



**PROF. MADYA IR. DR.
KHAIRI BIN ABDUL RAHIM**

PENSYARAH UNIVERSITI DS14

CONTACT

Phone: 86501

E-mail:

khairiabdulrahim@usim.edu.my

Faculty: Fakulti Kejuruteraan
Dan Alam Bina

SUPERVISION

PhD - Completed: 8, Ongoing: 0

Master - Completed: 2, Ongoing: 0

AREAS OF EXPERTISE

Image Processing And Computer Vision

Control Engineering

Navigation And Positioning System

Observational Studies

Intelligent Navigation System

Image Processing

ACADEMIC QUALIFICATION

PhD in Kejuruteraan (2012)

Master in Kejuruteraan (2007)

Bachelor in Kejuruteraan (2001)

RESEARCH

1. SMART AQUAGUARD: IOT-POWERED WATER QUALITY MONITORING FOR SUSTAINABLE AQUATIC MANAGEMENT

2025 GERAN KPT ON GOING CO-RESEARCHER

2. QURANIC SIGN LANGUAGE DETECTION SYSTEM USING LSTM NEURAL NETWORK

2024 GERAN PENYELIDIKAN USIM ON GOING MAIN RESEARCHER

3. TAARIQ: DESIGN AND DEVELOPMENT OF AN AI-BASED HUMANOID ROBOT

2023 GERAN PENYELIDIKAN KHAS ON GOING CO-RESEARCHER

4. DEVELOPMENT OF MOBILE APPLICATION FOR "EDUCATIONAL GAMES FOR KIDS WITH LEARNING DISABILITIES: KID WONDERS - KINDERS"

2022 GERAN PENYELIDIKAN AGENSI KERAJAAN COMPLETED CO-
RESEARCHER

5. INVARIANT KALMAN FILTERING FOR LOW-COST PEDESTRIAN NAVIGATION SYSTEM

2021 GERAN PENYELIDIKAN USIM ON GOING MAIN RESEARCHER

RESEARCH

6. IMPROVED INCENTIVE PRICING MODELS OF INTERNET UNDER MULTIPLE QOS NETWORKS

2019 GERAN KPT ON GOING CO-RESEARCHER

7. REDUCING THE CALIBRATION EFFORT OF INDOOR POSITIONING SYSTEMS USING DISCRETE FOURIER AND WAVELET TRANSFORMS

2018 GERAN PENYELIDIKAN USIM ON GOING CO-RESEARCHER

8. NEW MOTION SEGMENTATION FOR VEHICLES IN URBAN TRAFFIC SCENES

2018 GERAN PENYELIDIKAN USIM COMPLETED MAIN RESEARCHER

9. MIZAN SOLAR HOME MODEL FOR SUSTAINABLE LIVELIHOOD

2017 GERAN PENYELIDIKAN KHAS COMPLETED CO-RESEARCHER

10. DETERMINATION OF OPTIMISED ORIENTATION OF A COST-EFFECTIVE PASSIVE PHOTOVOLTAIC SOLAR CELLS PLATFORM FOR MAXIMUM SOLAR POWER EXTRACTION IN EQUATORIAL LATITUDES

2015 GERAN PENYELIDIKAN PENTADBIR COMPLETED CO-RESEARCHER

11. A NEW TOPOLOGY SEGMENTATION ALGORITHM FOR X-RAY IMAGES

2013 GERAN KPT COMPLETED CO-RESEARCHER

12. A FORMULATION OF AN ENHANCED AIRLIGHT DETECTION ALGORITHM FOR OUTDOOR IMAGES

2013 GERAN KPT COMPLETED MAIN RESEARCHER

13. AUTOMATIC IMAGE ENHANCEMENT TOOL FOR POOR VISIBILITY OUTDOOR IMAGES

2013 GERAN MOSTI COMPLETED MAIN RESEARCHER

14. EVALUATING NETWORK PERFORMANCE OF DEDICATED WIFI ROUTERS

2013 GERAN PENYELIDIKAN INSENTIF COMPLETED MAIN RESEARCHER

15. OPTIMUM FITNESS FUNCTION ON HEURISTIC SEARCH EVALUATION FOR SOLVING TIMETABLING ISSUES

2012 GERAN PENYELIDIKAN USIM COMPLETED CO-RESEARCHER

16. AUTOMATED SEGMENTATION USING ADAPTIVE K-MEAN CLUSTERING FOR ACUTE MYELOID LEUKEMIA (AML)

2012 GERAN PENYELIDIKAN PENTADBIR COMPLETED CO-RESEARCHER

PUBLICATION

1. INVARIANT EXTENDED KALMAN FILTER FOR LOW-COST FOOT-MOUNTED INERTIAL PEDESTRIAN NAVIGATION

2024 IEEE INTERNATIONAL CONFERENCE ON AUTOMATIC CONTROL AND INTELLIGENT SYSTEMS (I2CACIS)

2024

PROCEEDING

SCOPUS

MAIN AUTHOR

2. KEMBARA PASCAKEDOKTORAN DI KANADA, UNITED KINGDOM & BELGIUM

2024

BOOK

CO-AUTHOR & CO-EDITOR

3. FROM MELAKA TO NOTTINGHAM

THE STORIES BEHIND SUCCESSFUL PHDS: PATIENCE, HUMILITY AND DEVOTION: THE ODYSSEY OF KNOWLEDGE

2024

CHAPTER IN BOOK

MAIN AUTHOR

4. IMPROVED INCENTIVE PRICING MODEL OF WIRELESS PRICING SCHEME WITH END-TO-END DELAY ATTRIBUTE

SRIWIYAJA INTERNATIONAL CONFERENCE ON BASIC AND APPLIED SCIENCE

2023

PROCEEDING

SCOPUS

CO-AUTHOR

5. ADAPTIVE CARDINAL HEADING AIDED FOR LOW-COST FOOT-MOUNTED INERTIAL PEDESTRIAN NAVIGATION

INTERNATIONAL JOURNAL OF INTEGRATED ENGINEERING

2021

JOURNAL

SCOPUS

MAIN AUTHOR / CONTACT PERSON IN USIM

6. IMPROVED INCENTIVE PRICING WIRELESS MULTI-SERVICE SINGLE LINK WITH BANDWIDTH ATTRIBUTE

INTERNATIONAL JOURNAL OF ADVANCED COMPUTER SCIENCE AND APPLICATIONS (IJACSA)

2021

JOURNAL

JCR

CO-AUTHOR

7. IMPROVED MODEL OF INTERNET PRICING INCENTIVE MECHANISM BASED ON MULTI BOTTLENECK LINKS IN MULTI QOS NETWORKS

3RD INTERNATIONAL CONFERENCE ON ELECTRICAL, COMMUNICATION AND COMPUTER ENGINEERING (ICECCE)

2021

PROCEEDING

NON-INDEX

CO-AUTHOR

8. FINITE-HORIZON LQR CONTROL OF QUADROTORS ON SE2_3

IEEE ROBOTICS AND AUTOMATION LETTERS

2020

JOURNAL

WOS

MAIN AUTHOR / CONTACT PERSON IN USIM

9. A NEW SPATIO-TEMPORAL BACKGROUND?FOREGROUND BIMODAL FOR MOTION SEGMENTATION AND DETECTION IN URBAN TRAFFIC SCENES

NEURAL COMPUTING & APPLICATIONS

2019

JOURNAL

ISI, SCOPUS AND ERA

CO-AUTHOR

10. DYNAMIC FEATURES DESCRIPTOR FOR ROAD USER RECOGNITION USING HIERARCHAL GRAPH DYNAMIC GRADIENT PATTERN

INTERNATIONAL JOURNAL OF RECENT TECHNOLOGY AND ENGINEERING

2019

JOURNAL

SCOPUS

CO-AUTHOR

11. A NEW SPATIO-TEMPORAL BACKGROUND?FOREGROUND BIMODAL FOR MOTION SEGMENTATION AND DETECTION IN URBAN TRAFFIC SCENES

NEURAL COMPUTING AND APPLICATIONS

2019

JOURNAL

WOS

CO-AUTHOR

12. OUTCOME BASED EDUCATION FOR ENGINEERING PROGRAMME: A CASE STUDY OF USIM

2019

BOOK

CO-AUTHOR

13. INTELLIGENT ROAD TRANSPORTATION SYSTEMS

ADVANCES IN SUSTAINABLE LIVING: BUILT ENVIRONMENT AND BUILDING TECHNOLOGY

2019

CHAPTER IN BOOK

CO-AUTHOR

PUBLICATION

14. REAL-TIME FRAMEWORK FOR IMAGE DEHAZING BASED ON LINEAR TRANSMISSION AND CONSTANT-TIME AIRLIGHT ESTIMATION

INFORMATION SCIENCES

2018 JOURNAL WOS CO-AUTHOR

15. CHAPTER 3: INNOVATION

MIZANHOME FROM IDEAS TO REALITY

2018 CHAPTER IN BOOK CO-AUTHOR

16. PACKET LOSS RATE DIFFERENTIATION IN SLOTTED OPTICAL PACKET SWITCHING OCDM/WDM

TELKOMNIKA

2017 JOURNAL SCOPUS CO-AUTHOR

17. SIGNALING AND SCHEDULING WIMAX GATEWAY DESIGN BASED ON RESOURCE RESERVATION PROTOCOL

INDIAN JOURNAL OF SCIENCE AND TECHNOLOGY

2017 JOURNAL WOS CO-AUTHOR

18. A USER REQUIREMENT STUDY TOWARDS THE DEVELOPMENT OF AN INTEGRATED GRADUATE PORTAL (IGP) FOR GRADUATE MARKETABILITY

INTERNATIONAL SUMMIT ON EMPLOYABILITY AND SOFT SKILLS (ISESS2017)

2017 PROCEEDING NON-INDEX MAIN AUTHOR

19. DEVELOPMENT OF INTEGRATED GRADUATE PORTAL (IGP) FOR GRADUATE MARKETABILITY

ACADEMICS WORLD 76TH INTERNATIONAL CONFERENCE

2017 PROCEEDING NON-INDEX MAIN AUTHOR

20. TEST

2017 POLICY

21. INTENSITY ENHANCEMENT ON OUTDOOR IMAGES

JURNAL TEKNOLOGI

2016 JOURNAL SCOPUS CO-AUTHOR

22. BACKGROUND SUBTRACTION IN URBAN TRAFFIC VIDEO USING RECURSIVE SIGMA-DELTA MIXTURE MODEL

JOURNAL OF ENGINEERING AND APPLIED SCIENCES

2016 JOURNAL SCOPUS CO-AUTHOR

23. TRAFFIC SURVEILLANCE: A REVIEW OF VISION BASED VEHICLE DETECTION, RECOGNITION AND TRACKING

INTERNATIONAL JOURNAL OF APPLIED ENGINEERING RESEARCH

2016 JOURNAL SCOPUS CO-AUTHOR

24. CUMULATIVE FRAME DIFFERENCING FOR URBAN VEHICLE DETECTION

FIRST INTERNATIONAL WORKSHOP ON PATTERN RECOGNITION

2016 PROCEEDING NON-INDEX CO-AUTHOR

25. ROTATING A MEMS INERTIAL MEASUREMENT UNIT FOR A FOOT MOUNTED PEDESTRIAN NAVIGATION

JOURNAL OF COMPUTER SCIENCE

2015 JOURNAL SCOPUS MAIN AUTHOR

26. OPTIMIZATION OF FDL BUFFERS AND COST FUNCTION FOR CONTENTION RESOLUTION IN OCDM/WDM

2015 IEEE 12TH MALAYSIA INTERNATIONAL CONFERENCE ON COMMUNICATIONS (MICC 2015)

2015 PROCEEDING NON-INDEX CO-AUTHOR

PUBLICATION

27. SINGLE IMAGE ENHANCEMENT IN VARIOUS WEATHER CONDITIONS USING INTENSITY AND SATURATION DETERIORATION RATIO

2015 INTERNATIONAL CONFERENCE ON COMPUTER, CONTROL, INFORMATICS AND ITS APPLICATIONS (IC3INA 2015)

2015 PROCEEDING NON-INDEX CO-AUTHOR

28. ON MAGNETOMETER HEADING UPDATES FOR INERTIAL PEDESTRIAN NAVIGATION. GYROSCOPY AND NAVIGATION

2014 JOURNAL SCOPUS MAIN AUTHOR

29. INCREASED ERROR OBSERVABILITY OF AN INERTIAL PEDESTRIAN NAVIGATION SYSTEM BY ROTATING IMU. JOURNAL OF ENGINEERING AND TECHNOLOGICAL SCIENCES

2014 JOURNAL SCOPUS MAIN AUTHOR

30. CONTROLLING ALGORITHM FOR ENERGY-CONSUMPTION, RADIO BANDWIDTH AND SIGNAL STRENGTH DEPLOYING SINGLE FITNESS FUNCTION TO SOLVE COVERAGE AREA PROBLEMS.

ADVANCE SCIENCE LETTERS

2014 JOURNAL SCOPUS CO-AUTHOR

31. INTENSITY ENHANCEMENT ON OUTDOOR IMAGES.

3RD INTERNATIONAL CONFERENCE OF INTERACTIVE DIGITAL MEDIA

2014 PROCEEDING NON-INDEX CO-AUTHOR

32. ESTIMATION OF SKYLIGHT VALUE IN HAZY OUTDOOR IMAGES.

WORLD SYMPOSIUM ON COMPUTER APPLICATIONS AND RESEARCH.

2014 PROCEEDING NON-INDEX CO-AUTHOR

33. FUZZY LOGIC-BASED APPROACH TO ENHANCE VIDEO IN REAL TIME

POSTGRADUATE COLLOQUIUM OF FACULTY OF SCIENCE AND TECHNOLOGY

2014 PROCEEDING NON-INDEX CO-AUTHOR

34. ASPEK PERUNDANGAN BAGI KEMUNGKINAN SALAHLAKU PENGGUNA MEDIA SOSIAL

SEMINAR TEKNOLOGI MAKLUMAT DAN MASYARAKAT (STMM2014)

2014 PROCEEDING NON-INDEX CO-AUTHOR

35. REAL TIME VIDEO ENHANCEMENT FOR VARIOUS WEATHER CONDITIONS USING DARK CHANNEL AND FUZZY LOGIC

2ND INTERNATIONAL CONFERENCE ON COMPUTER AND INFORMATION SCIENCES

2014 PROCEEDING NON-INDEX CO-AUTHOR

36. THE PERFORMANCE OF OCDM/WDM WITH BUFFERING BASED ON SHARED FIBER DELAY LINE

8TH INTERNATIONAL CONFERENCE OF INFORMATION, COMMUNICATION TECHNOLOGIES AND SYSTEMS.

2014 PROCEEDING NON-INDEX CO-AUTHOR

37. STUDENTS? PERSPECTIVE TOWARDS THE DEVELOPMENT OF THE INTEGRATED GRADUATE PORTAL FOR GRADUATE MARKETABILITY.

POSTGRADUATE COLLOQUIUM OF FACULTY OF SCIENCE AND TECHNOLOGY, USIM

2014 PROCEEDING NON-INDEX CO-AUTHOR

38. ON THE OPTIMAL COVERAGE AREA FOR SOLVING ENERGY-EFFICIENT PROBLEM IN WIRELESS SENSOR NETWORK

3RD INTERNATIONAL CONFERENCE ON GLOBAL OPTIMIZATION AND ITS APPLICATION (ICOGOLA 2014)

2014 PROCEEDING NON-INDEX CO-AUTHOR

39. PRIORITY CONTROL SCHEDULING FOR DOWNLINK AND UPLINK IN WIMAX NETWORK

SECOND INTERNATIONAL CONFERENCE ON TECHNOLOGICAL ADVANCES IN ELECTRICAL, ELECTRONICS AND COMPUTER ENGINEERING (TAECE2014) (TAECE)

2014 PROCEEDING NON-INDEX CO-AUTHOR

PUBLICATION

40. POSTGRADUATE COLLOQUIUM 2014 FACULTY OF SCIENCE AND TECHNOLOGY: TOWARDS HIGH QUALITY RESEARCH OF SCIENCE AND TECHNOLOGY

2014 BOOK CO-EDITOR

41. ROTATING MEMS IMU FOR PEDESTRIAN NAVIGATION

INTERNATIONAL CONFERENCE ON COMPUTER NETWORKS AND INFORMATION TECHNOLOGY (ICCNIT2013)

2013 PROCEEDING NON-INDEX MAIN AUTHOR

42. K-MEANS CLUSTERING FOR ACUTE LEUKEMIA BLOOD CELLS IMAGE

INTERNATIONAL CONFERENCE ON SOFT COMPUTING AND COMPUTATIONAL MATHEMATICS

2013 PROCEEDING NON-INDEX CO-AUTHOR

43. A FRAMEWORK OF THE INTEGRATED GRADUATE PORTAL FOR STUDENT MARKETABILITY

INTERNATIONAL LANGUAGE AND EDUCATION CONFERENCE (ILEC2013)

2013 PROCEEDING NON-INDEX CO-AUTHOR

44. ANALYSIS OF MOTION DETECTION OF BREAST TUMOR BASED ON TISSUE ELASTICITY FROM B MODE ULTRASOUND IMAGES USING GRADIENT METHOD OPTICAL FLOW ALGORITHM.

1ST INTERNATIONAL CONFERENCE ON ARTIFICIAL INTELLIGENCE, MODELLING AND SIMULATION (AIMS 2013).

2013 PROCEEDING NON-INDEX CO-AUTHOR

45. PRACTICE THE PROPHET MUHAMMAD (SAW) NOBLE CHARACTERS VIA AN INTEGRATED GRADUATE PORTAL (IGP)

PIONEERING ISLAMIC SCIENCE, SPEARHEADING KNOWLEDGE

2013 CHAPTER IN BOOK CO-AUTHOR

46. USING CONSTRAINTS FOR SHOE MOUNTED INDOOR PEDESTRIAN NAVIGATION

THE JOURNAL OF NAVIGATION

2012 JOURNAL WOS MAIN AUTHOR

47. INVESTIGATING THE USE OF ROTATING FOOT MOUNTED INERTIAL SENSORS FOR POSITIONING

ION GNSS 2012

2012 PROCEEDING NON-INDEX CO-AUTHOR

48. PENGGUNAAN TEKNOLOGI MAKLUMAT DALAM MEMACU KEBOLEHPASARAN GRADUAN INSTITUSI PENGAJIAN TINGGI ISLAM (IPTI)

SEMINAR SERANTAU INSTITUSI PENGAJIAN TINGGI ISLAM (SEIPTI 2012)

2012 PROCEEDING NON-INDEX CO-AUTHOR

49. AIDING LOW COST INERTIAL NAVIGATION WITH BUILDING HEADING FOR PEDESTRIAN NAVIGATION

THE JOURNAL OF NAVIGATION

2011 JOURNAL WOS MAIN AUTHOR

50. INTEGRATING LOW COST IMU WITH BUILDING HEADING IN INDOOR PEDESTRIAN NAVIGATION

THE JOURNAL OF GLOBAL POSITIONING SYSTEM

2011 JOURNAL WOS MAIN AUTHOR

51. INVESTIGATING THE EFFECT OF ROTATING MEMS IMU FOR PEDESTRIAN NAVIGATION

THE EUROPEAN NAVIGATION CONFERENCE ON GLOBAL NAVIGATION SATELLITE SYSTEM (ENC-GNSS 2010)

2011 PROCEEDING NON-INDEX MAIN AUTHOR

52. INTEGRATION OF HEADING-AIDED MEMS IMU WITH GPS FOR PEDESTRIAN NAVIGATION

ION GNSS 2011

2011 PROCEEDING NON-INDEX CO-AUTHOR

PUBLICATION

53. AIDING MEMS IMU WITH BUILDING HEADING FOR INDOOR PEDESTRIAN NAVIGATION

UBIQUITOUS POSITIONING, INDOOR NAVIGATION AND LOCATION BASED SERVICES (UPINLBS 2010)

2010

PROCEEDING

NON-INDEX

MAIN AUTHOR

54. PEDESTRIAN NAVIGATION WITH HEADING DRIFT CORRECTION

ROYAL INSTITUTE OF NAVIGATION (RIN-NAV10)

2010

PROCEEDING

NON-INDEX

MAIN AUTHOR

55. LOW-COST, HIGH ACCURACY POSITIONING FOR INDOOR NAVIGATION

DIGITAL FUTURE CONFERENCE 2010

2010

PROCEEDING

NON-INDEX

MAIN AUTHOR

56. RAPID WI-FI FINGERPRINT MAPPING FOR INDOOR NAVIGATION

ROYAL INSTITUTE OF NAVIGATION (RIN-NAV10)

2010

PROCEEDING

NON-INDEX

CO-AUTHOR

57. SATELLITE LINK MARGIN PREDICTION AND PERFORMANCE OF ASTRO MALAYSIA

INTERNATIONAL CONFERENCE ON SPACE SCIENCE AND COMMUNICATION

2009

PROCEEDING

NON-INDEX

MAIN AUTHOR

CONSULTATION

1. TECHNICAL CONSULTANT FOR PREDICTIVE AND CORRECTIVE MAINTENANCE PROJECT, TRUCK MONITORING SYSTEM

JHC LOGISTICS

2021

NATIONAL

2. PERKHIDMATAN KONSULTANSI MEMBANGUNKAN PROGRAM SARJANA MUDA SAINS SENIBINA DENGAN KEPUJIAN KOLEJ UNIVERSITI YAYASAN SABAH (UCSF)

KOLEJ UNIVERSITI YAYASAN SABAH (UCSF)



National

AWARDS/RECOGNITION

1. ANUGERAH PERKHIDMATAN CEMERLANG 2023

2024

UNIVERSITY

2. ACADEMIC ADVISOR

UKM

2024

UNIVERSITY

3. RUBBER TREE TRUNK HUMIDITY INSPECTOR

PERTANDINGAN REKACIPTA INOVASI INTERNASIONAL & NASIONAL 2022 (PRIIN 2022)

2022

ANTARABANGSA

SILVER

4. TOP 100 RESEARCHERS USIM (2013-2017)

TOP 100 RESEARCHERS

2018

UNIVERSITI

CERTIFICATE OF APPRECIATION

5. USIM MIZAN HOMESTAY

THE INTERNATIONAL CONFERENCE AND EXPOSITION ON INVENTION (PECIPTA 17)

2017

UNIVERSITI

BRONZE

6. MIZAN SOLARHOME

27TH INTERNATIONAL INVENTION & INNOVATION EXHIBITION 2017 (ITEX 2017)

2017

ANTARABANGSA

SILVER

7. ROTATING IMU FOR PEDESTRIAN NAVIGATION

International Conference on Computer Networks and Information Technology

2013

ANTARABANGSA

BEST PAPER AWARD