

**ZURINA MOHD HANAPI**

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and Network
Faculty of Computer Science and
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**ACADEMIC QUALIFICATIONS**

- PhD in Electrical, Electronic, and Systems Engineering, Universiti Kebangsaan Malaysia, 2011
(Thesis: Adaptive and Dynamic Implicitly Secured Routing Protocols for Wireless Sensor Network)
- MSc. in Computer and Communication Systems Engineering, Universiti Putra Malaysia, 2004
(Thesis: Remote Control and Monitoring via Internet on Distributed Data Acquisition)
- BSc. in Computer and Electronic System Engineering, University of Strathclyde, UK, 1999
- Diploma in Software Engineering, Institut Telekomunikasi Dan Teknologi Maklumat (ITTM) (Currently Known As Multimedia University)

APPOINTMENTS

- | | |
|---|--|
| • 1 st November 2015 to date | Associate Professor, Faculty of Computer Science and Information Technology, UPM |
| • 1 st January 2012 to 30 th October 2015 | Senior Lecturer, Faculty of Computer Science and Information Technology, UPM |
| • 23 rd December 2011 to 27 th Jan 2012 | Head of HPC and Computation Services Section, INSPEMS, UPM |
| • October, 4 th 2004 31 st December 2011 | Lecturer, Faculty of Computer Science and Information Technology, UPM |
| • June, 9 th 1999 to October, 3 rd 2004 | Tutor, Faculty of Computer Science and Information Technology, UPM |
| • Mac 1999 to May 1999 | Teacher, Sekolah Menengah Clifford, Perak |

PROFESSIONAL QUALIFICATIONS/ MEMBERSHIP/ AFFILIATION

- Instructor for Certificate of Green Computing Initiative (GCI)
- Certified for GCI Professional Certification
- Certified for GCI User Specialist Certification
- Certified for GCI Architect Certification
- Member, Institute of Electrical, Electronic, and Engineers (IEEE)
- Member, Malaysia Security for Cryptology Research (MSCR)
- Member, UPM Woman Association (PERMATA)
- Treasury, Social Welfare Club (KKS) FSKTM

ADMINISTRATION WORKS		
Post	Level	Year
1. Member of Thesis Committee	University	Jan 2020 to date
2. Member of Research Grants Applications Evaluation	University	Feb 2018 to date
3. Panel of Students Seminar/Conference Presentation	University	Feb 2018 to date
4. Course Coordinator for SKR2305 for UPM-IPTS programmed	University	July 2013 to date
5. Curriculum Committee	Faculty	Jan 2013 to date
6. Committee of New Programme Development of Master Information Technology	Faculty	Jan 2012 to date
7. Curriculum Coordinator	Department	Jan 2011 to date
8. Expert Coordinator SKR 3201	Department	Jun 2013 to date
9. Lab Improvement Committee	Department	Jan 2012 to date
10. Computing Accreditation Commission (ABET) Committee	Faculty	Aug 2014 to 2017
11. Research Project Progress Committee	Faculty	July 2012 to date
12. Internship Programme Visiting Lecturer	Faculty	Jun 2012 to date
13. Postgraduate Unit Committee	Faculty	Apr 2012 to date
14. Software Development Unit Committee	Faculty	Mar 2012 to date
15. Green IT Committee	Faculty	Feb 2012 to date
16. Master Project Supervisor	Faculty	July 2012 to date
17. Software Development Unit Committee	Faculty	Mar 2012 to date
18. Case Studies Book Author	Faculty	Jun 2013 to date
19. Seminar Coordinator	Department	Jan 2011 to date
20. Academic Advisor Committee	Department	2004 to date
21. Final Exam Moderator	Department	2012-2013
22. Demonstrator Coordinator	Department	Jan 2011 to Jan 2013
23. Curriculum Committee	Department	Dec 2011 - Jan 2013
24. Expert Coordinator SKR 3200	Department	Mar 2011 - Jun 2011
25. Course Coordinator for SKR2302 for UPM-IPTS programmed	University	2006
26. Internal Auditor MS ISO 9001:2000	Faculty	2006-2008
27. Department Final Exam Moderator Committee	Department	2005-2007
28. Curriculum Committee	Faculty	2004-2006
29. Department Lab Coordinator	Department	2004-2006
30. ISO Internal Committee	Faculty	2004-2006
31. Publicity Committee for Faculty and Department	Faculty	2002-2006
32. Curriculum Committee for Department	Department	2003-2006
33. Final Year Project Committee for Department	Department	2004-2006

34. Department Coordinator Information Technology/ Present	Department	2005-2006
35. Department Demonstrator Coordinator	Department	2005-2006
36. Editor for Faculty's bulletin	Faculty	2004-2006
37. Annual Report Author	Faculty	2003-2006
38. Pamphlets Designs for Department	Department	2003-2006
39. Revising the format for final year thesis	Department	2004-2006
40. Course Coordinator for SKR2200 for UPM-IPTS programmed	University	2004-2006
41. Chief Invigilator for UPM-IPTS programmed	University	2002-2006

TEACHING COURSES

1. Undergraduate

Code	Course Title	Semester
1. SKR3200 (3+0)	Communications and Computer Network	1. Semester 1 2021/2022 Group 1 2. Semester 1 2021/2022 Group 2 3. Semester 2 2018/2019 Group 2 4. Semester 2 2017/2018 Group 1 5. Semester 2 2017/2018 Group 8 6. Semester 2 2016/2017 Group 1 7. Semester 2 2016/2017 Group 8 8. Semester 1 2016/2017 Group 4 9. Semester 2 2015/2016 Group 2 10. Semester 1 2015/2016 (Group 2 & Group 8) 11. Semester 1 2014/2015 (Group 2 & Group 6) 12. Semester 1 2006/2007 13. Semester November 2003/2004
2. SKR4200 (3+0)	Network Security	1. Semester 1 2020/2021 Group 2 2. Semester 1 2018/2019 Group 2 3. Semester 1 2017/2018 Group 2 4. Semester I 2006/2007
3. SSK3207 (3+0)	Computer Organization and Assembly Language	1. Semester 2 2020/2021 Group 7 2. Semester 2 2014/2015 3. Semester 2 2013/2014 4. Semester 2 2012/2013 5. Semester 2 2011/2012 6. Semester 2 2010/2012
4. SKR3201 (3+0)	Internetworking	1. Semester 1 2013/2014 2. Semester 1 2012/2013
5. SKR4200 (3+0)	Network Security	1. Semester I 2006/2007
6. SAK3100 (3+1)	1. Programming I Java 2. Programming I C++	1. Semester II 2006/2007 2. Semester I 2005/2006 3. Semester Nov 2004/2005

7. SKR4402 (3+0)	Client Server Computing	1. Semester I 2005/2006 2. Semester May 2002/2003 3. Semester November 2003/2004 4. Semester May 2003/2004
8. SAK3101 (3+1)	1. Programming II Java 2. Programming II C++	1. Semester II 2005/2006 2. Semester May 2004/2005
9. SKR2200 (3+0)	Computer Security	1. Semester May 2002/2003
10. SIM3303 (3+0)	System Analysis and Design	1. Semester November 2003/2004 2. Semester May 2002/2003
11. SKR4999 (0+6)	Final Year Project	1. Semester II 2006/2007 2. Semester II 2005/2006
12. SAK3207 (3+1)	Computer Organization and Assembly Language	1. Semester II 2005/2006 2. Semester May 2003/2004

2. Postgraduate

Code	Course Title	Semester
1. SKR5090 (3+0)	Research Method in Computer Network	1. Semester 1 2021/2022
2. SKR5200 (3+0)	Advanced Network Security	1. Semester 2 2020/2021
3. SSK5507 (3+0)	Cryptography and Security Protocols	1. Semester 2 2018/2019 2. Semester 2 2017/2018 3. Semester 2 2016/2017 4. Semester 1 2016/2017
5. SKR5306 (3+0)	Advanced Computer Networks	1. Semester 1 2015/2016
6. SKR5800 (3+0)	Special Topics in Computer Networks	1. Semester 1 2012/2013

TEACHING COURSES MODERATOR

Code	Course Title	Semester
1. SKR3201 (3+0)	Internetworking	1. Semester 1 2013/2014 2. Semester 2 2003/2004
2. SKR3200 (3+0)	Communications and Computer Network	1. Semester 2 2018/2019 2. Semester 2 2017/2018 3. Semester 2 2016/2017 Group 1 4. Semester 1 2016/2017
3. SSK4307 (2+1)	Mobile Applications	1. Semester 2 2012/2013

4.	SKR2205 (3+0)	Wireless and Mobile Networks	1. Semester 1 2013/2014 2. Semester 2 2013/2014 3. Semester 1 2014/2015
5.	SKR2200 (3+0)	Computer Security	1. Semester 2 2006/2007 2. Semester 1 2006/2007 3. Semester 2 2005/2006

AREA OF INTERESTS

- Wireless Network (Mobile Network, Wireless Sensor Network)
- Routing (wired and wireless network)
- Network and Computer Security (cryptology, key management)
- Distributed Computing

RESEARCH GROUPS

- Wireless Network Research Group Faculty of Computer Science and Information Technology
- Network, Parallel, and Distributed Research Group Faculty of Computer Science and Information Technology
- Information Security Research Group Faculty of Computer Science and Information Technology

RESEARCH PROJECTS

Total = 852,600

Main Researcher = 5 Projects (RM415,400)

Co-researchers = 8 Projects (RM417,200)

- **Main Researcher** ASEAN-India Collaborative R&D (8 August 2021 to date)
RM 179,900
(Rs 3.101,200)
Status= On-going
A Resilient Software-Defined IoT Architecture for Net House Monitoring And Management For Growing Seasonal Crops, Fruits And Flowers Throughout The Year In Tamilnadu, A Southern State of India
- **Main Researcher** Geran Putra Berimpak (1 August 2018 to date)
RM 97,500
Status= On-going
Efficient Forwarding Approach In Trust-Based Fuzzy Implicit Cross-Layer Routing Protocol For Wsn Infrastructures
- **Co-Researcher** Geran Putra Berimpak (1 Sept 2019 to date)
RM 71,700
Status= On-going
Transmission Control Protocol for Next Generation of High Speed Networks
- **Co-Researcher** Geran Putra IPS (15 March 2018 to date)
RM 16,500
Status= On-going
Approach in Minimizing Data Leakage in BYOD Environment
- **Co-Researcher** Geran Putra (15 February 2018 to date)
RM 50,000
Status= On-going
A new Multi-factor Scheme with Attack Recognition and Key Generator Technique

- Co-Researcher Geran Putra Berimpak (1st December 2017 to date)
RM 103,000
Status= On-going Enhancement Augmented Shuffle Exchange Network with Looping Method in Multistage Interconnection Network Reliability
- **Main Researcher** MINDEF (10th March 2016 to 27 Aug 2017)
RM 15,000
Status= Completed Sistem Pengurusan Logistik KAGAT (iLogistic)
- **Main Researcher** FRGS (1st December 2013 to 30 May 2017)
RM 93,000
Status= Completed A New Trust Scheme Model in Routing Protocol to Enhance Security Defence at Network Layer for Wireless Sensor Network
- Co-Researcher FRGS (1st December 2013 to 30 May 2017)
RM 86,000
Status= Completed Enhanced Tight Finite Key Scheme For Quantum Key Distribution (QKD) Protocol To Authenticate Multi-Party System In Cloud Infrastructure
- **Main Researcher** RUGS (15th April 2011 to Mar 2013)
RM30,000
Status= Completed Secured Routing Protocol for Wireless Sensor Network
- Co- Researcher RUGS (15th April 2011 to 14 October 2013)
RM30,000
Status= Completed Enhancement Of Signal Strength Based Routing Algorithm In Mobile Ad Hoc Networks
- Co- Researcher RUGS (15th April 2011 to 14 October 2013)
RM30,000
Status= Completed Advanced Intrusion Detection System In Mobile Ad Hoc Networks
- Co- Researcher RUGS (15th April 2011 to 14 October 2013)
RM15,000
Status= Completed Reputation based on secure hierarchical routing protocol in wireless sensor networks for detection and prevention malicious nodes

INTELLECTUAL PROPERTY

Total = 12

Main Inventor = 6

Co- Inventor = 6

No.	Title of Copyright	Role (Main/Co-Inventor)	Year	Category
1.	Sistem Pengurusan Logistik KAGAT (SPLK)	Main Inventor	2018	Software
2.	User Manual SPLK	Main Inventor	2018	Literacy Work

3.	E-LI Manual	Co-Inventor	2018	Literacy Work
4.	E-LI Object Code	Co-Inventor	2018	Software
5.	E-LI Source Code	Co-Inventor	2018	Software
6.	Mobile Web Learning Management System (MW-LMS)	Co-Inventor	2014	Software
7.	File Sharing and Media Streaming System for UPM College Network	Co-Inventor	2014	Software
8.	Design for Lighting and Air Conditioning Remote Control and Monitoring System	Main Inventor	2013	Literacy Work
9.	Web-based for Lighting and Air Conditioning Remote Control and Monitoring System.	Main Inventor	2013	Software
10.	Mobile Application for Lighting and Air Conditioning Remote Control and Monitoring System.	Main Inventor	2013	Software
11.	Mobile Learning Management System (MLMS)	Co-Inventor	2013	Software
12.	Dynamic Windows for Secured Routing Protocol in Wireless Sensor Network	Main Inventor	2012	Software

SUPERVISIONS

Program Level	Main/Co-Supervisor	Status	Number of Students	Total
PhD	Main	Completed	6	41
		Ongoing	9	
	Co-supervisor	Completed	15	
		On-going	11	
Master	Main	Completed	2	13
		On-going	-	
	Co-supervisor	Completed	5	
		On-going	6	
Master (Without Thesis)	Main	Completed	26	26
		On-going	0	
Bachelor	Main	Completed	79	81
		On-going	2	
Internship	Main	Completed	16	18
		On-going	2	
Mobility	Main	Completed	4	4
		On-going	-	

PhD
Main

On-going

1. Tahir Mahjaben, *Efficient Data Localization Mechanisms in Wireless Sensor Network*
2. Akhlaqi Mohammad Yahya, *Intelligence-Enabled Task Offloading In Collaborative Mobile Edge Computing (MEC)*
3. Nasrina Samir, *Efficient Secured Routing in Wireless Sensor Network*
4. Hussain Muhammad Zunnurain, *Wireless Network*
5. Hussain Muhammad Zulkifli, *Wireless Network*
6. Ma Tianjiao, *Secured in Downlink 5G Wireless Network*
7. Mustafa Yahya Zakariya Al Saadi, *Efficient Software Defined Wireless Sensor Network*
8. Akashah Arshad, *Routing in Heterogeneous Wireless Sensor Network*
9. Dahlia Asyiqin, *Efficient Routing in Wireless Sensor Network*

Completed

1. Muhammad Daniel Hafiz Abdullah (2018) *Secure Data Aggregation for Smart Metering Networks*
2. Mamman Maharaz (2018), *Scheduling in LTE Network*
3. Nadeem Madi (2018), *Scheduling Optimization over LTE Network*
4. Abu Bakar Saddiq (2018) *Energy Management in Geographic Routing in Wireless Sensor Network*
5. Ali Idarous (2017) *Dynamic Collection Window Routing Protocol in Wireless Sensor Network*
6. Zeyad Ghaleb Aqlan Al-Mekhlaf (2017) *Energy Efficient on Aspect of Clock Synchronization in a Wireless Sensor Network*

Co-Supervisor

On-going

1. Rozin Badeel Abdal, *Dynamic Load Balancing with Handover in Hybrid Li-Fi and Wi-Fi*
2. Nurul Nadia Abdul Rahman, *The Cryptographic-based Voting Process for Efficient Ballots*
3. Mohamed Alaa Fadhil, *Data Center Load Balancing in Cloud Computing Environment*
4. Siti Dhalila binti Mohd Satar, *Cloud Integrity Scheme for Securing Multi-tenant Environment*
5. Sharaf-Aldeen Zabiba, *A Provable Secure Id-Based Authenticated Key Agreement Protocol For Mobile Multi-Server Environment Using Elliptic Curve Cryptosystem*
6. Althumali, HudaDakhilallah *A Random Access Control Techniques for Machine-to-Machine Communications in LTE/LTE-A Networks*
7. Saeb Abu-Dayyah, *Quantum Resistance Public Key Algorithm for Wireless Network*
8. Fara Jamal, *Security in Bring Your Own Device*
9. Irwan Nayan, *Optimization of Coordination Path Planning of UAVs Swarm Control in Search and Rescue Operation*
10. Soulmaz Salehian, *Energy Efficient Clustering in Wireless Sensor Network*
11. Nur Arzilawati Md Yusnus, *Shuffle-Exchange Networks Optical Multistage Interconnection Network*

Completed

1. Samira Sarvari, *Intrusion Detection Systems*
2. Nori Mohammed Abdulkarem Al-Kharasani (2020), *Routing and Centralized Scheduling Algorithm in WIMAX Mesh Networks*
3. Nur Ziadah Harun (2019), *Scalable Quantum Key Distribution for Heterogeneous Mobile Cloud Computing*
4. Huthiafa Q Qadreri (2019), *Mobile Agent in Wireless Sensor Network*
5. Emad Mohammed Salameh Ibbini (2019), *An Efficient Cluster Head Selection Based on Grid Computation and MD Protocol*
6. Roszelinda Khalid (2018), *Comprehensive Incident Handling Framework for Cloud Computing*
7. Normalia Samiaan (2018) *Selfishness and Fairness in Wireless Multihop Networks*

8. Somayyeh Gholizadeh (2018), *Optimal Multisource Multichannel Routing for QoS Guarantee in Real Time Networks*
9. Ali Mohamed E. Ejmaa (2017) *Enhance the Scalability of High Mobility MANETs*
10. Danial Naghshbandi (2017) *Fairness-based Scheduling for Time Division Duplex Mode IEEE 802.16*
11. Noor Afiza bt Mohd Ariffin (2017) *Multifactor Authentication in Online System*
12. Mohamed A. Alrshah (2017) *Improving TCP Performance in High Speed Network*
13. Reza Adinenha (2017) *Adaptive Intrusion Detection for Mobile Database System*
14. Mohammed Ahmaed Al-Maqri (2016) *Improving QoS Support for Multimedia Traffic in IEEE 802.11e Network*
15. Abdulridha H. Abass (2016) *Network Intrusion Detection Based on Probabilistic Decision Based Neural Network*

Master (Research)

Main

Completed

1. Mehdi Enshaei (2015) *Sybil Minimization in Wireless Sensor Network*
2. Nooshin Nokhanji (2014) *Cluster-based Routing Algorithms for Wireless Sensor Networks with Non-Uniform Node Distribution*

Co-Supervisor

On-going

1. Ausama Ali Salman, *Free Space Quantum Key Distribution Technology for SCADA System*
2. Nurul Fariza Osman, *Vertical Stacked Optical Banyan (VSOB) Networks Re-Arrangeable Non-blocking Having Link Failures*
3. Javad Memariani, *A Secure Hierarchical Routing Protocol*
4. Ali Asif, *Data Security and Protection Issues in Cloud Computing*
5. Ferdinand Pope Abalogu, *An Effective Secure Biometric-Based User Authentication Using Smart Cards In Sensor Networks*

Completed

1. Alaa Omer (2018) *Scheduling in LTE Network*
2. Zaid Fawaz Jarallah (2017) *Mobile Sink for Wireless Sensor Network*
3. Ammar Yaseen Tuama (2016) *Security and Efficiency of Wireless Sensor Network*
4. Mohsen Bafandehkar (2015) *Security and Privacy Solution for Electronic Medical record (EMR) Sharing System on Smartphone*
5. Mehmaz Moudi (2012) *Optimed Greedy Algorithm to Achieve Accurate Routing in Optical Multistage Interconnection Network*
6. Nur Arzilawati Md Yusnus (2012) *Shuffle-Exchange Networks with minus one stage (SEN) In Optical Multistage Interconnection Network*

Master (Coursework)

On-going

1. -

Completed

1. Faisel Osman (2021), *Impact of Denial of Service Attack on Firefly-Inspired Time Synchronization Mechanism for Self-Organizing Energy Efficient for Wireless Sensor Networks*
2. Maisarah Musni (2021), *Impact of DoS Attack on Directional Compact Geographic Forwarding (DCGF)*
3. Mohamed Ridzal Radzuan (2020), *Impact of Blackhole Attack on Directional Compact Geographic Forwarding (DCGF)*

4. Nasrina binti M Samir (2020), *Impact of Blackhole and Sybil Attack on Trust-based Cross-Layer Protocol for Wireless Sensor Networks*
5. Saniah binti Sulaiman (2019), *Securing the Image through the Combination of Elliptic Curve Cryptosystem (ECC) and Hill Cipher Encryption*
6. Ramyaa a/p Gobi (2019), *A Score-Based Malware Classification Approach for Mobile Forensic Analysis*
7. BA Amadou (2019), *The Impact of Self-Organization Based Clustering Using Zone Based Group Mobility in MANETs to increase Network Scalability and Stability*
8. Ahmed Haidarah Dahah (2019), *eS-Detector: A New Smishing Attack Detecting Technique for Mobile Computing Environment*
9. Afeef Yahya Ahmed Al-Ansi (2018), *New AES using Feistel Cipher*
10. Firas Mahadi (2017) *Routing in Wireless Sensor Network*
11. Suad AbdAlla Mohamed (2017) *DDos Detection Method in Cloud Computing*
12. Miami Mousa (2016) *Hybrid Intrusion Detection Method Integrating Anomaly Detection With Misuse Detection*
13. Kamala Selvi (2015) *Performance Analysis Of AODV And DSR Based On Node Density And Geographic Size In MANET in NS-2*
14. Rawda Yunos (2015) *A Multihop Aided Wireless Routing Protocol Based on Flow Priority in Smart Grid*
15. Nasrin Khanzaei (2015) *An Aggregation of Data Mining Techniques for Intrusion Detection on QKD Data*
16. Iman Ghavam (2014) *Wireless Sensor Network towards Cyber Physical Systems*
17. Thiba Nesan a/I Vasudevan (2014) *Analysis of Performance in Network Firewalls*
18. Shirin Nazemoroaya (2013) *Energy-Efficient Routing Protocol with One-Level Data Aggregation for Wireless Sensor Network*
19. Mojtaba Yousefi (2013) *Smart AODV in Vehicular Network*
20. Bahareh Zarei (2013) *DoS Elimination in Wireless Sensor Network*
21. Mohammed Hisyamuddin bin Kasim (2013) *Proficient Node Scheduling for Homogeneous and Heterogeneous Wireless Sensor Networks*
22. Dahlia Asyiqin (2012) *An Aggregation of Data Mining Techniques for Intrusion Detection*
23. Mohamad Fairus Khalid (2012) *Packet Aggregation Based Network I/O Virtualization for Cloud Computing*
24. Idris Abubakar Umar (2012) *Trust Based Scheme for QoS Assurance in Mobile Ad-Hoc Networks*
25. Bello Ibrahim Kangiwa (2012) *Intensive Bandwidth Request Design and Handling in PMP*
26. Azliyah Wagiman (2007) *A new approach to ensure fairness over the Internet*

Bachelor

On-going

1. Maisarah Binti Faridun (2020), *Soil Moisture and pH Detector for Plant Identification*
2. Nur Syuhaima Samsudin (2020), *Soil Moisture and Electrical Conductivity for Plant Productivity*

Completed

1. Ain Zubaidah Binti Agoslokman (2020), *Mobile Apps Halal Detection System*
2. Nor Atikah Binti Mohd Senan (2020), *Mobile Apps Halal Detection System*
3. Thohiroh Binti Azmi (2020), *Smart Irrigation System*
4. Nurul Asyiqin Shafie (2019), *Mobile Apps Halal Detection System*
5. Muhamad Azrin Mohd Isa (2019), *Mobile Apps Halal Detection System*
6. Ummu Athiah Shaari (2018) *Mobile Apps Halal Detection System*
7. Zuliat Fatehah Mamat (2018) *Mobile Apps Halal Detection System*
8. Noor Nadirah Zainol Abidin (2017) *E-SPA*
9. Nur Raqeeema Rasheeqa Binti Sangkala (2017) *Halal Detection System*
10. Nurul Izzati Binti Saidin (2017) *Halal Detection System*
11. Affzarina binti Mohd Rowi (2016) *Tender System*
12. Nur Afifah Zahidah Mohd Zamri (2016) *Tender System*
13. Normadiyah binti Mohd Nordin (2016) *Tender System*
14. Norazlina binti Abdullah (2016) *Tender System*
15. Fariq Asyraf bin Roslan (2015) *Web Application for Food Ingredient Detector*

16. Hazirah Abdul Wahab (2015) *Mobile Application for Food Ingredient Detector*
17. Fatihah Najwa binti Zainal Abidin (2015) *Food Ingredient Detector*
18. Azuwana binti Abdul Rahman (2015) *Low Cost and Energy Efficient Smart Air-Conditioning Control and Monitoring*
19. Norhafizah binti Ibrahim (2015) *Low Cost and Energy Efficient Smart Air-Conditioning Control and Monitoring*
20. Tan Lai Yee (2015) *Liquid Food Detector System*
21. Nur Diyana Sahrur Rudi (2013) *Smart Building - Smartphone*
22. Abdul Ghafar Bin Musa (2013) *Smart Building – Web*
23. Azrul Nizam Adnan (2013) *Smart Building – In House*
24. Thum Cho Ee (2012) *Low Cost and Energy Efficient Smart Lighting and Air-Conditioning Control and Monitoring- Smartphone*
25. Too Heng Kit (2012) *Low Cost and Energy Efficient Smart Lighting and Air-Conditioning Control and Monitoring – Web*
26. Tong Chin Han (2012) *Low Cost and Energy Efficient Smart Lighting and Air-Conditioning Control and Monitoring – In House*
27. Aminur (2011) *Two Level Row Shift in Shift Row AES*
28. Mohd Saiful Shahrir b Mohd Rosdi (2006) *Clustering in IPv6*
29. Siti Zurainah Bt Salamet (2006) *Configuration of Video Conferencing in IPv6*
30. Shafiz B Ishak (2006) *VoIP Implementation in MyREN*
31. Grace Lai (2006) *Instant Messenger in IPv6*
32. Lim Re Foong (2006) *E-Commerce Security by Using Paypal*
33. Mohd Fauzi B Mohd Sani (2006) *Bluetooth Security and Its Counter Measure*
34. Nik Razali B Nik Soh (2006) *ARP Spoofing*
35. Rosmaria Bt Deraman (2006) *SIP and H323 Protocol Comparison On Voip*
36. Nur Aisya Bt Mohd Zamri (2006) *Wired Voip via Gatekeeper*
37. Syed Abdul Rahman Almahdaly (2006) *Network Address Translation (NAT)*
38. Siti Afa Bt Mohamad Rofie (2005) *LINUX and Windows Platform Comparison on Voip*
39. Azura Bt Jaidon (2005) *Visualisasi Lapisan Protokol Rangkaian*
40. Kuljit Singh A/L Pretam Singh (2005) *Encryption Text System Using Graphical Password*
41. Nurul Huda Bt Mohd Najib (2005) *Simulasi Rangkaian Peribadi Maya*
42. Sumiza Bt Serman (2005) *Sistem Pengurusan Kursus Kakitangan*
43. Hafizah Bt Ismail (2005) *Sistem Visualisasi Pengawasan Ralat Di Paras Pautan Data*
44. Noraniza Bt Hamzah (2005) *Visualisation on How Email Works*
45. Rasidah Bt Rusly (2005) *Satellite Visualisation*
46. Mohd Aizal B Baharuddin (2005) *Samba Server Configuration in IPv6*
47. Hairul Effeza B Manap (2004) *Parallel Virtual Machine Implementation*
48. Mohd Fahme B Ab Hamid (2004) *Student Information Check System Based on WAP*
49. Salbiah Bt Hamdan (2004) *SAMBA Server in IPv4 and IPv6*
50. Roswan Bt Ismail (2004) *Sistem Pengurusan Akademik Sekolah Sultan Ibrahim*
51. NorAzura Bt Husin (2004) *Sistem Diagnosis*
52. Sharifah Munazzah Syed Md Nasir (2004) *Web Community Portal*
53. Wan Nurashikin Wan Abdul Rashid (2004) *Inventory System*
54. Mohd Faisal B Omar (2004) *Data Encryption Application Through Wayarles LAN*
55. Mohd Fadzlee B Abu Hassan (2003) *Sistem Peperiksaan Sekolah Dato Amar Diraja*
56. Salbiah Bt Kamaruzaman (2003) *Portal DotProject*
57. Fadzlin Bt Md Salleh (2003) *Stock Tracking System*
58. Fairul Nahar B Baharuddin (2003) *10 Gigabit Ethernet Research*
59. Yeoh Chang Kim (2003) *Network Real Time System*
60. Mohd Khairulanuar B Sahabudin (2003) *Sistem Visualisasi Stop and Wait ARQ*
61. Hasrul Anwar B Hasim (2003) *Sistem Merit Pelajar*
62. Katherina Tan @ Cheryl (2003) *Kajian Pengurusan Sistem Keselamatan Rangkaian UPMNet*
63. Faezawaty Yee (2003) *UPM KlikMeet*
64. Haryati Bt Khamis (2003) *Sistem Perakaunan bagi Dream Access Sdn Bhd*
65. Ahmad Ritahudeen B Mohd Zohdi (2003) *Sistem Penempahan Makmal FSKTM*
66. Shafrul B Omar (2003) *Digital Video Broadcasting*
67. Firdaous B Sulaiman (2003) *Demilitarized Zone*
68. Sharul Izahanany @ Shasa Bt Ayob (2003) *Sistem Penempahan dan Kawalan Komputer FSKTM*
69. Ezwan Shah B Md Basuki (2003) *ASP Chat Room*
70. Mohd Sairul B Mohd Rosidi (2003) *Sistem Penempahan Taman Negara Pahang*
71. Mohd Firdaous Omar (2003) *Sistem Pengundian UPM*
72. Haizul B Abd Halim (2002) *Sistem Klinik*

73. Suzieliana Bt Razali (2002) *Sistem Video Melalui Laman Web*
74. Fatimah Bt Ismail (2002) *Sistem Pembelajaran Secara Online*
75. Surinderjit Singh (2002) *Online Book Store*
76. Chin Voon Seong (2002) *Sistem Pengurusan dan Pemantauan Stok Online*
77. Rosila Hassan (2002) *Sistem Pencarian Untuk Bilik Sumber FSKTM*
78. Azlin Azizawazie Bt Aziz (2002) *Smart Organizer*
79. Heng Ya Boon (2002) *Windows FTP using Java*

Internship

On-going

1. Ran Linsheng (2021), Support Ticket System for Shuyang Pharmaceutical
2. Mohd Akmal Khairuddin (2021), Network Management

Completed

1. Nur Farah Nabilah bt Fuat (2020), *AI Spice*
2. Abdurahman Mohamed Aboubaker (2019), *Network Design*
3. Ahmed Mirghani Mohamed Hamid (2019), *Network Design*
4. Afif Saifudin Bin Baharin (2018), *Network Design*
5. Mohd farid Azwan Bin Samuri (2018), *Network Design*
6. Nurul Nadiyah Binti Ahmad (2017) *RCE eApps (online loan application)*
7. Norhafizah Norozman (2016) *E-LIN System*
8. Amalina Omar (2016) *E-hockey System*
9. Nur Amanina Zahari (2016) *Network Design and Configuration for AidinaSdn Bhd*
10. Neelampikeswari a/p Vellasamy (2014) *MyBiz Online Billing System*
11. Loke Yi Cheng (2014) *MyBiz Online Billing System*
12. Pou Wei Siang (2014) *MyBiz Online Billing System*
13. Nur Diyana Sahrur Rudi (2013) *Network Design for Portal One Project*
14. Foo Yoong Li (2013) *Hitachi Payment System*
15. Azrul Nizam Adnan (2013) *Network Configuration and Installation for Portal One Project*
16. Noor Amirah Ahmad Kamilluddin (2012) *Emetrics Booking System*

Mobility

1. Minobu Matsuoka (2015) Japan
2. Takuya Nishidome (2015) Japan
3. Junichiro Imatomi (2015) Japan
4. Kyohei Ogawa (2015) Japan

PUBLICATIONS

Published = 142,

H-Index = SCOPUS = 17, Google Scholar = 18

SCOPUS ID: 56703027900

ORCID: <https://orcid.org/0000-0002-8079-1791>

1. Journals = 92

Scopus = 84

ISI = 51 (SA = 19, Q1=9, Q2=5, Q3=5)

Total IF= 118.571 Q1=24, Q2=13, Q3=14

2. Book Chapter = 5

3. Proceedings = 30

Scopus = 17

4. Copyrights = 9

5. Posters = 3

Journals

Indexed

1. Arshad, M., **Hanapi, Z.M.**, Subramaniam, S. Latip, R. 2021. A Survey of Sybil Attack Countermeasures in IoT-based Wireless Sensor Networks. PeerJ Computer Science (Accepted)
2. Maharazu, M., **Hanapi, Z.M.**, Alrashah, M.A.. 2021. Energy and Spectral

IF: 1.18 (Q1)
Scopus
Thomson ISI

IF: 2.645 (Q2)

Efficiency Balancing Algorithm for Energy Saving in LTE Downlinks Symmetry. 13(2), pp. 1-19, 211	Scopus Thomson ISI
3. Mohammed Alaa Ala'anzy, Mohamed Othman, Zurina Mohd Hanapi dan Mohamed A. Alrshah. 2021. <i>Cloudlet allocation based on Locust Inspired Algorithm</i> . Sensors. (Accepted)	IF: 3.576 (Q1) Scopus Thomson ISI
4. NZ Harun, ZA Zukarnain, ZM Hanapi , I Ahmad, MF., Khodr. 2021. MQC-MB: Multiphoton Quantum Communication Using Multiple-Beam Concept in Free Space Optical Channel. Symmetry. 13(1), pp. 1-16. 66	IF: 2.645 (Q2) Scopus Thomson ISI
5. Althumali, H.D., Othman, M., Noordin, N.K., Hanapi, Z.M. 2021. Dynamic Tree-Splitting Algorithm for Massive Random Access of M2M Communications in IoT Networks. IEEE Systems Journal. 2021: 1-12	IF: 3.931 (Q2) Scopus Thomson ISI
6. Amodu, O.A., Othman, M., Yunus, N.A.M., Hanapi, Z.M. , 2021. A primer on design aspects and recent advances in shuffle exchange multistage interconnection networks. Symmetry 2.645, 13(3), pp 1-23, 378	IF: 2.645 (Q2) Scopus Thomson ISI
7. Saniah Sulaiman, and Zurina Mohd Hanapi . 2021. Extensive Analysis on Images Encryption using Hybrid Elliptic Curve Cryptosystem and Hill Cipher. Journal of Computer Science. 17(3): 221-230	Scopus
8. Satar, S.D.M., Mohamed, M.A., Hussin, M., Hanapi, Z.M., Cloud-based Secure Healthcare Framework by using Enhanced Ciphertext Policy Attribute-Based Encryption Scheme. International Journal of Advanced Computer Science and Applications 12(6), pp. 393-399	Scopus
9. Nori Al-Kharasani, Zuriati Ahmad Zukarnain, Shamala K. Subramaniam and, Hanapi, Z.M. 2020. An Adaptive Relay Selection Scheme for Enhancing Network Stability in VANETs. IEEE Access. 2020(8): 128757-128765	IF: 3.745 (Q1) Scopus Thomson ISI
10. Althumali, H.D., Othman, M., Noordin, N.K., Hanapi, Z.M. 2020. Dynamic Backoff Collision Resolution for massive M2M Random Access in Cellular IoT Networks. IEEE Access. 2020(8): 201345-201359	IF: 3.745 (Q1) Scopus Thomson ISI
11. Jamal, F., Abdullah, M.T., Abdullah, A., and Hanapi, Z. M. 2020. A Reliable Access Control for Mobile Cloud Computing with Cache-aware Scheduling. IEEE Access	IF: 3.745 (Q1) Scopus Thomson ISI
12. Samira Sarvari, Nor Fazlida Mohd Sani, Zurina Mohd Hanapi , Mohd Taufik Abdullah. 2017. An Efficient Anomaly Intrusion Detection Method with Feature Selection and Evolutionary Neural Network. IEEE Access. 2020 (8): 70651-70663	IF: 3.745 (Q1) Scopus Thomson ISI
13. NZ Harun, ZA Zukarnain, ZM Hanapi , I Ahmad, 2020. Multi-stage Quantum Secure Direct Communication using Secured Shared Authentication Key. Symmetry. 12(9): 1481	IF: 2.645 (Q2) Scopus Thomson ISI
14. Idris Abubakar Umar, Zurina Mohd Hanapi , Dahlia Asyikin. 2020. Impact of Sybil Attack on Secure Geographic Forwarding Approaches. International Journal of Advanced Trends in Computer Science and Engineering. 11 (12):1167-1173	Scopus
15. Samira Sarvari, Nor Fazlida Mohd Sani, Zurina Mohd Hanapi , Mohd Taufik Abdullah. 2017. An Efficient Anomaly Intrusion Detection Method with Evolutionary Kernel Neural Network Random Weights. Journal of Theoretical and Applied Information Technology (JATIT). 98 (7): 963-976	Scopus
16. Jamal, F., Abdullah, M.T., Abdullah, A., and Hanapi, Z. M. 2020. A Systematic Review of Bring Your Own Device (BYOD) Authentication Technique. Journal of Physics: Conference Series. 1529(4): 042071	Scopus

17. Zeyad Ghaleb Al-Mekhlafi, **Zurina Mohd Hanapi**, Ahmed M Shamsan Saleh. 2019. Firefly-Inspired Time Synchronization Mechanism for Self-Organizing Energy-Efficient Wireless Sensor Networks: A Survey. IEEE Access. 2019(7): 115229-115248 **IF: 4.098 (Q1)**
Scopus
Thomson ISI
18. Mamman Maharazu, **Zurina Mohd Hanapi**, Abdullah Muhamed, and Azizol Abdullah. 2019. Quality of Service Class Identifier (QCI) radio resource allocation algorithm for LTE downlink. PLOSOne. 14(1):1-22 **IF: 3.352 (Q1)**
Scopus
Thomson ISI
19. Idris Abubakar Umar, **Zurina Mohd Hanapi**, Aduwati Sali, Zuriati Ahmad Zukarnain. 2019. Towards overhead mitigation in state-free geographic forwarding protocols for wireless sensor networks. Wireless Networks. 25:1017–1030 **IF: 1.886 (Q2)**
Scopus
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20. Jamal, F., Abdullah, M.T., Abdullah, A., and **Hanapi, Z. M.**, 2019. A Reliable Access Control for Mobile Cloud Computing with Cache-aware Scheduling. IEEE Access **IF: 4.098 (Q1)**
Scopus
Thomson ISI
21. NZ Harun, ZA Zukarnain, **ZM Hanapi**, I Ahmad, 2019. Hybrid M-Ary in Braided Single Stage Approach for Multiphoton Quantum Secure Direct Communication Protocol. IEEE Access. 7: 22599-22612 **IF: 4.098 (Q1)**
Scopus
Thomson ISI
22. Nur Arzilawati Md Yunus, Mohamed Othman, **Hanapi, Z. M.**, and Kweh Yeah Lun. 2019. Enhancement Replicated Network: A Reliable Multistage Interconnection Network Reliability. IEEE System Journal. 13(3):2653-2663 **IF: 4.463 (Q1)**
Scopus
Thomson ISI
23. Ali Ghasempour, **Zurina Mohd. Hanapi**, Mohammad Salehi & Zeinab Vahdati. 2019. Using Traffic Control Scheme In Intelligent Transportation System. International Journal of Advanced Trends in Computer Science and Engineering. **Accepted** **Scopus**
24. Nur Arzilawati Md Yunus, Mohamed Othman, **Hanapi, Z. M.**, and Kweh Yeah Lun. 2018. Evaluation of Replication Method in Shuffle-Exchange Network Reliability Performance. Advances in Data and Information Sciences. 271-281 **Scopus**
25. Madi, N.K.M., **Hanapi, Z.M.**, Othman, M. Subramaniam, S. 2018. Link Adaptive Power Control and Allocation for Energy-Efficient Downlink Transmissions in LTE Systems. IEEE Access. 6:18469-18483 **IF: 3.557 (Q1)**
Scopus
Thomson ISI
26. Madi, N.K.M., **Hanapi, Z.M.**, Othman, M. Subramaniam, S. 2018. Delay-based and QoS-Aware Packet Scheduling for RT and NRT Multimedia Services in LTE Downlink Systems EURASIP Journal on Wireless Communications and Networking. 2018:180. **IF: 2.407 (Q2)**
Scopus
Thomson ISI
27. Zeyad Ghaleb Al-Mekhlafi, **Zurina Mohd Hanapi**, Mohamed Othman, and Zuriati Ahmad Zukarnain. 2018. Random Traveling Wave Pulse Coupled Oscillator (RTWPCO) Algorithm of Energy-efficient Wireless Sensor Networks. International Journal of Distributed Sensor Networks. 14(4):1-14 **IF: 1.787 (Q2)**
Scopus
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28. Nori Al-Kharasani, Zuriati Ahmad Zukarnain, Shamala K. Subramaniam and, **Hanapi, Z.M.** 2018 Adaptive Relay Selection Scheme for Optimized Link State Routing in Vehicular Ad-hoc Network. Sensors. 2018(1): **18(2):597** **IF: 2.475 (Q2)**
Scopus
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29. Huthiafa Qadori, Zuriati Ahmad Zukarnain, **Hanapi, Z.M.**, and Shamala K. Subramaniam. 2018 FuMAM: A Fuzzy-based Mobile Agent Migration Approach for Data Gathering in Wireless Sensor Networks. IEEE Access. **6:15643-15652** **IF: 3.557 (Q1)**
Scopus
Thomson ISI
30. Somayyeh Gholizadeh, Azizol Abdullah, Mohamed Othman, **Zurina Mohd Hanapi**. 2018. Optimized topology control in mobile IP networks using a new parametric routing algorithm. Computers and Electrical Engineering. 68:225-240. **IF: 1.747 (Q2)**
Scopus
Thomson ISI
31. Nur Arzilawati Md Yunus, Mohamed Othman, **Hanapi, Z. M.**, and Kweh Yeah Lun. 2018. Number of Stage Implication Towards Multistage Interconnection Network Reliability. Advanced Science Letters. 24(2): 1259-1262 **IF: 1.253 (Q2)**
Scopus
Thomson ISI

32. Emad Mohammed Ibbini , Kweh Yeah Lun, Mohamad Othman, and **Zurina Mohd Hanapi**. 2018. An Efficient Mechanism Protocol for Wireless Sensor Networks by using Grids. International Journal of Advanced Computer Science and Applications. **in press** **Scopus**
33. Mamman Maharazu, **Zurina Mohd Hanapi**, Abdullah Muhamed, and Azizol Abdullah. 2017. An Adaptive Call Admission Control with Bandwidth Reservation for Downlink LTE Networks. IEEE Access. 2017(5):10986-10994 **IF: 3.244 (Q1) Scopus Thomson ISI**
34. Idris Abubakar Umar, **Zurina Mohd Hanapi**, Aduwati Sali, Zuriati Ahmad Zukarnain. 2017. TruFiX: A Configurable Trust-based Cross-Layer Protocol for Wireless Sensor Networks. IEEE Access. 2017(5):2250-2562 **IF: 3.244 (Q1) Scopus Thomson ISI**
35. Ali Idarous, **Zurina Mohd Hanapi**, Mohamed Othman, and Zuriati Ahmad Zukarnain. 2017. A Secure Region-Based Geographic routing Protocol (SRBGR) for Wireless Sensor Networks. PLoS One. 12(1): e0170273 **IF: 2.806 (Q1) Scopus Thomson ISI**
36. Zeyad Ghaleb Al-Mekhlafi, **Zurina Mohd Hanapi**, Mohamed Othman, and Zuriati Ahmad Zukarnain. 2017. Travelling Wave Pulse Coupled Oscillator (TWPCO) Using a Self-Organizing Scheme for Energy-efficient Wireless Sensor Networks. PLoS One.12(1): e0167423 **IF: 2.806 (Q1) Scopus Thomson ISI**
37. Madi, N.K.M., **Hanapi, Z.M.**, Othman, M. Subramaniam, S. 2017. Two-level QoS-aware Frame-based Downlink Resources Allocation for RT/NRT Services Fairness in LTE Networks. Telecommunication Systems, Springer. 66(3): 357-375 **IF: 1.542 (Q3) Scopus Thomson ISI**
38. Huthiafa Qadori, Zuriati Ahmad Zukarnain, **Hanapi, Z.M.**, and Shamala K. Subramaniam. 2017 A Spawn Mobile Agent Itinerary Planning Approach for Energy-Efficient Data Gathering in Wireless Sensor Networks. Sensors. 17(6): 1280 **IF: 2.245 (Q1) Scopus Thomson ISI**
39. Mohamed A. Alrshah, Mohamed Othman, Borhanuddin Ali, **Zurina Mohd Hanapi**. 2017. Modeling the Throughput of the Linux-based Agile-SD Transmission Control Protocol, IEEE Access. 2016(4): 9724-9732 **IF: 3.244 (Q1) Scopus Thomson ISI**
40. Ammar Yaseen Tuama, Mohamad Afendee Mohamed, Abdullah Muhammed, and **Hanapi, Z.M.** 2017. A New Compression Algorithm for Small Data Communication in Wireless Sensor Network. International Journal of Distributed Sensor Networks. 25(3): 163-175 **IF: 1.239 (Q3) Scopus Thomson ISI**
41. Huthiafa Qadori, Zuriati Ahmad Zukarnain, **Hanapi, Z.M.**, and Shamala K. Subramaniam. 2017. Multi-mobile agent Itinerary Planning (MIP) algorithms for Data Gathering in Wireless Sensor Networks. A Review Paper. International Journal of Distributed Sensor Networks. 13(1) **IF: 1.239 (Q3) Scopus Thomson ISI**
42. Samira Sarvari, Nor Fazlida Mohd Sani, **Zurina Mohd Hanapi**, Mohd Taufik Abdullah. 2017. Wireless Local Area Network: A Comprehensive Review of Attacks and Metrics. Journal Of Theoretical And Applied Information Technology (JATIT). 95 (13): 2913-2934 **Scopus**
43. Najim, A.O., Hamid, N.A.W.A., **Hanapi, Z.M.**, Ahmad, I.. (2017) Comparative study of packet scheduling algorithm in LTE network. Journal of Computer Science. 13 (12): 756-766 **Scopus**
44. Althumali, H. Hussin, M., and **Hanapi, Z.M.** (2017) Cost Efficient Scheduling through Auction Mechanism in Cloud Computing. Journal of Computer Science. 9 (2-10): 65-69 **Scopus**
45. Zeyad Ghaleb Al-Mekhlafi, **Zurina Mohd Hanapi**, Mohamed Othman, and Zuriati Ahmad Zukarnain. 2017. Comparative Study On Energy Efficient In Traveling Wave Pulse Coupled Oscillator For Wireless Sensor Networks. American Journal of Applied Sciences. 13(11):1235-1244 **DOAJ, EI (INSPEC, IET)**

<p>46. Mamman Maharazu, Zurina Mohd Hanapi, Abdullah Muhamed, and Azizol Abdullah. 2017. High Data Rate Scheduling Algorithm for Downlink LTE Network. International Journal on Communications Antenna and Propagation (IRECAP). 6(6):</p> <p>47. Idris Abubakar Umar, Zurina Mohd Hanapi and Ali Idarous. 2017. Performance Analysis of State-Free Geographic Forwarding Protocols for Wireless Sensor Networks. International Journal on Engineering and Technology (IJET). 8(6):3065-3072</p> <p>48. Idris Abubakar Umar, Zurina Mohd Hanapi, Aduwati Sali, Zuriati Ahmad Zukarnain. 2016. FuGeF: A Resource Bound Secure Forwarding Protocol for Wireless Sensor Networks. Journal of Sensors. 16(6):943.</p> <p>49. Zeyad Ghaleb Al-Mekhlafi, Zurina Mohd Hanapi, Mohamed Othman, and Zuriati Ahmad Zukarnain. 2016. Self-organizing Method for Energy-efficient Pulse Coupled Oscillator (EEPCO) in Wireless Networks. Wulfenia. 23(12): in press</p> <p>50. Ali Ejmaa, Shamala K. Subramaniam, Zuriati Ahmad Zukarnain, and Hanapi, Z.M. 2016. A Scalable Neighbor - based Routing Protocol for Mobile Ad Hoc Networks. International Journal of Distributed Sensor Networks. 12(9):in press</p> <p>51. Reza Adinehnia, Nur Izura Udzir, Lilly Suriani Affendey, Iskandar Ishak, Zurina Mohd Hanapi. 2016. Insider Attack Exposure using Location-aware Intrusion Detection for Mobile Database Environments. Wulfenia Journal. 23 (9):</p> <p>52. Ali Ejmaa, Shamala K. Subramaniam, Zuriati Ahmad Zukarnain, and Hanapi, Z.M. 2016. Neighbor-based Dynamic Connectivity Factor Routing Protocol for Mobile Ad Hoc Networks. IEEE Access. 2016(4):8053-8064</p> <p>53. Nur Arzilawati Md Yunus, Mohamed Othman, Hanapi, Z. M., and Kweh Yeah Lun. 2016. Reliability Review on Interconnection Networks: A Survey. IETE Technical Review. 33(6):596-606</p> <p>54. Al_Maqri, M.A., Othman, M. Ali, B.M., Hanapi Z.M. 2016. Adaptive multi-polling scheduler for QoS support of video transmission in IEEE 802.11e WLANs. Telecommunication Systems, Springer. 61 (4):773-791.</p> <p>55. Al-Maqri, M.A., Othman, M. Ali, B.M., Hanapi Z.M. 2016. Providing Dynamic TXOP for QoS Support of Video Transmission in IEEE 802.11 e WLANs. Networks, Wiley-Liss Inc.. 10(9):501-511.</p> <p>56. Noor Afiza Mohd Ariffin, Nor Fazlida Mohd Sani, Zurina Mohd Hanapi, Ramlan Mahmud . 2016. A Secured and Efficient Multi-Factor Biometric Authentication Scheme Using Plan Recognition Technique. Journal of Theoretical And Applied Information Technology (JATIT). 94(2):366-371</p> <p>57. Zeyad Ghaleb Al-Mekhlafi, Zurina Mohd Hanapi, Mohamed Othman, and Zuriati Ahmad Zukarnain. 2016. A Firefly-Inspired Scheme for Energy-Efficient Transmission Scheduling Using a Self-Organizing Method in a Wireless Sensor Network. Journal of Computer Science. 12(10):482-494</p> <p>58. Muhammad Daniel Hafiz Abdullah, Zurina Mohd Hanapi, Mohamad Afendee Mohamed, & Zuriati Ahmad Zukarnain. 2015. Attacks, Vulnerabilities and Security Requirements in Smart Metering Networks: A Survey. KSII Transactions on Internet and Information Systems. 9(4): 1493-1515</p> <p>59. Nooshin Nokhanji, Zurina Mohd Hanapi, Shamala Subramaniam, Mohamad Afendee Mohamed. 2015. EADC-FL: An Energy Aware Distributed Clustering Protocol for Wireless Sensor Networks Using Fuzzy Logic. Wireless Personal Communications, Springer. 84:395-419.</p> <p>60. Mohamed A. Alrshah, Mohamed Othman, Borhanuddin Ali, Zurina Mohd Hanapi. 2015. Agile-SD: A Linuxbased TCP Congestion Control Algorithm for</p>	<p>IF: 2.245 (Q1) Scopus Thomson ISI</p>	<p>IF: 1.219 (Q3) Scopus Thomson ISI</p>	<p>IF: 1.239 (Q3) Scopus Thomson ISI</p>	<p>IF: 1.219 (Q3) Scopus Thomson ISI</p>	<p>IF: 3.244 (Q1) Scopus Thomson ISI</p>	<p>IF: 1.330 (Q3) Scopus Thomson ISI</p>	<p>IF: 0.705 (Q3) Scopus Thomson ISI</p>	<p>IF: 0.943 (Q3) Scopus Thomson ISI</p>	<p>Scopus</p>	<p>Scopus</p>	<p>IF: 0.561 (Q3) Scopus Thomson ISI</p>	<p>IF: 0.653 (Q3) Scopus Thomson ISI</p>	<p>IF: 2.229 (Q1) Scopus</p>
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Supporting High-Speed And Short-Distance Networks, Journal of Network and Computer Applications. 55:181-190.	Thomson ISI
61. Al_Maqri, M.A., Othman, M. Ali, B.M., Hanapi Z.M. 2015. Feasible HCCA Polling Mechanism for Video Transmission in IEEE 802.11e WLANs. Wireless Personal Communications, Springer. 85(3):899-924	IF: 0.653 (Q3) Scopus Thomson ISI
62. Al_Maqri, M.A., Othman, M. Ali, B.M., Hanapi Z.M. 2015. Adaptive Multi-Polling Scheduler for QoS Support of Video Transmission in IEEE 802.11e WLANs. Telecommunication Systems, Springer. 1-19. DOI: 10.1007/s11235-015-0020-y	IF: 0.705 (Q3) Scopus Thomson ISI
63. Normalia Samian, Z.A. Zukarnain, Winston K.G. Seah, A. Abdullah and Z.M. Hanapi. 2015. Cooperation Stimulation Mechanisms for Wireless Multihop Networks: A Survey. Journal of Network and Computer Applications. 54: 88-106	IF: 2.229 (Q1) Scopus Thomson ISI
64. Roselinda Khalid, Zuriati Ahmad Zukarnain, Zurina Mohd Hanapi, and Mohamad Afendee Mohamed. 2015. Authentication mechanism for cloud network and its fitness with quantum key distribution protocol: A survey. Journal of Theoretical and Applied Information Technology. 81(1):51-64.	Scopus
65. Reza Adinehnia, Nur Izura Udzir, Lilly Suriani Affendey, Iskandar Ishak and Zurina Mohd. Hanapi. 2015. User-independent and Self-optimizing Intrusion Detection Framework for Large Database Systems. WSEAS Transactions on Information Science and Applications. 12:194-201	Scopus
66. Emad Mohammed Ibbini , Kweh Yeah Lun, Mohamad Othman, Zurina Mohd Hanapi, And Mohammed S Ibbini. 2015. An Efficient Mathematical Analysis for Saving Energy in Wsn Routing Protocol. Journal of Theoretical and Applied Information Technology. 76(3):314-321	Scopus
67. Emad Mohammed Ibbini, Kweh Yeah Lun, Mohamad Othman, Zurina Mohd Hanapi, And Mohammed S Ibbini. 2015. A Survey of Routing Mac Techniques for Wireless Sensor Networks Routing Protocol. Journal of Theoretical and Applied Information Technology. 76(3):322-332	Scopus
68. Mehdi Enshaie, Zurina Mohd Hanapi, Mohamed Othman. 2015. A Review on Wormhole Attacks in MANET. Journal of Theoretical and Applied Information Technology. 79(1):7-21	Scopus
69. Idris Abubakar Umar and Zurina Mohd Hanapi. 2015. Energy Efficient MAC Protocols: A Survey. International Journal on Communications Antenna and Propagation (IRECAP). 5(2):106-118	Scopus
70. Ali Idarous, Zurina Mohd Hanapi, Zuriati Ahmad Zukarnain, and Mohamed Othman. 2015. Geographic Routing Protocols for Wireless Sensor Networks: Design and Security Perspectives. International Journal on Communications Antenna and Propagation (IRECAP). 5(4): 197-211.	Scopus
71. Somayyeh Gholizadeh, Azizol Abdullah, Mohamed Othman, Zurina Mohd Hanapi, Mohsen Heydarian. 2014. Optimized Performance Data Transmission in Mobile IP Networks. Journal of Supercomputing. 70:906-929.	IF: 0.858 (Q2) Scopus
72. Nooshin Nokhanji, Zurina Mohd Hanapi, Shamala Subramaniam, Mohamad Afendee Mohamed. 2014. A Scheduled Activity Energy Aware Distributed Clustering Algorithm for Wireless Sensor Networks with Non-uniform Node Distribution. International Journal of Distributed Sensor Networks. 2014:1-13. DOI: 10.1155/2014/218678	IF: 0.923 (Q3) Scopus Thompson ISI
73. Mohamed A. Alrshah, Mohamed Othman, Borhanuddin Ali, Zurina Mohd Hanapi. 2014 Comparative study of High-speed Linux TCP Variants over High-BDP Networks, Journal of Network and Computer Applications. 43:66-75. DOI: 10.1016/j.jnca.2014.04.007	IF: 2.229 (Q1) Scopus Thomson ISI

74. **Hanapi, Z.M.** and Ismail, M. 2014. Impact of Blackhole and Sybil Attacks on Dynamic Windows Secured Implicit Geographic Forwarding Routing Protocol. Journal of IET Information Security. 8(2):80-87. DOI: 10.1049/iet-ifs.2012.0202 **IF= 0.753 (Q2)**
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75. Mehdi Enshaie, **Zurina Mohd Hanapi**, Mohamed Othmen. 2014. A review: Mobile Ad Hoc Networks Challenges, Attacks, Security, Vulnerability and Routing Protocols. International Journal on Communications Antenna and Propagation (IRECAP). 4(5):2014. **Scopus**
76. Abdul Ridha H.Abass, Azizol Abdullah, Mohamed Othman, **Hanapi Z.M.** 2014. Hybrid-metric Retransmission Scheme for MultiPath Transfer using CMT-SCTP Protocol. International Journal of Advancements in Computing Technology (IJACT). 6(6): 63-74. **Scopus**
77. Farzaneh Masoumiyan, Zuriati Ahmad Zukarnain, Shamala Subramaniam, **Zurina Mohd Hanapi**. 2014. A Discrete Event Framework for OFDMA Relay-Based Cellular Networks. Asian Journal of Applied Sciences. 7(7):586-601. DOI:10.3923/ajaps.2014 **Scopus**
78. Madi, N.K.M., **Hanapi, Z.M.**, Othman, M. Subramaniam, S. 2014 On Multi-Cell Packet Scheduling of LTE/LTE-A Cellular Networks: A Survey of Concepts, Related Challenges, and Solutions. Journal of Applied Sciences. 14(20): 2422-243 **Scopus**
Thompson ISI
79. Abubakar Idris Umar, **Zurina Mohd Hanapi**. 2014. Comparative Study on Energy Consumption In DWSIGF Routing Protocol. Journal of Computer Sciences. 10(9):1600-1607. **Scopus**
80. Nooshin Nokhanji, **Zurina Mohd Hanapi**. 2014. A Survey on Cluster Based Routing Protocols in Wireless Sensor Networks with Non-uniform Node Distribution. Journal of Applied Sciences. 14(18):1-28 **Scopus**
Thompson ISI
81. Zeyad Ghaleb Al-Mekhlafi, **Zurina Mohd Hanapi**, Mohamed Othman, and Zuriati Ahmad Zukarnain. 2014. Energy Efficient on Aspect of Clock Synchronization in a Wireless Sensor Network. Journal of Applied Sciences. 14(11): 1101-1113 **Scopus**
Thompson ISI
82. Abdul Ridha H.Abass, Azizol Abdullah, Mohamed Othman, **Hanapi Z.M.** 2014. Taxonomy and Survey of Retransmission Policies for Multipath Transport SCTP Protocol. International Journal of Future Computer and Communication. 3(4): 237-241. Google Scholar,
DOAJ, EI (INSPEC,
IET)
83. Nooshin Nokhanji, **Zurina Mohd Hanapi**, Shamala Subramaniam, Mohamad Afendee Mohamed. 2014. A Distance Threshold Analysis on Energy Aware Distributed Clustering (EADC) Routing Protocol for Wireless Sensor Networks with Non-uniform Node Distribution. Journal of Applied Sciences. 14(8):798-804 **Scopus**
Thompson ISI
84. Mahmood R.A.R., **Hanapi, Z.M.**, Hasan, S., and Khan, A. 2013. Effective Blackhole Attacks in MANETS. Journal of Computer Science (JCS), 9(12) pp. 1722-1733. **Scopus**
85. Zeyad Ghaleb Al-Mekhlafi, **Zurina Mohd Hanapi**, Mohamed Othman, and Zuriati Ahmad Zukarnain. 2013. Research and development on aspects of clock synchronization in a wireless sensor network. International Journal of Advancements in Computing Technology (IJACT). 5(4), pp. 62-7 **Scopus**
86. Nazemoroaya, S. and **Hanapi, Z.M.** 2013. A Beacon Enabled, Least-Time and Energy Efficient with One Level Data Aggregation Routing Protocol for WSNs using IEEE 802.15.4. Journal of Applied Science, ANSI 13(6):1-10 **Scopus**
Thompson ISI
87. Dahlia Asyikin and **Hanapi Z.M.** 2013. Hybrid Of Fuzzy Clustering and Neural Network Over NSL Dataset For Intrusion Detection System. Journal of Computer Science, Science Publication 9 (3): 391-403. **Scopus**
88. Memariani, J., Zukarnain, Z.A., Abdullah, A. & **Hanapi, Z.M.** 2012. A distributed energy-aware clustering algorithm for life time enhancement of wireless sensor network. Journal of Applied Science, Asian Network for Scientific Information 12(14): 1432-1444. **Scopus**
Google Scholar
Thompson ISI

89. Zeyad Ghaleb Al-Mekhlafi, Rosilah Hassan, & **Hanapi, Z.M.** 2012. Evaluation of the Quality of Service Parameters for Routing Protocols in Ad-Hoc Networks. *International Journal of Energy Science*. 2(6): 272-281 Google Scholar
Scirus
90. Mahdavi, M., Ismail, M., Jumari, K., & **Hanapi, Z.M.** 2011. Probing Mechanism Scheduling for Connected Coverage Wireless Sensor Network. *Information Technology Journal, Asian Network for Scientific Information* 10(3): 579-5. **Scopus**
Ei Compendex
Google Scholar
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93. Mahdavi, M., Ismail, M., Jumari, K., & **Hanapi, Z.M.** 2009. Performance of A Connected Random Covered Energy Efficient for Wireless Sensor Network. *International Journal of Electrical and Electronics Engineering, World Academy of Science and Technology* 2(1): 74-78. **Scopus**,
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94. Mirvaziri, H., Jumari, K., Ismail, M. & **Hanapi, Z.M.** 2009. Message Based Random Variable Length Key Encryption Algorithm. *Journal of Computer Science, Science Publication* 5(8): 573-578. **Scopus**
95. **Hanapi, Z.M.**, Ismail, M., & Jumari, K. 2009. Priority and Random Selection for Dynamic Window Secured Implicit Geographic Forwarding for Wireless Sensor Network. *American Journal of Engineering and Applied Sciences*, 2(2): 494-500. EBSCO
WAD
ASA

Book Chapters

1. Nur Arzilawati Md Yunus, Mohamed Othman, **Hanapi, Z. M.**, and Kweh Yeah Lun. 2019. Evaluation of Replication Method in Shuffle-Exchange Network Reliability Performance. *Advances in Data and Information Sciences*. 271-281
2. Mamman Maharazu, **Zurina Mohd Hanapi**, Abdullah Muhamed, and Azizol Abdullah. 2018. An Adaptive Call Admission Control with Bandwidth Reservation for Downlink LTE Networks. *Springer: Lecture Notes in Electrical Engineering (LNNE)*. 425: 46-53
3. Roselinda Khalid, Zuriati Ahmad Zukarnain, **Zurina Mohd Hanapi**, and Mohamad Afendee Mohamed. 2015. Multi-Party System Authentication for Cloud Infrastructure by Implementing QKD. *Computational Intelligence and Efficiency in Engineering Systems, Studies in Computational Intelligence* 595, pp. 195-. Springer. DOI 10.1007/978-3-319-15720-7_14
4. Azizol Abdullah, Abdullah Muhammed. Mohamad Afendee Mohamed, Mohd. Noor Derahman, **Zurina Mohd. Hanapi**, Zuriati Ahmad Zukarnain, Mohd. Taufik Abdullah & Rusli Abdullah. 2014. May Day, May Day! A Case Study for Computer Science Application, pp. 6-13. UPM Press.
5. Memariani, J., Zukarnain, Z.A., Abdullah, A. & **Hanapi, Z.M.** 2012. Distributed, Energy-Efficient, Fault Tolerant, Weighted Clustering. *Informatics Engineering and Information Science Communications in Computer and Information Science, Springer*. Vol. 253:7, pp. 568-577, DOI: 10.1007/978-3-642-25462-8_51.

Proceedings

1. Mamman Maharazu, **Zurina Mohd Hanapi**. 2020. An Efficient Dynamic Call Admission Control for 4G and 5G Networks. 9th International Conference of Networks and Communications (NECO2020). Computer

Science Conference Proceedings in Computer Science and Information Technologies. Sydney, Dec 2017 19-20. **(Scopus)**

2. Idris Abubakar Umar, **Zurina Mohd Hanapi**, Dahlia Asyikin. 2020. Impact of Sybil Attack on Secure Geographic Forwarding Approaches. International Conference on Interdisciplinary Computer Science and Engineering (iCICSE2010). Bangi, Selangor. October 2020, 5-6.
3. Arshad, A., **Hanapi, Z.M.**, Subramaniam, S., & Latip R. 2019. Performance evaluation of the geographic routing protocols scalability. International Conference on Information Networking. 9-11 January 2019, Kuala Lumpur Malaysia, pp. 396-398. **(Scopus)**
4. Ali Ghasempour, **Zurina Mohd. Hanapi**, Mohammad Salehi & Zeinab Vahdati. 2019. Using Traffic Control Scheme In Intelligent Transportation System. *International Conference of Innovation in Computer Science and Engineering (iCiCSE2019)*, 26-28 June 2019, Miri Sarawak.
5. Madi, N.K.M., **Hanapi, Z.M.**, Othman, M. Subramaniam, S. 2018. Two-level QoS-aware Frame-based Downlink Resources Allocation for RT/NRT Services Fairness in LTE Networks. IEEE 4th International Symposium on Telecommunication Technologies (ISTT2018). 26-28 November 2018. Bangi, Selangor.
6. Mamman Maharazu, **Zurina Mohd Hanapi**, Abdullah Muhamed, and Azizol Abdullah. 2017. An Call Admission Control for Real-Time and Non-real-time Traffic for Vehicular LTE Downlink Networks. 2017. Kuala Lumpur, Jun 2017 29-29. 425: 46-53 **(Scopus)**
7. Najim, A.O., Hamid, N.A.W.A., Ahmad, I. and **Hanapi, Z.M.** (2016) Performance Evaluation of Throughput and Fairness Balancing in LTE Packet Scheduling. 1st EAI International Conference on Computer Science and Engineering, COMPSE 2016. 11-12 November 2016. Penang, Malaysia 13 **(Scopus)**
8. Normalia Samian, Z.A. Zukarnain, Winston K.G. Seah, A. Abdullah and **Z.M. Hanapi**. 2016. Recharge-as-Reward Mechanism to Incentivize Cooperative Nodes in Mobile Ad Hoc Networks. IEEE 41st Conference on Local Computer Networks (LCN), Dubai, UAE Nov 2016, 7-10. Pp. 535-538. **(Scopus)**
9. Al_Maqri, M.A., Othman, M. Ali, B.M., **Hanapi Z.M.** 2016. Packet-based Polling Scheme for Video Transmission in IEEE 802.11e Networks. Proceedia Computer Science of 7th International Conference on Ambient Systems, Networks and Technologies (ANT2016), Madrid, Spain, May 23-26. 83:337-344. **(Scopus)**
10. Normalia Samian, Z.A. Zukarnain, Winston K.G. Seah, A. Abdullah and **Z.M. Hanapi**. 2015. Compare and Measure Selfishness Detection (CMSD) Mechanism: Promptness and Accuracy. Proceeding of The Seventh International Conference on Ubiquitous and Future Networks (ICUFN). July, 7-10. Sapporo, Japan. pp. 851-856. **(Scopus)**
11. Idris Abubakar Umar, **Zurina Mohd Hanapi**, Zuriati Ahmad Zukarnain, and Aduwati Sali. 2015. A Forwarding Strategy for DWSIGF Routing Protocol. Proceeding of International Conference on IT Convergence and Security 2015 (ICICTCS2015), August 24-27, Kuala Lumpur. pp. 1-4 **(Scopus)**
12. Ali Idarous, **Zurina Mohd Hanapi**, Zuriati Ahmad Zukarnain, and Mohamed Othman. A Reputation Based Routing protocol for Wireless Sensor Networks. Proceeding of International Conference on IT Convergence and Security 2015 (ICICTCS2015), August 24-27, Kuala Lumpur. pp. 1-4 **(Scopus)**
13. Nasrin Khanezaei and **Zurina Mohd Hanapi**. 2014. A Framework Based on RSA and AES Encryption Algorithms for Cloud Computing Services. Proceeding of IEEE Conference on Systems, Process and Control (ICSPC). Kuala Lumpur, December 12-14 2014. **(Scopus Indexed and Best Paper Award)**
14. Farzaneh Masoumiyan, Zuriati Ahmad Zukarnain, Shamala Subramaniam, **Zurina Mohd Hanapi**. 2014. Co-channel Interference Mitigation Techniques in Multi-cell OFDMA Relay-Based Cellular Networks: a Survey. Proceeding of International Conference on Information Technology and Multimedia at UNITEN (ICIMu 2014). Putrajaya, 18-20 November 2014. **(Scopus)**
15. Zeyad Ghaleb Al-Mekhlafi, **Zurina Mohd Hanapi**, Mohamed Othman, and Zuriati Ahmad Zukarnain. 2014. Impact of Deafness Problem on Clock Synchronization in a Wireless Sensor Network. Proceeding of International ACM Conference on Management of Emergent Digital EcoSystems (ACM MEDES'14). Buraidah Al Qassim, Saudi Arabia, September 15-17, 2014.

16. Zuriati Ahmad Zukarnain, Nori M. Al-Kharasani, Shamala K. Subramaniam, and **Zurina Mohd Hanapi**. 2014. Optimal Configuration for urban VANETs Routing using Particle Swarm Optimization. Proceeding of 2nd International Conference on Artificial Intelligent and Computer Science (AICS 2014). Jawa Barat, Indonesia, September 15-16, 2014.
17. Reza Adinehnia, Nur Izura Udzir, Lilly Suriani Affendey, Iskandar Ishak and **Zurina Mohd. Hanapi**. 2014. Effective Mining on Large Databases for Intrusion Detection. Proceedings in International Symposium on Biometrics and Security Technologies, Kuala Lumpur, Aug 26-27, 2014.
18. Mahmood R.A.R., **Hanapi, Z.M.**, Hasan, S., and Khan, A. 2013. Effective Blackhole Attacks in MANETS. Proceeding of 1st International Conference on Computational & Network Technologies (ICCNT) Adelaide, South Australia, December 2-4, 2013.
19. Mohsen Bafandehkar, Sharifah Md Yasin, Ramlan Mahmud and **Hanapi, Z. M.** 2013. Comparison of ECC and RSA Algorithm in Resource Constrained Devices. Proceedings in International Conference on IT Convergence and Security (ICITCS), Macao, Dec 16-18, 2013, Vol. pp. 1-3 IEEE. (**Scopus**)
20. Al_Maqri, M.A., Othman, M. Ali, B.M., **Hanapi Z.M.** 2013. Adaptive TXOP Assignment for QoS Support of Video Traffic in IEEE 802.11e Networks. IEEE International RF and Microwave Conference (RFM), Penang, Dec 9-11. Pp 144-149. (**Scopus**)
21. Nur Arzilawati Md Yunus, Mohamed Othman and **Hanapi, Z. M.** 2012. Integration of Zero and Sequential Algorithm in Shuffle Exchange with Minus One Stage. Proceedings in Fourth International Conference on Advances in Computing, Control, and Telecommunication Technologies (ACT2012), Kuala Lumpur, Dec 17-18, 2012, Vol. pp. Springer. (**Scopus**)
22. Memariani, J., Zukarnain, Z.A., Abdullah, A. & **Hanapi, Z.M.** 2011. Distributed, Energy-Efficient, Fault Tolerant, Weighted Clustering. *Proceedings in International Conference (ICIEIS 2011)*, Kuala Lumpur, Malaysia, Vol. 253:7, pp. 568-577. (**Scopus**)
23. Mahdavi, M., Ismail, M., Jumari, K., & **Hanapi, Z.M.** 2010. Performance of A Connected Random Covered Energy Efficient for Wireless Sensor Network. *Proceedings of International Conference on Computer, Electrical, and Systems Science and Engineering (CESSE 2009)*, World Academy of Science and Technology, Japan, Vol. 53, pp. 666-670.
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28. Mirvaziri, H., Jumari, K., Ismail, M., & **Hanapi, Z. M.** 2007. Collision Free Hash Function Based on Miyaguchi-Preneel and Enhanced Merkle-Damgard Scheme. *Proceedings of 5th Student Conference on Research and Development (SCORED 2007)*, pp. 1-6. Article No. 4451411 (**Scopus**)
29. Mirvaziri, H., Jumari, K., Ismail, M., **Hanapi, Z.M.** 2007. A new Hash Function Based on Combination of Existing Digest Algorithms. *Proceedings of 5th Student Conference on Research and Development (SCORED 2007)*, pp. 1-6. Article No. 4451409 (**Scopus**)

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Copyrights

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2. **Hanapi Z.M.**, Nasaruddin Abd Wahab, Sazlinah Hasan, Fazlida Mohd Sani. 2018. Manual Pengguna Sistem Pengurusan Logistik KAGAT (SPLK)
3. Sazlinah Hasan, Mohd Waris Amir Mohamad, Raja Azlina Raja Mahmood, **Hanapi Z.M.**, Rohaya Latip. 2014. Mobile Web Learning Management System (MW-LMS)
4. Raja Azlina Raja Mahmood, **Hanapi Z.M.**, Ainita Ban. 2014. File Sharing and Media Streaming System for UPM College Network.
5. **Hanapi Z.M.**, Sazlinah Hasan, Raja Azlina Raja Mahmood, Thum Cho Ee, Too Heng Kit, Tong Chin Han. 2013. Design for Lighting and Air Conditioning Remote Control and Monitoring System.
6. **Hanapi Z.M.**, Sazlinah Hasan, Raja Azlina Raja Mahmood, Thum Cho Ee, Too Heng Kit, Tong Chin Han. 2013. Web-based for Lighting and Air Conditioning Remote Control and Monitoring System.
7. **Hanapi Z.M.**, Sazlinah Hasan, Raja Azlina Raja Mahmood, Thum Cho Ee, Too Heng Kit, Tong Chin Han. 2013. Mobile Application for Lighting and Air Conditioning Remote Control and Monitoring System.
8. Sazlinah Hasan, Nor Fazlida Mohd Sani, Sharifah Md Yasin, **Hanapi Z.M.**, Muhammad Syairazi Jaafar Sidik, Muhammad 'Azizan Hazim Supian Najib. 2013. Mobile Learning Management System (MLMS)
9. **Hanapi Z.M.** 2012. Dynamic Windows for Secured Routing Protocol in Wireless Sensor Network

Posters

1. Mohamed A. Alrshah, Mohamed Othman, Borhanuddin Ali, **Zurina Mohd Hanapi.** 2016. AGILE-SD Up to 2X Faster Internet Speed. *PRPI UPM.*
2. Zuriati Ahmad Zukarnain, Roselinda Khalid, AbuDhahir Buhari, **Hanapi Z.M.**, Afendi Muhammad. 2014. QKD Simulator for Cloud. *PRPI UPM.*
3. Sazlinah Hasan, Nor Fazlida Mohd Sani, Sharifah Md Yasin, **Hanapi Z.M.**, Muhammad Syairazi Jaafar Sidik, Muhammad 'Azizan Hazim Supian Najib. 2014. Mobile Learning Management System (MLMS). *PRPI UPM*
4. Mahmood, R.A.R, **Hanapi, Z.M.**, Hasan, S., and Manshor, N 2012. Lightweight, Fast and Efficient Distributed Hierarchical Graph Neuron-Based Pattern Classifier, *PRPI, UPM.*
5. **Hanapi, Z.M.** 2005. Remote Control and Monitoring on Distributed Data Acquisition on Distributed Data Acquisition. *PRPI, UPM.*

RECOGNITIONS

1. **Internal Examiners = 18**
Chairman = 4
PhD = 11
Master = 3
2. **External Examiners = 21**
Phd =4 (National 3, International 1)
Master = 12
Diploma = 5
3. **Journals Editor = 4**
4. **Journals Reviewers = 34**
5. **Books Reviewers = 1**
6. **Proceedings Reviewers =16**
7. **Research Projects = 9**
8. **Consultants = 5**
9. **Expert Reference = 3**
10. **Community Services = 1**

Internal Examiners

Chairman

1. Daniel José Da Graça Peceguina Franco. 2021. Privacy Optimization and Intrusion Detection In Modbus/TCP Network-Based SCADA in Water Distribution Systems
2. Sina Zangbari Koohi, 2020. A Topology-Aware Hypergraph Based Approach to Optimise Scheduling of Parallel Applications onto Distributed Parallel Architectures.
3. Zulaile Binti Mabni, 2019. A Cluster-Based Hybrid Replica Control Protocol for High Availability in Data Grid
4. Liew Seow Wooi, 2019. Security Alert Framework using Random Forest and Dynamic Tweet based Features for Real-time Phishing Tweet Detection on Twitter

Phd

1. Abeer Abdalla Zakaraia Ibrahim, 2021. Dynamic Resource Allocation Management Algorithm for Controller Placement Problem Optimization In 5G Based SDN And NFV Architecture.
2. Haqi Khalid Ismail S, 2021. Hybrid Online And Offline Multi-Factor Authentication Scheme For Cross-Domain Systems In Industrial Internet Of Things (IIOT)
3. Bakhdlaghi Yousef Abdullah S, 2020. A Super-peer Architecture for Improving Intrusion Detection and Scalability in Collaborative Intrusion Detection Network.
4. Liew Jiun Terng, 2019. Adaptive MAC Protocol for Home M2M Network using WIFI Hallow
5. Maizura Ibrahim, 2019. A UCON and Semantic based Grid Authorization Framework with the Elimination of Irrelevant Authorization Rules Set Algorithm
6. Ayman Majid Hamid, 2019. A Block Cipher with Dynamic S-Boxes based on 3D Cellular Automata
7. Safwan Mahmood Yahya Ghaleb, 2019. Mobility Management Schemes for Proxy Mobile Ipv6 Wireless Networks
8. Mas Haslinda Mohamad, 2019. Opportunistic Cognitive Radio Network with Primary User Activity Model
9. Liew Jiun Terng 2018. Adaptive Mac Protocol Towards Interoperability of M2m Home Area Network Technologies
10. Zayd Ashraf Najeeb Shareef 2018. Effective Downlink Resource Management for Wimax Networks
11. Abdulmajid Mohammed Ahmed Al-Mqdashi, 2018. Blind Rendezvous Schemes for Cognitive Radio Ad-Hoc Networks

Master

1. Ezema Ernest Onyeka, 2019. Enhanced Clock Synchronization Scheme for Internet of Things.
2. Noaman AbdulJabbar Ramdhan. 2016. Optimizing Uplink Hybrid Scheduling Algorithms in IEEE802.16E for Efficient Resource Management
3. Ehsan Moshiri. 2016. Malware Clasification Framework for Dynamic Analysis using Information Theory

External Examiners

Phd

International

1. Naween Kumar. 2021. Mobile Sink-based Efficient Schemes in WSNs for Data Gathering and Charging. National Institute Of Technology Patna, India

National

1. Hanita Hashim. 2021. Divisional Distributed Computing for Waqf Data Transactions. Universiti Sultan Azlan Shah
2. Mukhtar Hussaini, 2019. Producer Mobility Support Scheme for Named Data Networking, Universiti Utara Malaysia
3. Bara Tariq Sharef, 2012. A Computational Intelligence Prediction-Based Routing Protocol for Vehicular Ad-Hoc Network, Universiti Kebangsaan Malaysia

Master

1. Abdulrahman Hassan Mohammed Shabalah, 2019. Autistic Features Based Ant Colony Optimization in Dynamic Vehicle Routing Problem for Autism
2. Jacky Even Junis, 2018. An Enhanced Energy Efficient Routing Protocol in Wireless Sensor Network: Distance Cluster Head Selection Protocol (DCHSP)
3. Abdiwahab Abdillah Rabileh, 2018. Enhanced Buffer Management Policy and Packet Prioritization for Wireless Sensor Network
4. Taj Aldeen Naser Abd Ali. 2017. Energy Aware Location Aided Routing protocol Based On Optimized Criterion Model, Universiti Kebangsaan Malaysia
5. Ahmed Naeem Jasim. 2017 Genetic Optimized Location Aided Routing Protocol For Vanet Based On Rectangular Estimation Of Position, Universiti Kebangsaan Malaysia
6. Mehrzad Mehrvarz. 2016. QoS Spectru,-Aware Framework for Emergency Crahn, Univerisiti
7. Malaya.
8. Aryan Mohammadi Pasikhani. 2016. A New Distributed Learning-based Algorithm for Network Intrusion Detection System, Universiti Kebangsaan Malaysia
9. Fahad Taha Naji. 2016. LAR-based Reliable Routing Protocol in the Forest Fire Detection based on Mobile Ad Hoc Network, Universiti Kebangsaan Malaysia
10. Alaa Abdullah Majhool Aljanabi. 2016. A Modern Certificate Mechanism for Securing OLSR in Mobile Ad Hoc Networks, Universiti Kebangsaan Malaysia
11. Alnoman Anees Abdulkhudhur, 2012. Hybrid Wireless Sensor Networks for Efficient Surveillance System, UNITEN
12. Nurul Halimatul Asmak Binti Ismail, 2012. 6LoWPAN Routing Protocol, Universiti Kebangsaan Malaysia

Diploma

1. Muhammad Husaini Che Pi (Leader), 2014. Net Share Portable Storage, GMI
2. Muhammad Aisamuddin Haya (Leader), 2014. Secured database Network System (SEDANS), GMI
3. Mohamad Faiz Omar (Leader), 2014. Maxmesh Community, GMI
4. Mohamad Faizol Mohamad Anuar (Leader), 2014. Y^Fire (Portable Firewall), GMI
5. Muhamad Tahir Lias (Leader), 2014. Education Social Network (EDU SOCIONET), GMI

Journals Editor

- | | | | |
|----|---|------|-----------------|
| 1. | International Journal od Advanced Networking and Applications | 2020 | Editor |
| 2. | International Journal of Advanced Trends Computer Science and Engineering | 2019 | Editorial Board |
| 3. | Journal of Computer Networks and Communications | 2017 | Guest Editor |

Special Issue on: Heterogeneity Issues and Challenges in the Internet of Things (IoT)

4. Wireless Communication Technology 2016-date Editor

Journals Reviewers

1. A Distributed Q-Learning Based Neighbor Discovery Scheme for Directional Ad-Hoc Networks 2020 IEEE Access
2. Cloud Assisted Monitoring of Drinking Water Distribution Network for Rural Areas using Naive Bayes Method 2020 IEEE Access
3. Secure Routing Scheme to Mitigate Attack in Wireless AdHoc Sensor Network 2020 King Saud University-Computer and Information Sciences
4. Energy Efficient Grid-Multi-Hop Protocol in Wireless Sensor Network 2020 King Saud University-Computer and Information Sciences
5. Security Ensured Data Transmission In Mobile Wireless Sensor Network 2019 Computer Networks
6. Wireless Sensor Network and its Applications in Agriculture Domain: A Case Study of Smart Fertilization Network 2019 Computers and Electronics in Agriculture
7. Rule based Collector Station Selection Scheme for Lossless Data Transmission in Underground Sensor Networks 2019 Computer Standards & Interfaces
8. Trust Management Technology in Wireless Sensor Network: A Survey on Security Attack and Defense 2019 IEEE Communications Surveys and Tutorials
9. Sequential Opening Multi-Jammers Localization in Multi-Hop Wireless Network 2018 IET Information Security
10. Standard Techniques for Detection of Distributed Denial of Service Attack in OpenFlow Controller 2018 International Journal of Communication Systems
11. Physical layer security with RF energy harvesting protocols for wireless networks 2018 PERTANIKA Journal of Science & Technology
12. An attack resistant key predistribution scheme for wireless sensor networks 2018 Journal of King Saud University – Computer and Information Sciences
13. A novel unequal clustering based on biogeography-based optimization for wireless sensor networks 2018 Computer Networks, Elsevier
14. Intentional and Unintentional Misbehaving Node Detection and Prevention in Mobile Ad hoc Network 2017 Journal of Ambient Intelligence and Humanized Computing

15.	A Secure RIBPRE Based Routing Scheme for Sybil Attack Detection in Peer-to-Peer Networks	2017	International Journal of Communication Systems
16.	A Novel Trusted Computing-Based Dynamic Trust Model for Vehicular Cyber-Physical System	2016	IET Information Security
17.	A Novel Key Management Scheme for Secure Wireless Sensor Networks Using Combinatorial Design	2016	Malaysian Journal of Computer Science
18.	Analyzing, Quantifying, and Detecting the Blackhole attack in Infrastructure-less Networks	2016	Computer Networks, Elsevier
19.	Enhancement of Distance Vector Routing Protocol through the Detection of Malicious Routers	2015	KSII Transaction on Internet And Information Systems
20.	Relay Selection for Security-Constrained Cooperative Communication in the Presence of Eavesdropper's Overhearing and Interference	2015	IEEE Wireless Communications Letters
21.	Sink Attributes Analysis for Energy Efficient Operations of WSNs under Randomly Varying Temporal and Spatial aspects of Query Generation	2015	International Journal of Engineering Science and Technology
22.	A Block Cipher Obtained by Blending Modified Play fair Cipher with Advanced Hill Cipher	2014	Journal of Information and Communication Technology (JICT)
23.	A Holistic Approach to ARP Poisoning and Countermeasures by Using Practical Examples and Paradigm	2014	IET Information Security
24.	Modelling the Performance of Faulty Linear Wireless Sensor Network	2014	International Journal of Distributed Sensor Network, Hindawi
25.	Energy Efficient Clustering Algorithm with Secure Election Cluster Heads In WSN	2014	International Journal of Information and Computer Security
26.	Data Aggregation for Vehicular Adhoc Network Using Particle Swarm Optimization	2013	KSII Transaction on Internet and Information Systems
27.	A Cross Layer Model for An Energy Efficient Secured Data Transmission Using Omnia Hill Cipher In WSN	2013	Malaysian Journal of Computer Science
28.	Model Management Framework for Smart Home and Ambient Assisted Living	2013	Jurnal Teknologi- Special Edition
29.	A Secure Certificate-Based Vehicle-To-Roadside Communication Protocol	2012	KSII Transaction on Internet and Information Systems
30.	Performance of Network Coding for Energy Efficient Multipath Routings in Manets	2012	KSII Transaction on Internet and Information Systems
31.	Evaluating Location Augmentation Key Pre-Distribution Scheme in Heterogeneous Wireless Sensor Network	2012	KSII Transaction on Internet and Information Systems

32.	A Novel Algorithm for Identifying Shared Congestion Paths	2012	KSII Transaction on Internet and Information Systems
33.	A Taxonomy of Sport Based WSN Complementing an Enhanced Field Hockey Localization Simulator	2011	International Journal of Advancements in Computing Technology
34.	A Fast and Reliable Hybrid Data Delivery Protocol for Large-Scale Heterogeneous Sensor Network	2011	KSII Transaction on Internet And Information Systems

Books Reviewers

1.	Transforming Government E-Governet Making It Happen	2018	Penerbit UPM
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Proceedings Reviewers

1.	Design and Realization of Sensor Acquisition for Sonde SSM Framework	2020	International Conference on Intelligent Information Technology (ICIIT 2020)
2.	Adaptive Threshold Adjustment of Clear Channel Assessment in LAA Down Link	2020	International Conference on Wireless Communication and Sensor Networks (icWCSN2020)
3.	Design of A 40W L+S Band Broadband GaN HEMT Power Amplifier	2020	International Conference on Wireless Communication and Sensor Networks (icWCSN2020)
4.	Network Planning Optimization of Long Term Evolution Radio Transmitter Using Taguchi's Method	2018	International Conference on Smart Computing and Electronic Enterprise (IEEE ICSCE2018)
5.	IOT: Applied New Technology in Academic Libraries	2018	International Conference on Distributed Computing and High Performance Computing (DCHPC 2018)
6.	Real-time supply chain Performance management: A IoT-based framework for continuous improvement	2018	International Conference on Distributed Computing and High Performance Computing (DCHPC 2018)
7.	Using Imperialist Competitive Algorithm for Fragment Allocation in Distributed Database Design	2018	International Conference on Distributed Computing and High Performance Computing (DCHPC 2018)
8.	Managing IaaS with SDI Management and Control System	2018	International Conference on Distributed Computing and High Performance Computing (DCHPC 2018)
9.	Network Planning Optimization of Long Term Evolution Radio Transmitter Using Taguchi's Method	2018	International Conference on Smart Computing and

			Electronic Enterprise (IEEE ICSCE2018)
10.	Near Field Communication (NFC) Technology Security Vulnerabilities and Countermeasures	2018	International Conference on Innovation in Computer Science and Engineering (ICiCSE 2018)
11.	A Resource-Scored-Based Grouping for Desktop Grid Computing	2015	International Symposium on Mathematical Sciences & Computing Research (iSMSC) 2015
12.	On the Distribution of Length of Bit Errors in IP Packet Header Datagram	2014	IEEE Student Conference on Research and Development (SCORED) 2014
13.	Analysis of Energy Consumption On IBE-Trust Security Framework	2011	17th Asia-Pacific Conference on Communications (APCC2011)
14.	Highly Reliable and Energy Efficient Intrusion Detection System for Reliable Adhoc Network	2011	17th Asia-Pacific Conference on Communications (APCC2011)
15.	Secured Resource Selection in Grid Based on Trust and Reputation with Multi Criteria Decision Making	2011	5th International Conference on IT And Multimedia (Icimp2011)
16.	Energy Balanced Clustering in Wireless Sensor Network	2010	4th International Symposium on Information Technology (ITSim10)

Research Projects

1.	Hierarchical-based Interconnection Switching Network for Massively Parallel Computing	2014-2016	FRGS
2.	Proxy Mobility Management for IP-Based Wireless Sensor Networks for Sports	2014 to date	Sciencefund
3.	Enhanced Radio Resource Management in Cellular Networks	2013 to date	RUGS(Int. 6)
4.	Wireless Mesh Network Architecture Design: Zero Degree Model for Internet Gateway Placement	2012 to date	Sciencefund
5.	Descriptive Complexity of Tree Controlled Grammars	2013-2014	FRGS
6.	Performance Analysis Simulator for Wireless Sensor MICA 2 Systems	2012	FRGS
7.	Wireless Sensor Based Field Hockey Strategy System (V.2)	2012	RUGS(Int. 4)
8.	Reputation based on secure hierarchical routing protocol in wireless sensor networks for detection and prevention malicious nodes	2012	RUGS(Int. 6)

9. Adaptive Aggregation Scheme in IEEE 802.11n wireless networks based on the Traffic Classes	2012	RUGS(Int. 6)
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Consultants

1. Sistem Pengurusan Logistik KAGAT	2017	Kementerian Pertahanan
2. Sistem Pengurusan Logistik KAGAT	2016	Kementerian Pertahanan
3. Curriculum Reviewer on Diploma Programme 'Network Security'	2015	Institute of Germany Malaysia (GMI)
4. Curriculum Reviewer on Diploma Programme 'Network Security'	2014	Institute of Germany Malaysia (GMI)
5. Protection Plan bagi Produk-Network Devices	2012	MOSTI

Expert Reference

1. Associate Prof. Reference Dr. Ghulam Ishak Khan	2016	India
2. Penilai Geran UPM	2018- NOW	UPM
3. Penilai Geran Konsortium Kecemerlangan Pendidikan (KKP)	2021	JPT

Community Services

1. Volunteer, Flood Mission by Aman Palestin and Kor Agama Angkatan Tentera (KAGAT)	January 2015
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AWARDS

Research Awards = 6

Service and Teaching Awards = 14

Scholarship Awards = 4

Research Awards

- Gold Medal** Invention, Research and Innovation Exhibition 2016 Mohamed A. Alrshah, Mohamed Othman, Borhanuddin Ali, **Zurina Mohd Hanapi**. 2016. AGILE-SD Up to 2X Faster Internet Speed. *PRPI UPM*.
- Gold Medal** Invention, Research and Innovation Exhibition 2014 Zuriati Ahmad Zukarnain, Roselinda Khalid, AbuDhahir Buhari, **Hanapi Z.M.**, Afendi Muhammad. 2014. QKD Simulator for Cloud. *PRPI UPM*.
- Bronze Medal** Invention, Research and Innovation Exhibition 2014 Sazlinah Hasan, Sharifah Md Yasin, Nor Fazlida Mohd Sani, **Hanapi Z.M.**, Muhammad Syairazi Jaafar Sidik, Muhammad 'Azizan Hazim Supian Najib. 2014. Mobile Learning Management System (MLMS).

4. **3rd Prize** on *My Talent FYP Competition by MyBiz*, **Zurina Mohd Hanapi**, Nur Diyana Sahrur Rudi, Abdul Ghafar Musa, Azrul Nizam Adnan 2014. Mobile-based Remote Control and Monitoring System.
5. **Bronze Medal** Invention, Research and Innovation Exhibition 2012 Mahmood, R.A.R, **Hanapi, Z.M.**, Hasan, S., and Manshor, N 2012. Lightweight, Fast and Efficient Distributed Hierarchical Graph Neuron-Based Pattern Classifier
6. **Silver Medal** Invention and innovation Exhibition 2005 for **Hanapi, Z.M.** 2005. Remote Control and Monitoring on Distributed Data Acquisition on Distributed Data Acquisition

Service and Teaching Awards

1. Excellence in Service Award 2020, Universiti Putra Malaysia
2. Excellence in Service Award 2019, Universiti Putra Malaysia
3. Excellence in Service Award 2018, Universiti Putra Malaysia
4. Excellence in Service Award 2017, Universiti Putra Malaysia
5. Excellence in Service Award 2016, Universiti Putra Malaysia
6. Excellence in Teaching Award 2016, Faculty of Computer Science and Information Technology
7. Excellence in Publication Award 2016, Faculty of Computer Science and Information Technology
8. Excellence in Industry Linkage Award 2016, Faculty of Computer Science and Information Technology
9. Excellence in Service Award 2015, Universiti Putra Malaysia
10. Excellence in Teaching Award 2015, Faculty of Computer Science and Information Technology
11. Excellence in Teaching Award 2014, Faculty of Computer Science and Information Technology
12. Excellence in Publication Award 2014, Faculty of Computer Science and Information Technology
13. Excellence in Service Award 2014, Universiti Putra Malaysia
14. Excellence in Service Award 2013, awarded by Faculty of Computer Science and Information Technology
15. Excellence in Research Award 2013, Faculty of Computer Science and Information Technology
16. Excellence in Service Award 2012, awarded by Universiti Putra Malaysia
17. Excellence in Teaching Award 2012, awarded by Faculty of Computer Science and Information Technology
18. Excellence in Teaching Award 2007, awarded by Faculty of Computer Science and Information Technology

Scholarship Awards

1. UPM – SLAI and Ministry of Higher Education (MoHE) award for PhD studentship in Universiti Kebangsaan Malaysia from 3rd Jan 2007 until 2nd Jan 2011
2. UPM – SLAB and Public Service Department (PSD) award for MSc. studentship in Universiti Putra Malaysia from 29th May 2000 until 28th June 2002

3. Telekom Malaysia Berhad award for Bachelor degree studentship in University of Strathclyde from 1st October 1997 until 14th November 1998

INVOLVEMENT / COMMITTEE MEMBERSHIP / EXTENSION

I. INTERNATIONAL LEVEL

1. **General Chair**, International Conference on Innovation in Computer Science and Engineering (ICICSE 2021), 17-19 Aug 2021, Bangi, Selangor, Malaysia
2. **Conference Committee**, International Conference on Wireless Communication and Sensor Networks (icWCSN 2022), Jan 11-13, Dalian, China
3. **Session Chair of Track of Computer Network and Distributed Systems**, International Conference on Innovation in Computer Science and Engineering (ICICSE 2020), 5 Oct, Bangi, Selangor, Malaysia
4. **Conference Committee**, International Conference on Innovation in Computer Science and Engineering (ICICSE 2020), 5-6 Oct, Bangi, Selangor, Malaysia
5. **Conference Committee**, International Conference on Wireless Communication and Sensor Networks (icWCSN 2020), May 13-15, Warsaw, Poland
6. **Conference Committee**, International Conference on Communication and Information (CCCIS2020), 26-27 April, Ho Chi Minh, Vietnam
7. **Conference Committee**, International Conference on Intelligent and Information Technology (ICIIT 2020), Feb 19-22, Hanoi, Vietnam
8. **Conference Committee**, International Conference on Innovation in Computer Science and Engineering (ICICSE 2019), 26-28 June 2019, Miri, Sarawak, Malaysia
9. **Conference Committee**, International Conference on Distributed Computing and High-Performance Computing (DCHPC 2018), 25-27 Nov 2018, Qom, Iran
10. **Conference Committee (Publication)**, International Conference on Innovation in Computer Science and Engineering (ICICSE 2018), 30-31 July 2018, Kuching, Sarawak, Malaysia
11. **Conference Committee**, International Conference on Smart Computing and Electronic Enterprise (IEEE ICSCCE2018) 11-12 July 2018, Selangor, Malaysia.
12. **Conference Committee (Publication Committee)**, International Conference on Innovation in Computer Science and Engineering (ICICSE 2017), 8-9 February 2017, UPM Serdang, Malaysia.
13. **Conference Committee (Special Session Chair)**, 30th International Conference on Information Networking (ICOIN2016), 13-15 January 2016, Kota Kinabalu Malaysia.
14. **Conference Committee (Session Chair)**, International Conference of Green Computing Technology and Innovation, 8-10 December 2015, UPM Malaysia.
15. **Conference Committee (Secretary)**, International Conference of Green Computing Technology and Innovation, 8-10 December 2015, UPM Malaysia.
16. **Conference Committee**, IEEE Student Conference On Research And Development (SCOREd) 2015, 13-14 December 2015, Berjaya Times Square, Malaysia.
17. **Conference Committee**, IEEE Student Conference On Research And Development (SCOREd) 2014, 16-17 December 2014, Batu Feringi Beach, Malaysia.
18. **Conference Committee**, 17th Asia-Pacific Conference On Communications (APCC2011), 3-5 October 2011, Kota Kinabalu, Malaysia
19. **Conference Committee**, 5th International Conference On IT And Multimedia (Icimp2011), 14-16 November 2011, College of Information Technology, UNITEN, Malaysia
20. **Conference Committee**, 4th International Symposium on Information Technology (ITSim10), 15-17 June 2010, Kuala Lumpur Convention Centre, Malaysia.
21. **Member**, Institute of Electrical Electronic Engineering (IEEE), since 2010
22. **Member**, Alumni Strathclyde University, since 2000

II. NATIONAL LEVEL

1. **Assessor** for grant of Konsortium Kecemerlangan Penyelidikan (KKP), since 2021
2. **Instructor** for Certificate of Green Computing Initiative (GCI), since 2012
3. **Member**, Profile Protection Working Group for ICT Product, Ministry of Science, Technology and Innovation (MOSTI), 2012-2013.
4. **Member**, Institute of Electrical Electronic Engineering (IEEE), since 2010

5. **Member**, Alumni Universiti Kebangsaan Malaysia, since 2011
6. **Member**, Malaysian Society for Cryptology Research (MSCR), since 2007

III. UNIVERSITY LEVEL

1. **Member** for Thesis Committee for UPM since 2020
2. **Member** for Grants Application Evaluation Team for UPM since 2018
3. **Panel Members** for Seminar/Conference Evaluation for UPM since 2018
4. **Coordinator** for SKR2305 for UPM-IPTS programmed, since 2012
5. **Member**, Academic Staff Association (*Persatuan Pegawai Akademik*), (Membership ID: PPA-UPM-A02784), since 2011.
6. **Member**, Persatuan Wanita UPM (*PERMATA*), since 2011.
7. **Coordinator** for SKR2302 for UPM-IPTS programmed, 2006
8. **Coordinator** for SKR2200 for UPM-IPTS programmed, 2003-2006
9. **Member**, Alumni Universiti Putra Malaysia, since 2004
10. **Moderator**, UPM_IPTS Final Questions, since 2003