

Profile Image

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SOFIA BINTI AHMAD KHIAR**

PENSYARAH UNIVERSITI DS14

CONTACT

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E-mail:

azwanisofia@usim.edu.my

Faculty: Fakulti Sains Dan
Teknologi

SUPERVISION

PhD - Completed: 0, Ongoing: 0

Master - Completed: 4, Ongoing: 2

AREAS OF EXPERTISE

Other Functional Materials

Polymer Electrolytes

ACADEMIC QUALIFICATION

PhD in Bahan Termaju (2006)

Bachelor in Fizik Komputer Dan Elektronik (2002)

RESEARCH

1. ENHANCING IONIC CONDUCTING PROPERTIES OF 2-HYDROXYETHYL 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 DERIVATIVES 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. 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

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

POLYMER INTERNATIONAL

2022 JOURNAL ERA CO-AUTHOR

3. 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

4. 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

5. 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

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

SOLID STATE PHENOMENA

2019 JOURNAL SCOPUS CO-AUTHOR

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

AIP CONFERENCE PROCEEDINGS

2018 JOURNAL SCOPUS CO-AUTHOR

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

AIP CONFERENCE PROCEEDINGS

2018 JOURNAL SCOPUS MAIN AUTHOR

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

MATERIALS RESEARCH EXPRESS

2018 JOURNAL SCI CO-AUTHOR

10. 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

11. 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

12. ELECTRICAL CONDUCTIVITY OF BIOBASED SHAPE MEMORY POLYURETHANE FILLED WITH CNT

MATERIALS SCIENCE FORUM

2017 JOURNAL SCOPUS CO-AUTHOR

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

ADVANCED SCIENCE LETTERS

2017 JOURNAL SCOPUS MAIN AUTHOR

PUBLICATION

14. 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

15. ELECTRICAL PROPERTIES OF STARCH/PEO BLEND POLYMER ELECTROLYTES.

APPLIED MECHANICS AND MATERIALS

2015 JOURNAL SCOPUS MAIN AUTHOR

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

APPLIED MECHANICS AND MATERIALS

2015 JOURNAL SCOPUS MAIN AUTHOR

17. 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

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

MOLECULAR CRYSTALS AND LIQUID CRYSTALS

2014 JOURNAL SCI MAIN AUTHOR

19. CONDUCTIVITY AND DIELECTRIC STUDIES OF METHYLCELLULOSE/CHITOSAN-NH₄CF₃SO₃ POLYMER ELECTROLYTE
KEY ENGINEERING MATERIALS

2014 JOURNAL SCOPUS MAIN AUTHOR

20. 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

21. SUPERCAPACITOR BASED ON ACTIVATED CARBON AND HYBRID SOLID POLYMER ELECTROLYTE

MATERIALS RESEARCH INNOVATIONS

2011 JOURNAL WOS CO-AUTHOR

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

MATERIALS RESEARCH INNOVATIONS

2011 JOURNAL WOS MAIN AUTHOR

23. CONDUCTIVITY STUDIES OF STARCH-BASED POLYMER ELECTROLYTES

IONICS

2010 JOURNAL WOS MAIN AUTHOR

24. 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

25. 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

26. 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

PUBLICATION

27. 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

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

NATIONAL WORKSHOP ON FUNCTIONAL MATERIALS 2009

2009 PROCEEDING NON-INDEX MAIN AUTHOR

29. GREEN CHEMISTRY: CHALLENGES AND OPPORTUNITIES.

SAINS ISLAM DAN PEMBANGUNAN MODAL INSAN

2008 CHAPTER IN BOOK CO-AUTHOR

30. PLASTICIZED-CHITOSAN BASED POLYMER ELECTROLYTES.

INTERNATIONAL CONFERENCE ON ADVANCEMENT OF MATERIALS AND NANOTECHNOLOGY 2007

2007 PROCEEDING NON-INDEX MAIN AUTHOR

31. CONDUCTIVITY STUDIES OF A CHITOSAN-BASED POLYMER ELECTROLYTE.

PHYSICA B: CONDENSED MATTER

2006 JOURNAL WOS MAIN AUTHOR

32. IONIC HOPPING TRANSPORT IN CHITOSAN-BASED POLYMER ELECTROLYTES

MATERIALS SCIENCE FORUM

2006 JOURNAL SCOPUS MAIN AUTHOR

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

MATERIALS SCIENCE FORUM

2006 JOURNAL SCOPUS CO-AUTHOR

34. IONIC CONDUCTIVITY OF CHITOSAN MEMBRANES AND APPLICATION FOR ELECTROCHEMICAL DEVICES

POLYMERS FOR ADVANCED TECHNOLOGIES

2006 JOURNAL WOS CO-AUTHOR

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

PHYSICA STATUS SOLIDI A

2006 JOURNAL WOS MAIN AUTHOR

36. CONDUCTIVITY STUDIES ON CHITOSAN/PEO BLENDS WITH LITFSI SALT

IONICS

2005 JOURNAL WOS CO-AUTHOR

37. TRANSPORT STUDIES ON FILLER-DOPED CHITOSAN BASED POLYMER ELECTROLYTE

IONICS

2005 JOURNAL WOS CO-AUTHOR

38. STUDIES OF DMC-PLASTICIZED CHITOSAN-NH₄CF₃SO₃ POLYMER ELECTROLYTE

ASIAN PHYSICS SYMPOSIUM

2005 PROCEEDING NON-INDEX CO-AUTHOR

39. 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

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

CONSULTATION

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

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

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