORM AND DEVICES**
   2024 | GERAN PENYELIDIKAN INDUSTRI | ON GOING | MAIN RESEARCHER
5. **DEVELOPMENT OF A SPECTROMETER FOR DETECTING CHEMICAL CONTAMINANT IN WATER**
   2023 | GERAN PENYELIDIKAN INDUSTRI | COMPLETED | MAIN RESEARCHER

RESEARCH

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

2022 | GERAN SEPADAN AGENSI KERAJAAN | ON GOING | MAIN RESEARCHER

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

2022 | GERAN PENYELIDIKAN INDUSTRI | COMPLETED | MAIN RESEARCHER

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

2022 | GERAN PENYELIDIKAN INDUSTRI | COMPLETED | MAIN RESEARCHER

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

2022 | GERAN PENYELIDIKAN INDUSTRI | COMPLETED | MAIN RESEARCHER

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

2021 | GERAN KPT | 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 | GERAN KPT | COMPLETED | MAIN RESEARCHER

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

2018 | GERAN PENYELIDIKAN USIM | COMPLETED | MAIN RESEARCHER

PUBLICATION

1. PARAMETRIC OF DAYLIGHT PERFORMANCE THROUGH FACADE ENVELOPE RATIO OF HIGH-RISE OFFICE BUILDING IN TROPICAL

INTERNATIONAL CONFERENCE ON SCIENCE, BUILT ENVIRONMENT AND ENGINEERING

2025 | PROCEEDING | OTHER DATABASE | MAIN AUTHOR

2. DETECTION OF CONTAMINATION IN WATER USING SPECTROSCOPY

ADVANCEMENT IN ENGINEERING AND TECHNOLOGY

2024 | CHAPTER IN BOOK | MAIN AUTHOR

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

JOURNAL OF TOMOGRAPHY SYSTEM & SENSORS APPLICATION

2023 | JOURNAL | OTHER DATABASE | MAIN AUTHOR

PUBLICATION

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

SEMINAR ANTARABANGSA SAINS DAN ISLAM

2023 PROCEEDING NON-INDEX MAIN AUTHOR

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

INTERNATIONAL CONFERENCE ON RECENT ADVANCEMENTS IN SCIENCE AND TECHNOLOGY

2023 PROCEEDING NON-INDEX MAIN AUTHOR

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

NANOMATERIALS

2022 JOURNAL ISI MAIN AUTHOR

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

JOURNAL OF ENGINEERING AND APPLIED SCIENCE

2020 JOURNAL SCOPUS MAIN AUTHOR

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

LASER PHYSICS

2020 JOURNAL WOS MAIN AUTHOR

9. AN OVERVIEW OF RANDOM LASER

2020 BOOK MAIN AUTHOR

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

JOURNAL OF RUSSIAN LASER RESEARCH

2019 JOURNAL ISI MAIN AUTHOR

11. PLASMONIC EFFECT ON PERFORMANCE OF RANDOM LASERS

ADVANCE SCIENCE LETTERS

2018 JOURNAL SCOPUS MAIN AUTHOR

12. PLASMONIC EFFECT ON PERFORMANCE OF RANDOM LASERS

INTERNATIONAL CONFERENCE ON COMPUTER AND NETWORK APPLICATIONS

2017 PROCEEDING NON-INDEX MAIN AUTHOR

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

OPTICS EXPRESS

2016 JOURNAL WOS MAIN AUTHOR

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

APPLIED PHYSICS B:LASERS AND OPTICS

2016 JOURNAL WOS MAIN AUTHOR

PUBLICATION

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

LASER PHYSICS

2015 JOURNAL WOS MAIN AUTHOR

16. SPECTRAL AND COHERENCE SIGNATURES OF THRESHOLD IN RANDOM LASERS

JOURNAL OF OPTICS

2014 JOURNAL WOS MAIN AUTHOR

AWARDS/RECOGNITION

1. ANUGERAH STAFF CONTOH FAKULTI

2025 UNIVERSITY

2. PHOTOACOUSTIC TOMOGRAPHY CONCEPT FOR EARLY DETECTION OF PREMOLAR CARIES

INNOVATION BANK CHALLENGE 2025

2025 ANTARABANGSA SILVER

3. ANUGERAH PENYELIDIKAN TERBAIK

2024 UNIVERSITY

4. ANUGERAH PENYELIDIK CEMERLANG

2024 OTHERS

5. BEST PAPER AWARD

2024 UNIVERSITY