



## PROF. MADYA DR. AFFA ROZANA BINTI ABDUL RASHID

PENSYARAH UNIVERSITI DS14

### CONTACT

**Phone:** 067988786

**E-mail:**

affarozana@usim.edu.my

**Faculty:** Fakulti Sains  
Dan Teknologi

### SUPERVISION

PhD - Completed: 0, Ongoing: 0

Master - Completed: 2,  
Ongoing: 0

## AREAS OF EXPERTISE

Nano Photonic

Nano - Materials

## ACADEMIC QUALIFICATION

PhD in Nanofotonik (2014)

Master in Mikroelektronik (2009)

Bachelor in Kejuruteraan Elektrik Dan Elektronik (2008)

## RESEARCH

### 1. ZNO:RGO COATED OPTICAL FIBER SENSOR FOR HEAVY METAL IONS DETECTION

2023

GERAN PENYELIDIKAN USIM

ON GOING

MAIN RESEARCHER

### 2. ENHANCING LOCALIZED PLASMONIC EFFECT USING CHROMIUM-GOLD NANORODS COATED ON FIBER PROBE FOR OPTICAL TRAPPING APPLICATION

2023

GERAN PENYELIDIKAN USIM

ON GOING

CO-RESEARCHER

### 3. HYBRID ZNO NANOPARTICLES-BIOCHAR MATERIALS IN PHOTOCATALYTIC OPTICAL FIBER SENSOR FOR WASTEWATER TREATMENT APPLICATION

2023

GERAN PENYELIDIKAN USIM

ON GOING

CO-RESEARCHER

### 4. BANANA-PEEL-DERIVED ACTIVATED CARBON AS SUSTAINABLE ELECTRODE MATERIALS FOR ELECTRO-CHEMICAL CAPACITORS

2023

GERAN PENYELIDIKAN USIM

ON GOING

CO-RESEARCHER

### 5. 3D PRINTED EMERGENCY DEVICE (VENTILATOR)

2020

GERAN PENYELIDIKAN COVID-19

COMPLETED

CO-RESEARCHER

# RESEARCH

---

## 6. TENSIOMETRIC SURFACE MEASUREMENT BY FIBER OPTIC DISPLACEMENT SENSOR FOR MEDICAL DIAGNOSTIC

2017 GERAN KPT COMPLETED CO-RESEARCHER

## 7. NANOCRYSTALLINE METAL OXIDE COATED POF FIBER FOR VOC SENSING APPLICATIONS

2015 GERAN KPT COMPLETED MAIN RESEARCHER

## 8. EVANESCENT FIELD STUDY ON A COATED U-SHAPED FIBER ABSORPTION SENSOR

2015 GERAN PENYELIDIKAN JANGKA PENDEK COMPLETED MAIN RESEARCHER

## 9. HIGH SENSITIVE FREE SPACE OPTICS - PLASMONIC SENSOR

2014 GERAN KPT COMPLETED CO-RESEARCHER

# PUBLICATION

---

## 1. MAXIMIZING LIGHT COUPLING EFFICIENCY VIA LSPR EFFECT USING AUNP-COATED ANGLE-CLEAVED FIBER PROBE FOR OPTICAL MICROSCOPY APPLICATION

SEMARAK INTERNATIONAL JOURNAL OF ELECTRONIC SYSTEM ENGINEERING

2026 JOURNAL OTHER DATABASE CORRESPONDING AUTHOR

## 2. IOT-INTEGRATED SMART GARDENING SYSTEM FOR REAL-TIME MONITORING AND USER-CONTROLLED WITH SMART FILM

JOURNAL OF TELECOMMUNICATION, ELECTRONIC AND COMPUTER ENGINEERING

2025 JOURNAL SCOPUS CORRESPONDING AUTHOR

## 3. ROLE OF WATER CONTACT ANGLE IN BIOFUNCTIONALIZEDGOLD SENSORS FOR GLUCOSE DETECTION USING K-SPR

JURNAL OPTOELEKTRONIK

2025 JOURNAL OTHER DATABASE CO-AUTHOR

## 4. ZNO AND GO COATED PLASTIC OPTICAL FIBER FOR LOW CONCENTRATION OF ETHANOL DETECTION IN BEER

OPTOELECTRONICS AND ADVANCED MATERIALS ♦ RAPID COMMUNICATIONS (OPTOELECTRON. ADV. MAT.)

2024 JOURNAL ISI AND SCOPUS MAIN AUTHOR

## 5. EARLY DETECTION OF HYPERURICEMIA USING HYBRID AU? ZNO BIOSENSOR AND KRETSCHMANN-BASED SPR AT VISIBLE OPTICAL WAVELENGTHS

2024 IEEE INTERNATIONAL CONFERENCE ON SEMICONDUCTOR ELECTRONICS (ICSE)

2024 PROCEEDING WOS CO-AUTHOR

## 6. AUNPS/GO COATED U-SHAPE POLISHED SMF BASED LOCALIZED SPR SENSOR FOR MUSTA?MAL WATER IDENTIFICATION

INTERNATIONAL JOURNAL OF NANOELECTRONICS AND MATERIALS

2023 JOURNAL SCOPUS CO-AUTHOR

## 7. NEXT-GENERATION NANOPHOTONIC-ENABLED BIOSENSORS FOR INTELLIGENT DIAGNOSIS OF SARS-COV-2 VARIANTS

SCIENCE OF THE TOTAL ENVIRONMENT

2023 JOURNAL ISI CO-AUTHOR

## 8. METAL OXIDE COATED OPTICAL FIBER FOR HUMIDITY SENSING APPLICATION: A REVIEW

IEEE ACCESS

2023 JOURNAL ISI CO-AUTHOR

## 9. VISIBLE AND ANGULAR INTERROGATION OF KRETSCHMANN-BASED SPR USING HYBRID AU-ZNO OPTICAL SENSOR FOR HYPERURICEMIA DETECTION

HELLYON

2023 JOURNAL OTHER DATABASE CO-AUTHOR

## 10. GRAPHENE-BASED HYBRID SENSOR FOR THE DETECTION OF CANCER CELLS USING K-SPR TECHNOLOGY

2023 IEEE REGIONAL SYMPOSIUM ON MICRO AND NANOELECTRONICS (RSM)

2023 PROCEEDING WOS CO-AUTHOR

## 11. INSTRUMENTATION ANALYSIS OF FODS PERFORMANCE THROUGH BUNDLED PROBES AND LIGHT SOURCES

11TH INTERNATIONAL CONFERENCE ON APPLIED SCIENCE AND TECHNOLOGY 2022

2023 PROCEEDING NON-INDEX MAIN AUTHOR

## 12. INVESTIGATING THE EFFECT OF WAIST DIAMETER ON SENSITIVITY OF THE ETCHED PLASTIC OPTICAL FIBER BASED ETHANOL SENSOR

OPTOELECTRONICS AND ADVANCED MATERIALS ♦ RAPID COMMUNICATIONS (OPTOELECTRON. ADV. MAT.)

2022 JOURNAL ISI AND SCOPUS CORRESPONDING AUTHOR

## 13. SENSITIVITY OPTIMIZATION OF AU/TI BASED-SPR SENSOR BY CONTROLLING LIGHT INCIDENT WAVELENGTH FOR GAS SENSING APPLICATION

JOURNAL OF MATERIALS IN LIFE SCIENCES (JOMALISC)

2022 JOURNAL MYCITE CO-AUTHOR

# PUBLICATION

---

## 14. SYNTHESIS OF GRAPHENE BASED NANOCOMPOSITES AND THEIR APPLICATION - A REVIEW

MALAYSIAN JOURNAL OF SCIENCE, HEALTH & TECHNOLOGY (MJOSHT)

2022 JOURNAL OTHER DATABASE MAIN AUTHOR

## 15. PLASTIC OPTICAL FIBER PH SENSOR BASED ON SOL GEL FILM

JOURNAL OF MATERIALS IN LIFE SCIENCES (JOMALISC)

2022 JOURNAL OTHER DATABASE CORRESPONDING AUTHOR

## 16. DEVELOPMENT OF SMART SHOES USING PIEZOELECTRIC MATERIAL

MALAYSIAN JOURNAL OF SCIENCE, HEALTH & TECHNOLOGY

2021 JOURNAL OTHER DATABASE MAIN AUTHOR / CONTACT PERSON IN USIM

## 17. GREEN SYNTHESIS OF REDUCED GRAPHENE OXIDE BY USING REDUCING SUGARS

NANO HYBRIDS AND COMPOSITES

2021 JOURNAL WOS MAIN AUTHOR / CONTACT PERSON IN USIM

## 18. OPTICAL PROPERTIES OF ZNO, TIO2 AND ZNO: TIO2 COMPOSITE FILMS

NANO HYBRIDS AND COMPOSITES

2021 JOURNAL WOS MAIN AUTHOR / CONTACT PERSON IN USIM

## 19. U-BENT POLYMER OPTICAL FIBER FOR ESCHERICHIA COLI DETECTION

OPTOELECTRONICS AND ADVANCED MATERIALS ♦ RAPID COMMUNICATIONS (OPTOELECTRON. ADV. MAT.)

2020 JOURNAL ISI AND SCOPUS MAIN AUTHOR

## 20. DEVELOPMENT OF AUTOMATED MINI GREENHOUSE EMBEDDED WITH ARDUINO

INTERNATIONAL JOURNAL OF ADVANCED RESEARCH IN ENGINEERING INNOVATION

2020 JOURNAL OTHER DATABASE CO-AUTHOR

## 21. DESIGN AND IMPLEMENTATION OF HOME SECURITY SYSTEM USING PIEZOELECTRIC SENSOR

MALAYSIAN JOURNAL OF SCIENCE HEALTH & TECHNOLOGY

2020 JOURNAL OTHERS DATABASE MAIN AUTHOR

## 22. GRAPHENE BASED MACROBEND UNCLAD SMF FOR MONITORING PH LEVEL IN AQUEOUS ENVIRONMENT

SOLID STATE PHENOMENA

2020 JOURNAL ERA CO-AUTHOR

## 23. ZNO COATED OPTICAL FIBER FOR ALCOHOL SENSING APPLICATIONS

SOLID STATE PHENOMENA

2020 JOURNAL SCOPUS MAIN AUTHOR

## 24. ZINC OXIDE THIN FILM SYNTHESIZED BY SOL-GEL METHOD

SOLID STATE PHENOMENA

2020 JOURNAL SCOPUS CO-AUTHOR

## 25. SENSITIVITY ANALYSES OF CU/CHITOSAN AND AG/CHITOSAN BASED SPR BIOSENSOR FOR GLUCOSE DETECTION

INTERNATIONAL LASER TECHNOLOGY AND OPTICS SYMPOSIUM 2020

2020 PROCEEDING NON-INDEX CO-AUTHOR

## 26. HIGH-YIELD AND STEPWISE SYNTHESIS OF GRAPHENE OXIDE BY MODIFIED HUMMERS? METHOD

INTERNATIONAL JOURNAL OF NANOELECTRONICS AND MATERIALS

2019 JOURNAL SCOPUS CORRESPONDING AUTHOR

# PUBLICATION

---

## 27. ZINC OXIDE COATED POLYMER OPTICAL FIBER FOR MEASURING URIC ACID CONCENTRATIONS

OPTOELECTRONICS AND ADVANCED MATERIALS-RAPID COMMUNICATIONS

2019 JOURNAL ISI MAIN AUTHOR

## 28. EFFECT OF SOLUTION MOLARITY ON OPTICAL PROPERTIES OF AL DOPED ZNO THIN FILMS

JOURNAL OF PHYSICS.: CONFERENCE SERIES

2019 JOURNAL SCOPUS MAIN AUTHOR

## 29. URIC ACID DETECTION BY USING CONTACTLESS INTENSITY MODULATION BASED DISPLACEMENT SENSOR

PHOTONICS MEETING 2019, THE 2ND ANNUAL CONFERENCE AND WORKSHOP

2019 PROCEEDING NON-INDEX CO-AUTHOR

## 30. EFFECT OF NOBLE METAL THIN FILM THICKNESSES ON SURFACE PLASMON RESONANCE (SPR) SIGNAL AMPLIFICATION

JOURNAL OF ADVANCED RESEARCH IN MATERIALS SCIENCE

2018 JOURNAL SCI CO-AUTHOR

## 31. EFFECT OF THICKNESS AND AGEING TIME ON OPTICAL PROPERTIES OF ZINC OXIDE FILM USING SOL-GEL METHOD

INTERNATIONAL JOURNAL OF NANOELECTRONICS AND MATERIALS

2018 JOURNAL SCOPUS MAIN AUTHOR

## 32. INFLUENCE OF ANNEALING TEMPERATURE ON OPTICAL PROPERTIES OF AL DOPED ZNO NANOPARTICLES VIA SOL-GEL METHODS

INTERNATIONAL CONFERENCE ON RECENT ADVANCEMENTS IN SCIENCE AND TECHNOLOGY

2018 PROCEEDING NON-INDEX MAIN AUTHOR

## 33. EVANESCENT FIELD STUDY ON A U-SHAPED SILICA FIBER ABSORPTION SENSOR USING NON SEQUENTIAL RAY TRACING

SOLID STATE PHENOMENA

2017 JOURNAL WOS MAIN AUTHOR

## 34. MANIPULATING MICROBENDING LOSSES IN SINGLE MODE OPTICAL OPEN FIBER FOR PRESSURE SENSING

JOURNAL OF ADVANCED RESEARCH IN APPLIED SCIENCES AND ENGINEERING TECHNOLOGY

2017 JOURNAL ERA CO-AUTHOR

## 35. CHEMICAL TAPERING OF POLYMER OPTICAL FIBER

THE INTERNATIONAL CONFERENCE ON APPLIED PHOTONICS AND ELECTRONICS 2017

2017 PROCEEDING NON-INDEX MAIN AUTHOR

## 36. EFFECT OF SOLUTION MOLARITY ON OPTICAL PROPERTIES OF AL DOPED ZNO THIN FILMS

7TH ASIAN PHYSICS SYMPOSIUM

2017 PROCEEDING NON-INDEX MAIN AUTHOR

## 37. INFLUENCE OF ELECTROMAGNETIC (EM) WAVES POLARIZATION MODES ON SURFACE PLASMON RESONANCE

THE INTERNATIONAL CONFERENCE ON ADVANCED PHOTONICS AND ELECTRONIC (INCAPE) 2017

2017 PROCEEDING NON-INDEX CO-AUTHOR

## 38. SYNTHESIS METHODS OF GOLD NANOPARTICLES FOR LOCALIZED SURFACE PLASMON RESONANCE (LSPR) SENSOR APPLICATIONS

THE INTERNATIONAL CONFERENCE ON APPLIED PHOTONICS AND ELECTRONICS 2017

2017 PROCEEDING NON-INDEX CO-AUTHOR

## 39. OPTIMIZATION OF GOLD THIN FILMS THICKNESSES IN ENHANCING SPR RESPONSE

ICSE2016 INTERNATIONAL CONFERENCE SEMICONDUCTOR ELECTRONICS

2016 PROCEEDING NON-INDEX CO-AUTHOR

# PUBLICATION

---

## 40. AL DOPED ZNO COATED FIBER OPTIC FOR ULTRAVIOLET AND ACETONE SENSING

ADVANCED SCIENCE LETTERS

2013 JOURNAL SCOPUS MAIN AUTHOR

## 41. AN ULTRAVIOLET DETECTOR BASED ON AL-DOPED ZNO THIN FILMS PREPARED BY SOL-GEL METHOD

ADVANCED SCIENCE LETTERS

2013 JOURNAL SCOPUS MAIN AUTHOR

## 42. EFFECTS OF ULTRAVIOLET ILLUMINATION ON SOL-GEL SYNTHESIZED AL DOPED ZNO THIN FILMS.

ADVANCED SCIENCE LETTERS

2013 JOURNAL SCOPUS MAIN AUTHOR

## 43. OPTICAL VOC SENSING APPLICATION OF AL DOPED ZNO COATED FIBER OPTICS.

OPTOELECTRONICS AND ADVANCED MATERIALS, RAPID COMMUNICATIONS

2013 JOURNAL WOS MAIN AUTHOR

## 44. NANOCRYSTALLINE ALUMINIUM DOPED ZINC OXIDE COATED FIBER OPTIC FOR ULTRAVIOLET DETECTION

JOURNAL NONLINEAR OPTICAL PHYSICS AND MATERIALS

2013 JOURNAL WOS MAIN AUTHOR

## 45. INFLUENCE OF DOPING CONCENTRATIONS OF SOL GEL DERIVED ZN1-XMNXO THIN FILMS

INTERNATIONAL CONFERENCE ON APPLIED MATERIALS AND ELECTRONICS ENGINEERING (AMEE 2012)

2012 PROCEEDING NON-INDEX MAIN AUTHOR

## 46. STRUCTURAL AND OPTICAL PROPERTIES OF NANOSTRUCTURED ZN1-XMNXO THIN FILMS

INTERNATIONAL CONFERENCE ON APPLIED MATERIALS AND ELECTRONICS ENGINEERING (AMEE 2012)

2012 PROCEEDING NON-INDEX MAIN AUTHOR

## 47. AL, IN AND SN DOPED ZNO COATED FIBER OPTIC FOR VOC SENSING APPLICATIONS

THE 3RD ISESCO INTERNATIONAL WORKSHOP AND CONFERENCE ON NANOTECHNOLOGY

2012 PROCEEDING NON-INDEX MAIN AUTHOR

## 48. ULTRAVIOLET SENSING BY AL-DOPED ZNO THIN FILMS

THE INTERNATIONAL CONFERENCE FOR NANOMATERIALS SYNTHESIS AND CHARACTERIZATION 2011 (INSC 2011)

2011 PROCEEDING NON-INDEX MAIN AUTHOR

## 49. EFFECTS OF MN DOPING CONCENTRATIONS ON PROPERTIES OF ZNO THIN FILMS

IEEE REGIONAL SYMPOSIUM ON MICRO AND NANOELECTRONICS (RSM),

2011 PROCEEDING NON-INDEX MAIN AUTHOR

## 50. EFFECT OF DOPING CONCENTRATIONS ON THE PROPERTIES OF MN-DOPED ZNO NANOSTRUCTURED THIN FILMS

THE 4TH ASIAN PHYSICS SYMPOSIUM-AN INTERNATIONAL SYMPOSIUM. AIP CONFERENCE PROCEEDINGS

2010 PROCEEDING NON-INDEX MAIN AUTHOR

## 51. EFFECT OF MN DOPING ON THE STRUCTURAL AND OPTICAL PROPERTIES OF ZNO FILMS

IEEE INTERNATIONAL CONFERENCE ON SEMICONDUCTOR ELECTRONICS

2010 PROCEEDING NON-INDEX MAIN AUTHOR

## 52. TUNING THE BANDGAP OF ZN1-XMNXO THIN FILMS PREPARED BY THE SOL-GEL METHOD

2010 INTERNATIONAL CONFERENCE ON PHOTONICS (ICP)

2010 PROCEEDING NON-INDEX MAIN AUTHOR

# CONSULTATION

---

## 1. PERUNDINGAN FIBER OPTIK

INSTITUT LATIHAN PERINDUSTRIAN (ILP) PEDAS

 University

# AWARDS/RECOGNITION

---

## 1. ENHANCING ANTIBACTERIAL PROPERTIES USING SILVER DOPED ZINC OXIDE NANOPARTICLES

INNOVATION BANK CHALLENGE 2025

2025 ANTARABANGSA SILVER

## 2. FIBER OPTIC SENSOR FOR SOIL MOISTURE DETECTION

INNOVATION BANK CHALLENGE 2025

2025 ANTARABANGSA BRONZE

## 3. HUMIDITY SENSOR USING AGAROSE-COATED POLYMER OPTICAL FIBER BASED ON TWISTED FIBER STRUCTURE

INNOVATION BANK CHALLENGE 2025

2025 ANTARABANGSA BRONZE

## 4. DOES THE MOON SHINE OR REFLECT? A QURANIC AND SCIENTIFIC EXPLORATION OF LUNAR LIGHT

10TH INTERNATIONAL CONFERENCE ON QURAN AS FOUNDATION OF CIVILIZATION (SWAT 2025)

2025 ANTARABANGSA BEST PAPER AWARD

## 5. GO/ZNO NANOCOMPOSITE COATED PLASTIC OPTICAL FIBER FOR COPPER ION DETECTION IN DRINKING WATER

4TH INNOVATION BANK CHALLENGE 2024 (IBC 2024)

2024 UNIVERSITI SILVER

## 6. IOT ENHANCED SMART SENSORS: BRING OBSERVATORY CLOSER TO HOME

4TH INNOVATION BANK CHALLENGE 2024 (IBC 2024)

2024 UNIVERSITI GOLD

## 7. GRAPHENE OXIDE COATED OPTICAL FIBER FOR HONEY ADULTERATION DETECTION

SCIENCE AND TECHNOLOGY RESEARCH EXPO (SCITEX)

2024 UNIVERSITI GOLD

## 8. FLEXIBLE MICRO STRIP PATCH ANTENNA SENSOR FOR POSTURE MONITORING

SCIENCE AND TECHNOLOGY RESEARCH EXPO (SCITEX)

2024 UNIVERSITI BRONZE

## 9. ANUGERAH PERKHIDMATAN CEMERLANG 2022

2023 UNIVERSITY

## 10. STAF CONTOH BULAN FEB 2023

2023 OTHERS

## 11. SMART GREEN: AUTOMATIC GARDEN MONITORING WITH SMART FILM USING IOT

International Expo of Innovation Product and System Design (INVIDE) 2023

2023 ANTARABANGSA BRONZE

## 12. PHOTOCATALYTIC DYE DEGRADATION OF ZNO USING ALOE VERA LEAF EXTRACT

SCIENCE AND TECHNOLOGY RESEARCH EXPO (SCITEX@20TH FST)

2023 UNIVERSITI GOLD

## 13. AUNPS-GO BASED FIBER OPTICS LOCALIZED SPR SENSOR FOR MUSTA?MAL WATER IDENTIFICATION

4th International Conference on Applied Photonics and Electronics (InCAPE 2023)

2023 ANTARABANGSA BEST PAPER AWARD

## 14. GRAPHENE-BASED HYBRID SENSOR FOR THE DETECTION OF CANCER CELLS USING K-SPR TECHNOLOGY

2023 IEEE RSM Conference

2023 ANTARABANGSA BEST PAPER AWARD

# AWARDS/RECOGNITION

---

## 15. MASKYLINK: DISCOVERING ASTRONOMY PHENOMENA

SCIENCE AND TECHNOLOGY RESEARCH EXPO (SCITEX@20TH FST)

2023 UNIVERSITI GOLD

## 16. PLASMONIC FBG-BASED HONEY QUALITY TESTER

MALAYSIA TECHNOLOGY EXPO 2022

2022 ANTARABANGSA GOLD

## 17. PLASMONIC FBG-BASED HONEY QUALITY TESTER

Persidangan dan Ekspo Ciptaan Institusi Pengajian Tinggi Antarabangsa (PECIPTA22)

2022 ANTARABANGSA GOLD

## 18. 3D HALOGRAM FOR EARLY CHILDHOOD EDUCATION

MINGGU PENYELIDIKAN & INOVASI 2021 (MPI'21)

2021 KEBANGSAAN GOLD

## 19. 3D HALOGRAM FOR EARLY CHILDHOOD EDUCATION

INTERNATIONAL INNOVATION ARSVOT MALAYSIA (IAM 2021)

2021 ANTARABANGSA SILVER

## 20. ANUGERAH PENYELIDIKAN TERBAIK

2020 UNIVERSITY

## 21. STAFF OF THE MONTH

2020 UNIVERSITY

## 22. ACADEMIC ADVISOR

PANEL PENILAI PEMBENTANGAN PENYELIDIKAN (QUALIFYING TEST) PELAJAR SISWAZAH FAKULTI SAINS DAN TEKNOLOGI

2020 UNIVERSITY

## 23. ACADEMIC ADVISOR

PANEL PENILAI LAPORAN KEMAJUAN PENYELIDIKAN FST

2020 UNIVERSITY

## 24. ACADEMIC ADVISOR

INNOVATION AND TECHNOLOGY COMPETITION 2019

2019 UNIVERSITY

## 25. ACADEMIC ADVISOR

KEMENTERIAN PENDIDIKAN MALAYSIA

2019 NATIONAL

## 26. O-WHEEL

EDUINATION CARNIVAL: TRANSFORMATION TOWARDS ENTREPRENEURIAL MINDSET PERINGKAT KEBANGSAAN

2019 KEBANGSAAN GOLD

## 27. AUTOMATED MINI GREENHOUSE CONTROLLER WITH ARDUINO

MELAKA INTERNATIONAL INTELLECTUAL EXPOSITION 2019

2019 ANTARABANGSA CERTIFICATE OF APPRECIATION

## 28. AUTOMATED MINI GREEN HOUSE CONTROLLER WITH ARDUINO

MELAKA INTERNATIONAL INTELLECTUAL EXPOSITION (MIIEx 2019)

2019 ANTARABANGSA BRONZE

# AWARDS/RECOGNITION

---

## 29. ANUGERAH PERKHIDMATAN CEMERLANG 2017

2018 UNIVERSITY

## 30. ACADEMIC ADVISOR

REGIONAL CONFERENCE ON SOLID STATE SCIENCE AND TECHNOLOGY 2018

2018 NATIONAL

## 31. ACADEMIC ADVISOR

QUALIFYING TEST 2017 PELAJAR PASCASISWAZAH FST

2017 UNIVERSITY

## 32. VISITING SCHOLAR

FAKULTI KEJURUTERAAN DAN ALAM BINA, UNIVERSITI KEBANGSAAN MALAYSIA

2016 UNIVERSITY

## 33. ACADEMIC ADVISOR

SEMINAR SISWAZAH FAKULTI SAINS DAN TEKNOLOGI 2016 (KOSIST'16)

2016 UNIVERSITY