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

PENSYARAH UNIVERSITI DS14

## CONTACT

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## SUPERVISION

PhD - Completed: 0, O
6

Master - Completed: 3, Ongoing: 4

## AREAS OF EXPERTISE

Electronic Sensors

Optical/photonic Sensor

Sensor In Environmental Monitoring

## ACADEMIC QUALIFICATION

PhD in Lasers And Quantum Electronics (2016)

Master in Electronics (telecommunication) (2007)

Bachelor in Electronics (2005)

## RESEARCH

**1. 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

**2. 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

**3. DEVELOPMENT OF A SPECTROMETER FOR DETECTING CHEMICAL CONTAMINANT IN WATER**

2023 | GERAN PENYELIDIKAN INDUSTRI | COMPLETED | MAIN RESEARCHER

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

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

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

2022 | GERAN PENYELIDIKAN INDUSTRI | COMPLETED | MAIN RESEARCHER

# RESEARCH

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

2022 GERAN PENYELIDIKAN INDUSTRI COMPLETED MAIN RESEARCHER

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

2022 GERAN PENYELIDIKAN INDUSTRI COMPLETED MAIN RESEARCHER

**8. 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

**9. 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

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

2018 GERAN PENYELIDIKAN USIM COMPLETED MAIN RESEARCHER

# PUBLICATION

**1. DETECTION OF CONTAMINATION IN WATER USING SPECTROSCOPY**

ADVANCEMENT IN ENGINEERING AND TECHNOLOGY

2024 CHAPTER IN BOOK MAIN AUTHOR

**2. 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

**3. 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

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

NANOMATERIALS

2022 JOURNAL ISI MAIN AUTHOR

**5. 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

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

LASER PHYSICS

2020 JOURNAL WOS MAIN AUTHOR

**7. AN OVERVIEW OF RANDOM LASER**

2020 BOOK MAIN AUTHOR

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

JOURNAL OF RUSSIAN LASER RESEARCH

2019 JOURNAL ISI MAIN AUTHOR

**9. PLASMONIC EFFECT ON PERFORMANCE OF RANDOM LASERS**

ADVANCE SCIENCE LETTERS

2018 JOURNAL SCOPUS MAIN AUTHOR

**10. PLASMONIC EFFECT ON PERFORMANCE OF RANDOM LASERS**

INTERNATIONAL CONFERENCE ON COMPUTER AND NETWORK APPLICATIONS

2017 PROCEEDING NON-INDEX MAIN AUTHOR

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

OPTICS EXPRESS

2016 JOURNAL WOS MAIN AUTHOR

**12. 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

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

LASER PHYSICS

2015 JOURNAL WOS MAIN AUTHOR

# PUBLICATION

**14. SPECTRAL AND COHERENCE SIGNATURES OF THRESHOLD IN RANDOM LASERS**

JOURNAL OF OPTICS

2014 JOURNAL WOS MAIN AUTHOR

# AWARDS/RECOGNITION

**1. ANUGERAH PENYELIDIKAN TERBAIK**

2024 UNIVERSITY

**2. ANUGERAH PENYELIDIK CEMERLANG**

2024 OTHERS

**3. BEST PAPER AWARD**

2024 UNIVERSITY

**4. BUKU KARYA SUNTINGAN TERBAIK**

2024 UNIVERSITY

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

4TH INNOVATION BANK CHALLENGE 2024 (IBC 2024)

2024 UNIVERSITI BRONZE