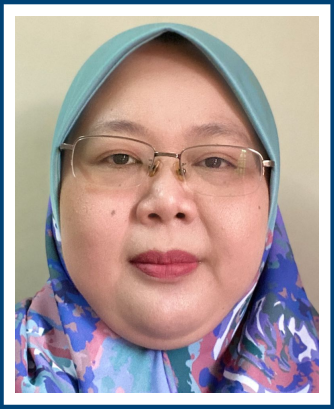


# PROF. MADYA DR. AZWANI SOFIA BINTI AHMAD KHIAR

PENSYARAH UNIVERSITI DS14

## CONTACT


**PHONE**

06-798 6541

**E-MAIL**

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**FACULTY**

Fakulti Sains Dan Teknologi


## SUPERVISION

| | COMPLETED | ONGOING |
|---|---|---|
| PhD | 0 | 0 |
| Master | 4 | 2 |

## AREAS OF EXPERTISE

- Solid State And Polymer Electrolyte Physics
- Polymer Electrolytes
- Electrolytes For Batteries

## ACADEMIC QUALIFICATION

2006 **PhD** - Bahan Termaju

2002 **Bachelor** - Fizik Komputer Dan Elektronik

## RESEARCH

1. **ENHANCING IONIC CONDUCTING PROPERTIES OF 2HYDROXYETHYL CELLULOSE-BASED POLYMERS VIA AMMONIUM FORMATE DOPING PROCESS FOR ENERGY STORAGE APPLICATION**
   2023 | GERAN PENYELIDIKAN PENTADBIR | ON GOING | CO-RESEARCHER

2. **TRANSPORT PROPERTIES OF CELLULOSE DERIVATIES BASED POLYMER ELECTROLYTE DOPED WITH IONIC LIQUIDS USING SPECTROSCOPY METHODS**
   2023 | GERAN KPT | ON GOING | MAIN RESEARCHER

3. **STRUCTURAL AND ELECTRICAL PROPERTIES OF SI/ZNO/C AND SI/ZN/C NANOSTRUCTURE COMPOSITES AS ANODE USING HOT TUBE THERMAL EVAPORATION SYSTEM FOR HIGH CAPACITY BATTERIES**
   2021 | GERAN PENYELIDIKAN USIM | ON GOING | CO-RESEARCHER

4. **INVESTIGATION OF TRI-MODALITY IMAGE REGISTRATION FOR NAVIGATING CARDIOVASCULAR DISEASE TREATMENT PROCEDURE**
   2019 | GERAN PENYELIDIKAN USIM | COMPLETED | CO-RESEARCHER

5. **IMMITTANCE RESPONSES AND IONIC CONDUCTION MECHANISM STUDIES OF ENHANCED CMC SOLID BIOPOLYMER ELECTROLYTES VIA FTIR DECONVOLUTION APPROACH**
   2019 | GERAN PENYELIDIKAN USIM | COMPLETED | CO-RESEARCHER

## RESEARCH

**6.** ELECTRICAL STUDIES OF RENEWABLE BIONANOCOMPOSITE BIOPOLYMER ELECTROLYTE FOR DYE SENSITIZED SOLAR CELL (DSSC) APPLICATION

2016 | GERAN KPT | COMPLETED | MAIN RESEARCHER

**7.** CHARACTERIZATION OF DEEP EUTETIC SOLVENT (DES) - DOPED CHITOSAN BASED POLYMER ELECTROLYTE FRO SOLAR CELL APPLICATION

2013 | GERAN PENYELIDIKAN USIM | COMPLETED | MAIN RESEARCHER

**8.** ELECTRICAL STUDIES OF LAUROYL-CHITOSAN BLEND POLYMER ELECTROLYTES FOR APPLICATION IN LITHIUM BATTERY

2012 | GERAN KPT | COMPLETED | MAIN RESEARCHER

**9.** CARBON NANOTUBE AS ELECTRODE MATERIAL FOR HIGH PERFORMANCE ELECTROCHEMICAL DOUBLE LAYER CAPACITORS (EDLC) WITH HYBRID SOLID POLYMER ELECTROLYTE (HSPE).

2011 | GERAN KPT | COMPLETED | CO-RESEARCHER

**10.** STUDY ON THE ACTUATING MECHANISM OF SELF SENSING ACTUATOR MADE FROM THE PALM OIL BASED SHAPE MEMORY POLYURETHANE (SMPU)

2011 | GERAN KPT | COMPLETED | CO-RESEARCHER

**11.** PRELIMINARY STUDY OF BIO-BASED SHAPE MEMORY POLYURETHANE NANOCOMPOSITES FOR BIOMEDICAL APPLICATION

2011 | GERAN PENYELIDIKAN FUNDAMENTAL | COMPLETED | CO-RESEARCHER

**12.** PRELIMINARY STUDY OF CAPROLACTONE/PALM KERNEL OIL BASED POLYOL FOR POLYURETHANE BIOADHESIVE

2011 | GERAN PENYELIDIKAN FUNDAMENTAL | COMPLETED | CO-RESEARCHER

**13.** KEMAHIRAN INSANIAH DI KALANGAN "ISLAMIC GENIUS"

2010 | GERAN KPT | COMPLETED | CO-RESEARCHER

**14.** THE STUDY OF CELLULOSE-BASED HYBRID SOLID POLYMER ELECTROLYTES

2010 | GERAN KPT | COMPLETED | CO-RESEARCHER

**15.** STUDY ON BIOLOGICAL OF ESSENTIAL OIL FROM CYMBOPOGON SP.

2009 | GERAN PENYELIDIKAN FUNDAMENTAL | COMPLETED | CO-RESEARCHER

**16.** THE STUDY OF SOLID POLYMER ELECTROLYTES FROM BIOPOLYMERS

2008 | GERAN KPT | COMPLETED | MAIN RESEARCHER

**17.** DEVELOPMENT OF SOLID ELECTROLYTES USING NATURAL POLYMERS

2007 | GERAN PENYELIDIKAN FUNDAMENTAL | COMPLETED | MAIN RESEARCHER

## PUBLICATION

**1. THE EFFECT OF NH4BR COMPOSITION ON ELECTRICAL BEHAVIOUR OF 2-HYDROXYETHYL CELLULOSE SOLID BIOPOLYMER ELECTROLYTES**

JOURNAL OF ADVANCED RESEARCH IN FLUID MECHANICS AND THERMAL SCIENCES

2025 JOURNAL OTHER DATABASE CORRESPONDING AUTHOR

**2. SYNTHESIS AND CHARACTERIZATION OF ANODIC ALUMINA OXIDE USING OXALIC ACID AS ELECTROLYTE SOLUTION**

APPLIED MECHANICS AND MATERIALS

2025 JOURNAL OTHER DATABASE CO-AUTHOR

**3. EFFECT OF DYE EXTRACTION FROM MANGOSTEEN PERICARP WITH DIFFERENT EXTRACTION SOLVENTS FOR DSSC FABRICATION OF DYE EXTRACTION FROM MANGOSTEEN PERICARP WITH DIFFERENT EXTRACTION SOLVENTS FOR DSSC FABRICATION**

APPLIED MECHANICS AND MATERIALS

2025 JOURNAL SCOPUS CO-AUTHOR

**4. PREPARATION AND CHARACTERIZATION OF RICE HUSK BIOCHAR-BASED CHEMICAL ACTIVATED CARBON IN VARYING PARTICLE SIZE**

KARYA INTERNATIONAL JOURNAL OF BIOFUEL AND BIOENERGY

2025 JOURNAL MYCITE CORRESPONDING AUTHOR

**5. DEVELOPMENT OF CELLULOSE-BASED FILMS CONTAINING SALICYLIC ACID FOR WOUND DRESSING APPLICATIONS: FABRICATION, PROPERTIES AND IN VITRO ASSESSMENT**

JOURNAL OF BIOACTIVE AND COMPATIBLE POLYMERS

2024 JOURNAL ERA CO-AUTHOR

**6. OPTIMIZATION OF METHYL CELLULOSE BIOPOLYMER ELECTROLYTE CONDUCTIVITY VIA RESPONSE SURFACE METHODOLOGY**

NEXT MATERIALS

2024 JOURNAL OTHER DATABASE CO-AUTHOR

**7. SYNTHESIS OF OXANORBORNENE-BASED PHOSPHONIUM POLYMERIC IONIC LIQUIDS (PILS) AND INVESTIGATION OF THEIR ELECTRICAL PROPERTIES**

MATERIALS ADVANCES

2024 JOURNAL OTHER DATABASE CO-AUTHOR

**8. STRUCTURAL AND ELECTROCHEMICAL PROPERTIES OF BINARY ZNO:AL NANOCOMPOSITES AS ANODE FOR LITHIUM-ION BATTERIES**

MALAYSIAN JOURNAL OF SCIENCE HEALTH & TECHNOLOGY

2024 JOURNAL OTHER DATABASE CO-AUTHOR

**9. POLYURETHANE-BASED POLYMER ELECTROLYTE FOR LITHIUM ION BATTERIES: A REVIEW**

POLYMER INTERNATIONAL

2022 JOURNAL ERA CO-AUTHOR

## PUBLICATION

**10. CONDUCTION MECHANISM OF CHITOSAN/METHYLCELLULOSE/1-BUTYL-3 METHYL IMIDAZOLIUM BIS (TRIFLUOROMETHYLSULFONYL) IMIDE (BMIMTFSI) BIOPOLYMER ELECTROLYTE DOPED WITH AMMONIUM TRIFLATE**

MALAYSIAN JOURNAL OF CHEMISTRY

2020 JOURNAL SCOPUS MAIN AUTHOR / CONTACT PERSON IN USIM

**11. STRUCTURAL STUDIES AND IONIC TRANSPORT PROPERTIES OF SOLID BIOPOLYMER ELECTROLYTES BASED ON CHITOSAN/ METHYL CELLULOSE BLEND DOPED WITH BMIMTFSI**

SOLID STATE PHENOMENA

2020 JOURNAL SCOPUS MAIN AUTHOR / CONTACT PERSON IN USIM

**12. THE EFFECT OF MICROCRYSTALLINE CELLULOSE (MCC) ON COATING PAINT FILM?S SURFACE PERFORMANCE AS NON-STICK COATING**

PIGMENT & RESIN TECHNOLOGY

2020 JOURNAL ISI MAIN AUTHOR / CONTACT PERSON IN USIM

**13. EFFECT OF IONIC LIQUID BMIMNO3 TO CHITOSAN-STARCH BLEND BIOPOLYMER ELECTROLYTE SYSTEM**

SOLID STATE PHENOMENA

2019 JOURNAL SCOPUS CO-AUTHOR

**14. CHARACTERIZATION OF CHITOSAN-STARCH BLEND BASED BIOPOLYMER ELECTROLYTE DOPED WITH AMMONIUM NITRATE**

AIP CONFERENCE PROCEEDINGS

2018 JOURNAL SCOPUS CO-AUTHOR

**15. EFFECT OF BMITFSI TO THE ELECTRICAL PROPERTIES OF CHITOSAN/METHYLCELLULOSE BASED POLYMER ELECTROLYTE**

AIP CONFERENCE PROCEEDINGS

2018 JOURNAL SCOPUS MAIN AUTHOR

**16. ELECTRICAL AND STRUCTURAL STUDIES OF POLYMER ELECTROLYTE BASED ON CHITOSAN/METHYL CELLULOSE BLEND DOPED WITH BMIMTFSI**

MATERIALS RESEARCH EXPRESS

2018 JOURNAL SCI CO-AUTHOR

**17. CONDUCTIVITY, DIELECTRIC AND MODULUS STUDY OF CHITOSAN-METHYL CELLULOSE ? BMIMTFSI POLYMER ELECTROLYTE DOPED WITH CELLULOSE NANO CRYSTAL**

AIP CONFERENCE PROCEEDINGS

2018 JOURNAL SCOPUS CO-AUTHOR

**18. CONDUCTIVITY, DIELECTRIC AND MODULUS STUDIES OF METHYLCELLULOSE-NH4TF POLYMER ELECTROLYTE**

EURASIAN JOURNAL OF BIOLOGICAL AND CHEMICAL SCIENCES

2018 JOURNAL OTHER DATABASE MAIN AUTHOR

**19. CONDUCTIVITY STUDIES OF METHYL CELLULOSE/CHITOSAN/1-BUTYL-3-METHYL IMIDAZOLIUM BIS(TRIFLUORO SULFONYL) IMIDE DOPED WITH AMMONIUM TRIFLATE BASED POLYMER ELECTROLYTE**

19TH WORLD CONGRESS ON MATERIALS SCIENCE AND ENGINEERING

2018 PROCEEDING NON-INDEX MAIN AUTHOR

## PUBLICATION

**20. ELECTRICAL CONDUCTIVITY OF BIOBASED SHAPE MEMORY POLYURETHANE FILLED WITH CNT**

MATERIALS SCIENCE FORUM

2017 JOURNAL SCOPUS CO-AUTHOR

**21. COLOR STABILITY AND CORROSION RESISTIVITY OF NATURAL DYE COATING PAINT FILM CONSISTING OF CURCUMIN**

ADVANCED SCIENCE LETTERS

2017 JOURNAL SCOPUS MAIN AUTHOR

**22. EFFECT OF 1-ETHYL-3-METHYLIMIDAZOLIUM NITRATE ON THE ELECTRICAL PROPERTIES OF STARCH/CHITOSAN BLEND POLYMER ELECTROLYTE**

MATERIALS SCIENCE FORUM

2016 JOURNAL SCOPUS MAIN AUTHOR

**23. ELECTRICAL PROPERTIES OF STARCH/PEO BLEND POLYMER ELECTROLYTES.**

APPLIED MECHANICS AND MATERIALS

2015 JOURNAL SCOPUS MAIN AUTHOR

**24. ELECTRICAL PROPERTY OF METHYLCELLULOSE/CHITOSAN-NH4NO3-EC PLASTICIZED POLYMER ELECTROLYTE**

APPLIED MECHANICS AND MATERIALS

2015 JOURNAL SCOPUS MAIN AUTHOR

**25. EFFECT OF BMITFSI TO THE ELECTRICAL PROPERTIES OF METHYLCELLULOSE/CHITOSAN/NH4TF BASED POLYMER ELECTROLYTE**

SPIE MICRO+NANO MATERIALS, DEVICES, AND SYSTEMS

2015 PROCEEDING NON-INDEX MAIN AUTHOR

**26. EFFECT OF LICF3SO3 ON L-CHITOSAN/PMMA BLEND POLYMER ELECTROLYTES**

MOLECULAR CRYSTALS AND LIQUID CRYSTALS

2014 JOURNAL SCI MAIN AUTHOR

**27. CONDUCTIVITY AND DIELECTRIC STUDIES OF METHYLCELLULOSE/CHITOSAN-NH4CF3SO3 POLYMER ELECTROLYTE**

KEY ENGINEERING MATERIALS

2014 JOURNAL SCOPUS MAIN AUTHOR

**28. CONDUCTIVITY AND DIELECTRIC BEHAVIOUR STUDIES OF LICF3SO3 DISSOCIATION IN L-CHITOSAN/PMMA-BASED POLYMER ELECTROLYTES.**

MALAYSIAN JOURNAL OF FUNDAMENTAL AND APPLIED SCIENCES

2013 JOURNAL OTHER DATABASE MAIN AUTHOR

**29. CONDUCTIVITY AND DIELECTRIC BEHAVIOUR STUDIES OF LICF3SO3 DISSOCIATION IN L-CHITOSAN/PMMA-BASED POLYMER ELECTROLYTES**

REGIONAL ANNUAL FUNDAMENTAL SCIENCE SYMPOSIUM 2012

2012 PROCEEDING NON-INDEX MAIN AUTHOR

## PUBLICATION

**30. SUPERCAPACITOR BASED ON ACTIVATED CARBON AND HYBRID SOLID POLYMER ELECTROLYTE**

MATERIALS RESEARCH INNOVATIONS

2011 JOURNAL WOS CO-AUTHOR

**31. CONDUCTIVITY AND DIELECTRIC BEHAVIOR STUDIES OF STARCH/PEO + X WT% NH4NO3 POLYMER ELECTROLYTE**

MATERIALS RESEARCH INNOVATIONS

2011 JOURNAL WOS MAIN AUTHOR

**32. ELECTRICAL PROPERTIES OF STARCH/CHITOSAN-NH4NO3 POLYMER ELECTROLYTE**

WORLD ACADEMY OF SCIENCE, ENGINEERING AND TECHNOLOGY

2011 JOURNAL OTHER DATABASE MAIN AUTHOR

**33. TRANSPORT AND AC IMPEDANCE STUDIES OF PLASTICIZED-CHITOSAN BASED POLYMER ELECTROLYTES**

INDONESIAN JOURNAL OF PHYSICS

2011 JOURNAL OTHER DATABASE MAIN AUTHOR

**34. CONDUCTIVITY STUDIES OF STARCH-BASED POLYMER ELECTROLYTES**

IONICS

2010 JOURNAL WOS MAIN AUTHOR

**35. CONDUCTIVITY AND DIELECTRIC BEHAVIOR STUDIES OF STARCH/PEO + X WT% NH4NO3 POLYMER ELECTROLYTE**

3RD INTERNATIONAL CONFERENCE ON FUNCTIONAL MATERIALS AND DEVICES, 2010 (ICFMD  2010)

2010 PROCEEDING NON-INDEX MAIN AUTHOR

**36. SUPERCAPACITOR BASED ON ACTIVATED CARBON AND HYBRID SOLID POLYMER ELECTROLYTE**

3RD INTERNATIONAL CONFERENCE ON FUNCTIONAL MATERIALS AND DEVICES, 2010 (ICFMD  2010)

2010 PROCEEDING NON-INDEX CO-AUTHOR

**37. NATURAL POLYMERS: ALTERNATIVE RESOURCES FOR THE DEVELOPMENT OF POLYMER ELECTROLYTES.**

TWAS YOUNG SCIENTISTS OF ASIA CONCLAVE: PRESSING PROBLEMS OF HUMANKIND: ENERGY & CLIMATE (A MEETING OF CONCERNED YOUNG SCIENTISTS))

2009 PROCEEDING NON-INDEX MAIN AUTHOR

**38. EFFECT OF STARCH/CHITOSAN BLEND TO THE PERFORMANCE ON A SOLID STATE CELL**

17TH INTERNATIONAL CONFERENCE ON SOLID STATE IONICS

2009 PROCEEDING NON-INDEX MAIN AUTHOR

**39. EFFECT OF ADDITIVE TO AMMONIUM NITRATE DOPED STARCH BASED POLYMER ELECTROLYTE**

NATIONAL WORKSHOP ON FUNCTIONAL MATERIALS 2009

2009 PROCEEDING NON-INDEX MAIN AUTHOR

**40. GREEN CHEMISTRY: CHALLENGES AND OPPORTUNITIES.**

SAINS ISLAM DAN PEMBANGUNAN MODAL INSAN

2008 CHAPTER IN BOOK CO-AUTHOR

## PUBLICATION

**41. THE ELECTRICAL BEHAVIOR OF STARCH-BASED POLYMER ELECTROLYTES**

JOURNAL OF FUDAN UNIVERSITY (NATURAL SCIENCES)

2007 JOURNAL OTHER DATABASE MAIN AUTHOR

**42. THE IMPEDANCE STUDIES OF STARCH-NH4NO3 FILMS**

JOURNAL OF FUDAN UNIVERSITY (NATURAL SCIENCES)

2007 JOURNAL OTHER DATABASE CO-AUTHOR

**43. PLASTICIZED-CHITOSAN BASED POLYMER ELECTROLYTES.**

INTERNATIONAL CONFERENCE ON ADVANCEMENT OF MATERIALS AND NANOTECHNOLOGY 2007

2007 PROCEEDING NON-INDEX MAIN AUTHOR

**44. CONDUCTIVITY STUDIES OF A CHITOSAN-BASED POLYMER ELECTROLYTE.**

PHYSICA B: CONDENSED MATTER

2006 JOURNAL WOS MAIN AUTHOR

**45. IONIC HOPPING TRANSPORT IN CHITOSAN-BASED POLYMER ELECTROLYTES**

MATERIALS SCIENCE FORUM

2006 JOURNAL SCOPUS MAIN AUTHOR

**46. EFFECT OF ETHYLENE SULPHITE ON THE CONDUCTIVITY AND MORPHOLOGY OF PEO-KOH FILMS**

MATERIALS SCIENCE FORUM

2006 JOURNAL SCOPUS CO-AUTHOR

**47. IONIC CONDUCTIVITY OF CHITOSAN MEMBRANES AND APPLICATION FOR ELECTROCHEMICAL DEVICES**

POLYMERS FOR ADVANCED TECHNOLOGIES

2006 JOURNAL WOS CO-AUTHOR

**48. CHARACTERIZATIONS OF CHITOSAN-AMMONIUM TRIFLATE (NH4CF3SO3) COMPLEXES BY FTIR AND IMPEDANCE SPECTROSCOPY**

PHYSICA STATUS SOLIDI A

2006 JOURNAL WOS MAIN AUTHOR

**49. CONDUCTIVITY STUDIES ON CHITOSAN/PEO BLENDS WITH LITFSI SALT**

IONICS

2005 JOURNAL WOS CO-AUTHOR

**50. TRANSPORT STUDIES ON FILLER-DOPED CHITOSAN BASED POLYMER ELECTROLYTE**

IONICS

2005 JOURNAL WOS CO-AUTHOR

**51. STUDIES OF DMC-PLASTICIZED CHITOSAN-NH4CF3SO3 POLYMER ELECTROLYTE**

ASIAN PHYSICS SYMPOSIUM

2005 PROCEEDING NON-INDEX CO-AUTHOR

## PUBLICATION

**52. ENHANCEMENT ON THE CONDUCTIVITY AND DIELECTRIC OF CHITOSAN ACETATE FILMS BY ADDITION OF H3PO4**

ASIAN PHYSICS SYMPOSIUM

2005 PROCEEDING NON-INDEX CO-AUTHOR

## CONSULTATION

**1. PENILAIAN PEMATUHAN SYARAT-SYARAT AKREDITASI SEMENTARA DIPLOMA SAINS SECARA KERJASAMA DENGAN UITM (MQA/FA 7207)**

AGENSI KELAYAKAN MALAYSIA

2020 NATIONAL

**2. PANEL PENILAI AKREDITASI PENUH PROGRAM DOKTOR FALSAFAH UNIVERSITI MALAYSIA PAHANG**

AGENSI KELAYAKAN MALAYSIA

2019 NATIONAL

**3. PANEL PENILAI PENILAIAN PEMATUHAN AKREDITASI PENUH PROGRAM**

AGENSI KELAYAKAN MALAYSIA

2019 NATIONAL

**4. PENILAI PROGRAM 'DIPLOMA IN SCIENCE' SECARA KERJASAMA DENGAN UITM (MQA/FA 7207)**

AGENSI KELAYAKAN MALAYSIA

2018 NATIONAL

**5. PELANTIKAN SEBAGAI AUDITOR UNTUK AUDIT AKREDITASI PENUH/AUDIT VERIFIKASI PROGRAM IJAZAH SARJANA MUDA SAINS DAN IJAZAH SAINS MUDA SAINS GUNAAN DI PUSAT PENGAJIAN SAINS FIZIK, USM**

UNIVERSITI SAINS MALAYSIA

2018 NATIONAL

**6. PENILAI AKREDITASI PROVISIONAL PRA DIPLOMA (SAINS) SECARA KERJASAMA DENGAN UITM, KOLEJ ANTARABANGSA SAINS DAN TEKNOLOGI MELAKA (MICOST)**

AGENSI KELAYAKAN MALAYSIA

2015 NATIONAL

**7. PANEL PENILAI BAGI AUDIT DAN AKREDITASI PROGRAM PENGAJIAN DI UNIVERSITI KEBANGSAAN MALAYSIA**

UNIVERSITI KEBANGSAAN MALAYSIA

2015 NATIONAL

**8. PANEL PENILAI UNTUK PENGESAHAN FASILITI I UNIVERSITI TUNKU ABDUL RAHMAN (UTAR), KAMPUNG SG. LONG, KAJANG**

AGENSI KELAYAKAN MALAYSIA (MQA)

2015 NATIONAL

## CONSULTATION

**9. PENILAI AKREDITASI SEMENTARA FOUNDATION IN SCIENCE (FIS) PROGRAMME, KOLEJ ANTARABANGSA PERNIAGAAN DAN PENGURUSAN (BUSINESS AND MANAGEMENT INTERNATIONAL COLLEGE,BMIC)**

AGENSI KELAYAKAN MALAYSIA

2014 NATIONAL

**10. PENILAI AKREDITASI PENUH FOUNDATION IN SCIENCE IN COLLABORATION WITH HELP UNIVERSITY INSTITUT SAINS DAN PENGURUSAN SABAH**

AGENSI KELAYAKAN MALAYSIA

2014 NATIONAL

**11. PENILAI AKREDITASI DIPLOMA SAINS GUNAAN UNIVERSITI TUN HUSSEIN ONN**

AGENSI KELAYAKAN MALAYSIA

2014 NATIONAL

**12. PENILAI AKREDITASI SEMENTARA SARJANA SAINS (FIZIK GUNAAN) UNIVERSITI TUN HUSSEIN ONN**

AGENSI KELAYAKAN MALAYSIA (MQA)

2013 NATIONAL

**13. PENILAI AKREDITASI SARJANA SCIENCE (MOD PENYELIDIKAN) UNIVERSITI TUN HUSSEIN ONN**

AGENSI KELAYAKAN MALAYSIA (MQA)

2013 NATIONAL

**14. PENILAI AKREDITASI BACHELOR OF SCIENCE (HONOURS) APPLIED PHYSICS WITH SCIENTIFIC INSTRUMENTATION KOLEJ UNIVERSITI TUNKU ABDUL RAHMAN KUALA LUMPUR**

AGENSI KELAYAKAN MALAYSIA (MQA)

2013 NATIONAL

**15. PENILAI AKREDITASI DIPLOMA SAINS UNIVERSITI PENDIDIKAN SULTAN IDRIS (UPSI)**

AGENSI KELAYAKAN MALAYSIA (MQA)

2013 NATIONAL

**16. PENILAI AKREDITASI FOUNDATION IN SCIENCE KOLEJ SEGI SARAWAK**

AGENSI KELAYAKAN MALAYSIA (MQA)

2013 NATIONAL

**17. PENILAI AKREDITASI SEMENTARA FOUNDATION IN SCIENCE MURNI INTERNATIONAL COLLEGE**

AGENSI KELAYAKAN MALAYSIA (MQA)

2013 NATIONAL

**18. PENILAI AKREDITASI PROVISIONAL AGENSI KELAYAKAN MALAYSIA (MQA) DIPLOMA SAINS GUNAAN, UNIVERSITI TUN HUSSEIN ONN, JOHOR**

AGENSI KELAYAKAN MALAYSIA (MQA)

2011 NATIONAL

## CONSULTATION

**19. PENILAI AKREDITASI PROVISIONAL AGENSI KELAYAKAN MALAYSIA (MQA) FOUNDATION IN SCIENCE, KOLEJ SURIA PJ.**

AGENSI KELAYAKAN MALAYSIA (MQA)

2011 NATIONAL

**20. PENILAI SAINS FIZIK AGENSI KELAYAKAN MALAYSIA (MQA)**

AGENSI KELAYAKAN MALAYSIA (MQA)

2011 NATIONAL

**21. PENILAI AKREDITASI IJAZAH SARJANA MUDA PERGURUAN DENGAN KEPUJIAN IPG KAMPUS DARUL AMAN**

AGENSI KELAYAKAN MALAYSIA (MQA)

2010 NATIONAL

**22. PENILAI AKREDITASI FOUNDATION IN SCIENCE KOLEJ UNIVERSITI HELP, DAMANSARA KL**

AGENSI KELAYAKAN MALAYSIA (MQA)

2010 NATIONAL

**23. PENILAI AKREDITASI FOUNDATION IN SCIENCE SEGI UNIVERSITY COLLEGE**

AGENSI KELAYAKAN MALAYSIA (MQA)

2009 NATIONAL

**24. PENILAI AKREDITASI FOUNDATION IN SCIENCE INSTITUT NIRAWANA**

AGENSI KELAYAKAN MALAYSIA (MQA)

2009 NATIONAL

## AWARDS/RECOGNITION

**1. CELF BIOFILM GREEN ELECTROLYTE FOR PROTON BATTERY**

Malaysia Technology Expo (MTE) 2023

2023 ANTARABANGSA SILVER

**2. CELF BIO-FILM: GREEN ELECTROLYTE FOR PROTON BATTERY**

34th INTERNATIONAL INVENTION & TECHNOLOGY EXHIBITION MALAYSIA (ITEX2023)

2023 ANTARABANGSA GOLD

**3. CELF, GREEN CONDUCTING ELECTROLYTE**

INVENTION, INNOVATION & DESIGN EXPOSITION 2023 (IIDEX 2023)

2023 ANTARABANGSA SILVER

**4. ACADEMIC ADVISOR**

UNIVERSITI PENDIDIKAN SULTAN IDRIS

2022 NATIONAL

## AWARDS/RECOGNITION

**5. CELF BIOFILM: PROTON CONDUCTING CELLULOSE BASED ELECTROLYTES**

INNOVATION BANK CHALLENGE (IBC 2022)

2022 UNIVERSITI GOLD

**6. ACADEMIC ADVISOR**

UNIVERSITI PENDIDIKAN SULTAN IDRIS

2019 NATIONAL

**7. TOP 100 RESEARCHERS USIM ( 2013-2017)**

TOP 100 RESEARCHERS

2018 UNIVERSITI CERTIFICATE OF APPRECIATION

**8. CULTIVATING INNOVATION AND CREATIVITY CULTURE**

THE 1(st) INTERNATIONAL MALAYSIA - INDONESIA - THAILAND SYMPOSIUM ON INNOVATION AND CREATIVITY (iMIT

2017 UNIVERSITI SILVER

**9. ANUGERAH PERKHIDMATAN CEMERLANG 2016**

2016 UNIVERSITY

**10. ANUGERAH PERKHIDMATAN CEMERLANG 2010**

2010 UNIVERSITY

**11. ANUGERAH PERKHIDMATAN CEMERLANG 2008**

2008 UNIVERSITY