

Megat Farez Azril Bin Zuhairi, PhD

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Professional Profile

- Management experience in Academia with 6+ years of experience as Deputy Dean, Deputy Director, Head of Section, Program Coordinator.
- Adept at interdepartmental coordination and communication.
- Possess technical knowledge of network simulation modelling and performance evaluation and in addition capable to quickly grasp new tools knowledge.
- Senior Member of IEEE Malaysia
- Member of IEICE
- Qualified Cisco Academy Instructor to teaching the following curriculum:
 - CCNP ROUTE: Implementing IP Routing
 - CCNA R&S:
 - CCNA Discovery
 - Networking Essentials
 - Introduction to IoT
 - Introduction to Cybersecurity
 - CCNA Security
 - Programming Essentials in C++/C
 - NDG Linux Essentials/1/2
- Malaysian Technical Standard Forum Berhad – Associate Member
Contributes to deliberation of Development of Security, Trust and Privacy for the following Technical Code:
 - MCMC MTSFB TC TXXX:2018 - Information Security Incident Management – Communication and Multimedia Industry
 - MCMC MTSFB TC G017:2018 - Security of Cloud Service Providers Selection - Communication and Multimedia Industry
- Active reviewer and editorial board member. Previous reviewer for the following conferences, journals, and syllabus
 - *International Advisory Board* World Conference on Applied Sciences, Engineering, and Technology 2019 <https://wcaset.com/kuala-lumpur/committee.php>
 - *Editorial Board Member* for Advances in Wireless Communications and Networks <http://www.sciencepublishinggroup.com/journal/editorialboard?journalid=317>
 - *Reviewer* for International Conference On Emerging Technologies and Innovative Application 2019
 - *External subject examiner* for Lincoln University College, Malaysia
 - *Reviewer and TPC* for IEEE MENACOMM 2019
 - *Reviewer* for IJACT 2015
 - *Reviewer* for AICIT 2015
 - *Reviewer* for IEEE ICCS 2015
 - *Book Reviewer* for International Book Expo Conference 2014
 - *Reviewer* for IEEE SCORed 2013
 - *Reviewer* ICCSPA 2014
 - *Reviewer* ICICTM 2016
 - *Reviewer* of ISAMSR 2016
 - *Reviewer* of WCNA 2018, 2019 <http://www.wcna2018.org/?op=committee>
 - *Reviewer* of IMCOM 2017, 2018, and 2019

- *Reviewer* of CSA 2016, <http://www.csa2016.org/?op=committee>
- *Reviewer* of IWWCN 2016, <http://www.iwwcn2016.org/?op=committee>
- *Reviewer* of GRMSE 2016, <http://www.grmse2016.org/?op=committee>
- *Reviewer* of ICEIT 2016, <http://www.iceit2016.org/?op=committee>
- *Reviewer* of CSPA 2019
- *Reviewer and TPC* of MobiSPC-2019, <http://es-conferences.acadiau.ca/mobispc-19/#programCommittees>
- *TPC* of DependSys 2019, <http://home.sejong.ac.kr/~nkenyereyele/6.html>

Professional Experience

Universiti Kuala Lumpur, MIIT, Malaysia.

Associate Professor (2019 – present)

Deputy Director (2019 – present)

Deputy Dean Student Development and Campus Lifestyle (2014 – 2018)

Head of Section (2013 – 2014)

Program Coordinator (2012 – 2013)

Senior Lecturer (2012 – 2018)

Lecturer (2004 – 2012)

Courses taught for Undergraduates:

- Telecommunication
- IT Essentials
- Network Fundamental (CCNA1)
- LAN & WAN Technology
- Network Troubleshooting (CCNP 3)
- Introduction to Electronics
- LAN Technology (CCNA 3)
- High Speed Network (Broadband)
- Microprocessor
- Digital Principles
- Advance Networking (CCNA1 & 2)
- Electrical Circuit Analysis
- Network Interconnections (CCNA 4)

Academic Duties Performed:

- Main job duties include teaching, research, project management, and supervision for Undergraduate and Postgraduate.
- Active participation in curriculum development, and various other departmental committees.
- Conduct research, compile data, and prepare papers for consideration and presentation by executives, committees and Board of directors.
- Coordinate and direct executive staff, such as records, departmental policy, budget preparation, student issues and teaching load preparation.

Student Supervision:

- Undergraduate Students (More than 20 projects supervised between 2012 - present)
 1. Mohd Zulhilmi B Zamzuri (Performance Analysis of DNS Server Caching and Forwarding between RouterBoard and Standalone Server in Load Balancing Environment)
 2. Mohd Kamal Bin Suhaimi (Queueing Management System)
 3. Muhammad Andhar Bin Azhar (Analysis of Cellular Signal Strength on High Density Area of Users)
 4. Muhammad Harith Bazly (The impact of WiFi connectivity in High Density Area)
 5. Nur Izyan Atiqah (Performance Study and Analysis of Wireless Multi-hop Network using NS3)

6. Arisyah Azizan (Open Link State Routing Protocol For Indoor Communication)
 7. Norhamizan Bin A.Hamid (Mobile Wireless Sensor Nodes)
 8. Nur Shuhailah Binti Zulkiflee (The Impact of Manhattan Mobility Pattern on the Performance of Mobile Ad Hoc Network)
 9. Syahri Syaifullah Bin Zaini (Implementation of MANET testbed and Investigate the impact of mobility on nodes performance)
 10. Zulfikar Bin Zainal Abidin (Performance Evaluation of Wireless Sensor Node by using OPNET)
 11. Mohamad Zaidi Bin Zainon (Construction of Weather Monitoring Station)
 12. Izwan Bin Norizan (Smart Residential Security System)
 13. Gauvain Daillet (Administrative Queuing Management System)
 14. Mohd Ikhwan Haziq Bin Safinei (6LowPAN in Home Automation)
 15. Nurhelmy Aiman B. A Halim (Trolley Alarm Sensor Detection)
 16. Muhammad Adib Nordin (Smart Shopping Trolley using Raspberry Pi with RF)
 17. Afiq Lutfi (The Language of Glove – For Non-Speakers)
 18. Muhamad Fazreen Badri (Smart Farm Harvest Detection)
 19. Mohammad Safwan Noor Azmi (Rehabilitation Stroke Using Arduino Therapy Glove)
 20. Muhammad Afiq Bin Mohd Lutfi (Sign Language Glove for Non-Speakers)
- Postgraduates (Master):
 1. Ahmad Ariff Aizuddin Bin Mohd Atan (A Defense of DNS Amplification Attack via Flow-Based Analysis with SDN) - **Completed July 2017**
 2. Rashid Zafar (Mobile Crowd Sensing Application for Noise Monitoring in Kuala Lumpur) - **Completed June 2019**
 3. Ayanwuyi Tajudeen Kolade (A Scheme for Detecting and Mitigating Cooperative Black Hole Attack in AODV Based MANET Routing Protocol)-**Completed February 2018**
 4. Md Ratul Amin (Secure Food Supply Chain Management with using Blockchain)
 5. Sabra Abdulla Saleh El Tiwany (A Comparative Performance Analysis of Routing Protocols in Manet using Ns3 Simulator) – **Completed August 2019**
 6. Raja Mohd Firdaus Bin Raja Aljunid (Effects of mobility on latency in a WSN that accommodates mobile nodes)
 7. Muhammad Faizan (Process Mining in Healthcare)
 - Postgraduates (PhD):
 1. Mohammad Zahir Bin Mat Salleh (Security System for SCADA)
 2. Muhammad Yassar Khan (An Extended Access Control Model for Permissioned Blockchain Frameworks)
 3. Aabid Ahmad Mir (Deep Learning Based Anomaly Detection at 5G IoT Edge Network)
 4. Latif Yusufzai (Smart City Blockchain Framework for Land Management)
 5. Fatoni Yoka (Real Time Usage of Fuzzy Time Series Method)
 6. Canggih Ajika Pamungkas (Blockchain and Decentralized E-Learning Model For Higher Education)
 7. Rino Subekti (Fog Computing)

Administrative Duties:

- Deputy Director Career Development - present
- Deputy Dean Student Development and Campus Lifestyle – (2012 – 2018)
- Head of Section System and Network (2013-2014)
- Program Coordinator Bachelor in Networking System (2012-2013)
- Project Management Office Associate for MIIT (2017)
- Student Advisor
- Head of unit in ICICTM '16 conference

Marconi (M) Bhd, Kuala Lumpur, Malaysia

Engineer, July 2001 - Sept 2002

- Technical planning, engineering & configuration of products & system.
- Meeting with customer, giving presentations, educating and convincing customer about products & systems.
- Site survey and confer with clients to discuss their options. Update technical data and submit prepared documentation to main office.
- Order of equipment from factory and arrange the installation team for the site.
- Ensure work done under deadline and handover to customer within schedule.

Education

UNIVERSITY OF STRATHCLYDE, GLASGOW, UNITED KINGDOM

PhD in Electronic and Electrical Engineering Oct 2012

Broadband Network Research Group

- Area of Specialization: Routing in Wireless Networks Ad Hoc Networks
(Thesis Title: On Demand Routing with Unidirectional Link Support for Mobile Ad hoc Networks)

UNIVERSITY OF SURREY, GUILDFORD, UNITED KINGDOM

MSc in Communication Networks and Software Dec 2003

School of Electronics and Physical Sciences

- Area of Specialization: Communication Networks
(Thesis Title: Triband Mobile Phone P2 Antenna)

UNIVERSITI TENAGA NASIONAL, BANGI, MALAYSIA

BEng (Hons) in Electrical and Electronic Engineering July 2001

- Dissertation: Modelling and Simulating the Carrierless Amplitude Phase and Quadrature Amplitude Modulation for ADSL over Transmission Line

AMERICAN DEGREE PROGRAM, Institut Teknologi MARA, MALAYSIA

BEng (Hons) in Electrical Engineering Dec 1998

**Research
Grant and
Project**

SHORT TERM RESEARCH GRANT

A hybrid method of malware detection using network intrusion detection system

- Funded by UniKL MIIT with total funding of RM16400.
- Worked as a principal researcher and assisted by 2 co-researchers including a Master student. The project is to study and develop a mechanism to improve the malware detection using hybrid technique while minimizing the False Positive.

A near real time detection of DNS amplification attack via Net Flow

- Funded by UniKL MIIT with total funding of RM16000.
- Co-researcher in the project which also assisted by other Master student. The project investigated, developed and implemented the most appropriate algorithms to detect DNS with using Net Flow.

Development of Interactive 360 Virtualism for Smart City

- Funded by UniKL MIIT with total funding of RM30000.

- Co-researcher in the project assisted by PhD student. The project is to develop and implemented mechanism to assist tourist experience in Smart City using virtual reality system.

A new scheme of Intelligent traffic monitoring algorithm to detect driving violation behaviors

- Funded by UniKL MIIT with total funding of RM20000.
- Co-researcher in the project which is also assisted by a Master student. The project is to develop a enhance system, derived from the application being used in Thailand as proposed by AIT, and to be used in Malaysian traffic condition.

FRENCH MINISTRY of FOREIGN AFFAIRS AND INTERNATIONAL DEVELOPMENT RESEARCH GRANT

Low-cost Real-time Monitoring of Haze Air Quality Disasters in Rural Communities in Thailand and Southeast Asia (SEA-HAZEMON)

- Funded by French Ministry of Foreign Affairs and International Development with total funding of USD39000.
- The project is in collaboration with Asian Institute of Technology, Laboratory Information of Paris (LIP6), University of Philippines and UniKL MIIT. The project aims to develop mesh network attached with sensors to collect data and improve the community life in rural area.

SKIM GERAN PENYELIDIKAN JANGKA PENDEK (GPJP) FASA 3/2016

UPNM Smart Greenhouse Prototype Accommodate By Internet of Thing Technology

- Funded by UPNM with total funding of RM20000.
- The project is collaboration between UniKL researcher and UPNM.

Wireless Sensor Networks, Mobile Ad-Hoc Networks (MANETs), Internet of Things application, Routing in Machine 2 Machine Communications, Intelligent Transportation Systems.

Publications

BOOKS

1. “VoIP over IP with Finger Print Authentication and Digital Signature”, Lambert Academic Publishing (LAP), (ISBN 978-3659620553, published Oct 2014).
2. “IP Camera Robosurveyor with Image Processing Functionality”, Lambert Academic Publishing (LAP), (ISBN 978-3659622984, published Oct 2014).
3. “On-Demand Routing With Unidirectional Link Support for MANET”, Lambert Academic Publishing (LAP), (ISBN 978-6202010948, published July 2013).

JOURNAL PUBLICATIONS

1. **M. Zuhairi**, H. Zafar and D. Harle, “The impact of Mobility Models on the Performance of MANET Routing Protocol”, IETE Technical Review, vol. 29, no. 5, pp. 414-420, Sep-Oct 2012.
2. **M. Zuhairi**, H. Zafar and D. Harle, “Dynamic Reverse Route for On-Demand Routing Protocol in MANET”, KSII Transactions on Internet and Information Systems, vol. 6, no. 5, pp. 1354-1372, May 2012.

3. H. Zafar, **M. Zuhairi**, D. Harle and I. Andonovic, "A Review of Techniques for the Analysis of Simulation Output", IETE Technical Review, vol. 29, no. 3, pp. 223-228, May-June 2012.
4. H. Zafar, **M. Zuhairi**, D. Harle, I. Andonovic, "A Survey of Quality of Service-aware Routing Approaches for Mobile Ad hoc Networks", IETE Technical Review, vol. 29, no. 3, pp. 188-195, May-June 2012.
5. **M. Zuhairi**, H. Zafar and D. Harle, "Wireless Machine-to-Machine Routing Protocol with Unidirectional Links", Smart Computing Review, vol. 1, no. 1, pp. 58-68, October 2011.
6. Nur Zaimah Ahmad and **Megat Farez**, "A Performance comparison of Infrared and Bluetooth Technology for Automatic Gate System", International Journal of Academic Research, vol.6, March 2014.
7. Ayanwuyi T. Kolade, **Megat F. Zuhairi**, Hassan Dao, Sohail Khan, "Bait Request Algorithm to Mitigate Black Hole Attacks in Mobile Ad Hoc Networks", International Journal of Computer Science and Network Security, May 2016.
8. Arisyah Azizan, **Megat F. Zuhairi**, Hilmi M. Salleh, Mohd Nazri Ismail, "Optimised Link State Routing Protocol Testbed and Performance Evaluation", IJCSNS International Journal of Computer Science and Network Security, 32 VOL.16 No.10, October 2016.
9. Toqeer Ali, **Megat Farez Zuhairi**, Jawad Ali, Shahrulniza Musa, Mohammad Nauman, "A Complete Behavioral Measurement and Reporting: Optimized for Mobile Devices", 1st EAI International Conference on Computer Science and Engineering, Penang, 2016.
10. Hassan Dao, Md Rafiq Islam, **Megat F Zuhairi**, "Rain Fade Duration Prediction Models For A High Elevation Angle Based On Measured Data In Tropical Climate" Advances in Space Research, October 2018.
11. Md Nazmus Saadat, Syed Abdul Halim, Husna Osman, Rasheed Mohammad Nassr, **Megat F. Zuhairi**, "Blockchain based Crowdfunding Systems", Indonesian Journal of Electrical Engineering and Computer Science, Vol. 15, July 2019.
12. Muhammad Yasar, **Megat F. Zuhairi**, Toqeer Ali, Turki Alghamdi, and J.A. Marmolejo, "An Extended Access Control Model for Permissioned Blockchain Frameworks," Wireless Network, 2019.
13. **Megat F. Zuhairi**, Hassan Dao, Rashid Zafar, "Mobile Crowd Sensing to Monitor Noise Pollution for Public Wellbeing", Malaysian Journal of Public Health Medicine, Vol 19, 2019.
14. Shahidatul A. Baharuddin, **Megat F. Zuhairi**, Hassan Dao, "Impact of interference on wireless mesh network performance", ARPN Journal of Engineering and Applied Sciences, 2019.
15. Md Ratul Amin, **Megat F. Zuhairi**, Md Nazmus Saadat, "Enhanced Blockchain Transaction: A Case of Food Supply Chain Management", Journal of Engineering and Applied Sciences, 2019.
16. **Megat F. Zuhairi**, Hassan Dao, Aznida AB Sajak, "Design Analysis of Polyhedron UWB Antenna", International Journal on Communications Antenna and Propagation, 2019.
17. Yasar Khan, Toqeer Ali, **Megat F. Zuhairi**, Fernando Moreira, Frederico Branco, Jose Martins, Ramiro Gonçalves, "BlockU: Extended Usage Control in and for Blockchain" Expert Systems 2020.
18. Md. Ratul Amin, **Megat F. Zuhairi**, Md. Nazmus Saadat, "Enhanced Blockchain Transaction: A Case of Food Supply Chain Management" Journal of Engineering and Applied Sciences, 2020.

CONFERENCE PROCEEDINGS

1. **M. Zuhairi**, D. Harle, "AODV Routing Protocol in Heterogeneous Network", Proc. 11th Annual Postgraduate Symposium on the Convergence of Telecommunications, Networking and Broadcasting (PGNet), Liverpool, UK, pp. 9-12, June 2010.
2. **M. Zuhairi**, D. Harle, "Dynamic Reverse Route in Ad hoc on Demand Distance Vector Routing Protocol", Proc. 6th International Conference on Wireless and Mobile Communications (ICWMC), Valencia, Spain, pp. 139-144, September 2010.
3. **M. Zuhairi**, D. Harle, "A Simulation Study on the Impact of Mobility Models on Routing Protocol Performance with Unidirectional Link Presence", Proc. 25th IEEE International Conference on Information Networking (ICOIN), Kuala Lumpur, Malaysia, pp. 335-340, January 2011.
4. **M. Zuhairi**, H. Zafar and D. Harle, "On-Demand Routing with Unidirectional Link Using Path Loss Estimation Technique", Proc. Wireless Telecommunications Symposium (WTS), London, UK, April 2012.
5. G. Sikander, M. Babar, H. Zafar, **M. Zuhairi**, "Comparison of Clustering Routing Protocol for Wireless Sensor Networks", IEEE International Conference On Smart Instrumentation, Measurement and Application, Kuala Lumpur, Malaysia, November 2013.
6. M. A. Khalid, M. Babar, H. Zafar, **M. Zuhairi**, "Gunshot Detection and Localisation Using Sensor Networks", IEEE International Conference On Smart Instrumentation, Measurement and Application, Kuala Lumpur, Malaysia, November 2013.
7. F. Iqbal, M. Babar, H. Zafar, **M. Zuhairi** "I-AODV: Infrastructure Based Ad-hoc On-Demand Distance Vector Routing Protocol for Vehicular Ad-hoc Networks", IEEE International Conference On Smart Instrumentation, Measurement and Application, Kuala Lumpur, Malaysia, November 2013.
8. Faheem, M. Babar, H. Zafar, **M. Zuhairi**, "Performance Analysis of a Token Bucket Shaper for MPEG4 Video and Real Audio Signal", IEEE International Conference on Smart Instrumentation, Measurement and Application, Kuala Lumpur, Malaysia, November 2013.
9. Hassan Dao and **Megat Farez**, "Effect of Rain Induced Scintillation on Ku-Band Satellite Link in Tropical Region," 4th International Conference on Engineering Technology and Technopreneurship, August 2014.
10. Eiad Yafi and **Megat Farez**, "Mining Social Media Data: Discovering Contradictedness quantities," International Conference on Ubiquitous Information Management and Communication, January 2015.
11. Rashid Zafar, **Megat F. Zuhairi**, Eiad Yafi, Hassan Dao, "Big Data: The NoSQL and RDBMS review" International Conference on Information and Communication Technology 2016.
12. Mohd Raffie, **Megat F. Zuhairi**, Shadil A. Z. Abidin, Hassan Dao, "Anomaly Based NIDS A review of Machine Learning Methods on Malware Detection," International Conference on Information and Communication Technology 2016.
13. Ayanwuyi T. Kolade, **Megat F. Zuhairi**, Eiad Yafi, Cai L. Zeng, "Performance Analysis of Black Hole Attack in MANET" 10th International Conference on Ubiquitous Information Management and Communication 2017.
14. C.L. Zheng and **Megat F. Zuhairi**, "Security Challenges for Open Embedded Systems", International Conference on Engineering Technologies and Technopreneurship 2017.
15. C.L. Zheng and **Megat F. Zuhairi**, "Performance Evaluation of Low-Power and Lossy

Networks”, 11th International Conference on Ubiquitous Information Management and Communication 2018.

16. Mohd Taha Ismail, **Megat F. Zuhairi**, Eiad Yafi, and Hassan Dao “Simulation Modelling of Fair Channel Allocation Scheme in Urban City”, 11th International Conference on Ubiquitous Information Management and Communication 2018.
17. Mohd T. Ismail, **Megat F. Zuhairi**, Eiad Yafi and Hassan Dao “Vertical Handover Evaluation for Heterogeneous Networks”, 2nd International Conference on Information and Communication Technology, May 2018.
18. Ayanwuyi T. Kolade, **Megat F. Zuhairi**, C. L. Zeng and Irma S. C. Alias “Simulation Technique of Steady-State Network Based on AODV Routing Protocol” 2nd International Conference on Information and Communication Technology, May 2018.
19. Rashid Zafar, **Megat F. Zuhairi** “Mobile Crowd Sensing Application for Noise Monitoring in Kuala Lumpur”, 2nd International Conference on Information and Communication Technology, May 2018.
20. Marwan Adnan Darwish, Eiad Yafi, Abdullah H. Almasri and **Megat F Zuhairi**, “Privacy and Security of Cloud Computing: A Comprehensive Review of Techniques and Challenges,” 2nd International Conference on Information and Communication Technology, May 2018.
21. Md. Nazmus Saadat, Husna Osman, Munaisyah Abdullah, Rasheed Mohammad Nassr, **Megat F. Zuhairi** and Hassan Dao, “Resource allocation algorithms for enhanced performance in Wireless Virtualization Networks” 2nd International Conference on Information and Communication Technology, May 2018.
22. Md. Nazmus Saadat, Syed Abdul Halim, Rasheed Mohammad Nassr, **Megat F. Zuhairi**, “Blockchain based Crowdfunding Systems in Malaysian Perspective”, Proceedings of the 2019 11th International Conference on Computer and Automation Engineering, Perth 2019.

Additional Qualification

- Certified Cisco Academy Instructor

Awards and Honors

- Loyal Service Award 2019 (15 years)
- Outstanding Contribution in Reviewing (Journal of King Saud University – Computer and Information Sciences) – March 2017
- Won the Silver Medal in EUREKA Innovation Exhibition 2016
The award recognises the student project in the area of System and Network. The project simulates the MANET routing protocol and implemented the testbed with using existing access points
- Won Silver Medal in Undergraduate Competition and Exhibition 2017
The project improved the Internet traffic at student’s Hostel by applying load balancing algorithm

References

1. **Assoc. Prof. Dr. Sharul Sham Dol**
CEng Chartered Energy Engineer
Abu Dhabi University
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2. **Professor Dr Mohammad Haseeb Zafar**
Faculty of Computing and Information Technology
King Abdulaziz University
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