



# Wan Tat Chee

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[Sep. 27, 2018]

## Working Experience

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### Working Experience

**School of Computer Sciences, Universiti Sains Malaysia, Penang, Malaysia**

### Education

Aug. 2011 — Present

**Research, Academia and Administration**

Associate Professor in School of Computer Sciences, Lab Head for Network Research Group (NRG) & Associate Researcher in National Advanced IPv6 Center of Excellence (NAV6). Research interests include: Internet of Things, Wireless Sensor Networks, Satellite Communications, Quality of Service, Real Time Systems..

### Journal

### Publications/Book

### Chapters

### Conference

### Publications

**Program Chairman for Computer Systems: Apr. 2005 — Dec. 2012**

### Supervision

Nov. 2004 — Aug. 2011

**Academia, Administration and Research**

Senior Lecturer in School of Computer Sciences, Lab Head for Network Research Group (NRG) & Domain Head for Wireless Research in National Advanced IPv6 Center of Excellence (NAV6). Research interests include: Wireless, Satellite, Sensor Mesh Networks, Quality of Service, Real Time Systems.

### Grants

### Honors and Societies

Feb. 1998 — Nov. 2004

**Academia and Research**

Lecturer in School of Computer Sciences pursuing research into wireless computer networks. Research interests include: Wireless and Satellite Networks, Computer Network Protocols, Neural Networks, and Real Time Systems.

**Research and Development, Motorola Malaysia Sdn. Bhd., Penang, Malaysia**

Jan. 1997 — Jan. 1998

**Prototyping and Concept Development**

Senior Design Engineer responsible for new product and concept definition, liaison for radio option board interface specifications, as well as prototyping of new products for marketing feedback and special customer needs.

Apr. 1994 — Dec. 1996

**Software Development, Technical Supervision and System Design**

Design Engineer responsible for development of low level hardware interfacing drivers for LCD display control, user input validation and menuing control. Managed technical risks and system design in three projects. Undertook project planning and schedule management in one project. Implemented new pseudo-trunking protocol for Korean market. Developed modular radio software framework specifications.

**Dept. of Electrical and Computer Engineering, Univ. of Miami, Florida, USA**

Jan. 1991 — Mar. 1994

**Neural Network Applications & Object Oriented Databases Devpt.**

Research Assistant undertaking research into neural-networks applications and computer networks, as well as involvement in the preparation of research grant proposals. Research Associate responsible for design and development of an object-oriented Medical Information System in C++ starting in Sept. 1993.

**Microsoft Corporation, Redmond, Washington, USA**

June 1992 — Aug. 1992

**Networking Software Testing**

Software Engineer in Test Design Intern responsible for test-plan generation and execution. Performed test verification of Windows NT networking components.

System Administrator responsible for setup and maintenance of campus-wide Macintosh network, as well as maintenance of campus mainframe computer lab.

## Education

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**School of Computer Sciences, Universiti Sains Malaysia, Penang, Malaysia**  
May 1999 — Sep 2004      **Doctor of Philosophy in Computer Science (conferred Aug. 2005)**

Dissertation: "Quality of Service (QoS) for Wireless Multicast Applications." [[PDF](#)]

**Dept. of Electrical and Computer Engineering, Univ. of Miami, Florida, USA**  
Jan. 1991 — Aug. 1993      **Master of Science in Elec. and Computer Engineering**

GPA: 3.76/4.00

Thesis: "Edge Preserving Image Compression for Magnetic Resonance Imaging using DANN-based neural networks." [[PDF](#)]

Aug. 1987 — Dec. 1990      **Bachelor of Science in Elec. Engr., Computer Option**

GPA: 3.99/4.00 (Summa cum Laude)

Senior Project/Honors Thesis: "RIC (Radio frequency Interface Controller): ASIC based design of the RF Interface Controller for interfacing with the Motorola MC 68824 Token Bus Controller in a Radio Frequency LAN environment." [[PDF](#)]

## Journal Publications/Book Chapters (Most Recent First)

[top](#)

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In Press

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2018

- Mohammed Al-Shalabi, Mohammed Anbar, **Tat-Chee Wan**, Ahmad Khasawneh, "Variants of the Low-Energy Adaptive Clustering Hierarchy Protocol: Survey, Issues and Challenges," *Electronics*, Vol. 7, No. 8, 2018. ISSN 2079-9292. [[Link](#)] [*ISI 2017 I.F. 2.110 (Q2)*]
- Eyman F. Ahmed, Mohd Adib Omar, Tat-Chee Wan, Altahir A. Altahir, "Work in Progress: LEACH-Based Energy Efficient Routing Algorithm for Large-Scale Wireless Sensor Networks," *Journal of Telecommunication, Electronic and Computer Engineering*, 10(1-5), 2018, pp. 83-87. ISSN 2180-1843. [[Link](#)] [Scopus Indexed]

2017

- Sabri M. Hanshi, Mohammad M. Kadhum, **Tat-Chee Wan**, "Theoretical Framework of Link Stability-based Forwarding Strategy in Vehicular Ad Hoc Networks," *International Journal of Networking and Virtual Organizations (IJNVO)*, Vol. 17, No. 1, 2017. ISSN 1470-9503. [[Link](#)] [Scopus Indexed]
- Sima Ahmadpour, **Tat-Chee Wan**, Zohreh Toghreyee, Fariba HematiGazafi, "Statistic Analysis of Video Frame Size Distribution Originating from Scalable Video Codec (SVC)," *Complexity Vol. 2017*, pp. 1-12, Mar 2017. ISSN 1076-2787. [[Link](#)] [*ISI 2016 I.F.: 4.621 (Q1)*]
- Mohammed A. Mahdi, **Tat-Chee Wan**, "Performance Evaluation of Single-Path and Multipath MANETS Routing Protocols For Dense and Sparse Topology," *International Journal of Software Engineering and Computer Systems (IJSECS)*, Vol. 3, Feb. 2017, pp. 31-42. ISSN 2289-8522. [[Link](#)]

2016

- Huda Alhalabi, **Tat-Chee Wan**, "Communication Protocol for Constructive Interference Flooding in Wireless Sensor Networks," *Journal of Theoretical and Applied Information Technology (JATIT)*, Vol. 94, No. 1, Dec. 2016, pp. 207-215. ISSN 1992-8645. [[Link](#)] [Scopus]

Indexed]

- Lial Raja Missif, Mohammed M. Kadhum, **Tat-Chee Wan**, “On Event Detection and Tracking Systems in Sensor Networks: Classification of Structure and Mechanisms,” *Advanced Science Letters*, Vol. 22, No. 10, Oct 2016 pp. 2700-2704. ISSN 1936-6612. [[Link](#)] [Scopus Indexed]
- Baidaa Hamza Khudayer, Mohammed M. Kadhum, **Tat-Chee Wan**, “Feasible Progressive Source Routing-Based Strategy for Mobile Ad-hoc Networks,” *Advanced Science Letters*, Vol. 22, No. 10, Oct 2016 pp. 2628-2632. ISSN 1936-6612. [[Link](#)] [Scopus Indexed]
- Sabri M. Hanshi, Mohammad M. Kadhum, **Tat-Chee Wan**, “Efficient Approximated Q-Function Form for Error Probability over Rayleigh Fading Channels,” *Wireless Personal Communications*, Vol. 89, No. 2, July 2016, pp. 467-478. ISSN 0929-6212. [[Link](#)] [**ISI 2015 I.F.: 0.701**]
- Mohammad Ali Sarvghadi, **Tat-Chee Wan**, “Message Passing Based Time Synchronization in Wireless Sensor Network: A Survey,” *International Journal of Distributed Sensor Networks*, Volume 12 No. 5, May 2016, Article ID 1280904, pp. 1-21. ISSN 1550-1329 [[Link](#)] [**ISI 2015 I.F.: 0.906**]
- Abdulghani Ali Ahmed, Aman Jantan, **Tat-Chee Wan**, “Filtration Model for the detection of Malicious Traffic in Large-Scale Networks,” *Computer Communications*, Vol. 82, May. 2016, pp. 59-70. ISSN 0140-3664 [[Link](#)] [**ISI 2015 I.F.: 2.099**]
- Way-Chuang Ang, Muhammad-Imran Sarwar, **Tat-Chee Wan**, “Performance Characterization of ROHC for Satellite-Based Unidirectional Links Using Error-Free Channels,” *Journal of Theoretical and Applied Information Technology (JATIT)*, Vol. 87, No. 2, May 2016, pp. 344-354. ISSN 1992-8645. [[Link](#)] [Scopus Indexed]
- Baidaa Hamza Khudayer, Mohammed M. Kadhum, **Tat-Chee Wan**, “Topology-Aware Mechanism to Improve Routing in Mobile Ad-hoc Networks,” *Advances in Machine Learning and Signal Processing*, Lecture Notes in Electrical Engineering, Volume 387 / 2016, 2016, pp. 13 - 24. Ed. P. J. Soh et. al, Springer, ISSN 1876-1100. ISBN 978-3-319-32212-4. [[Link](#)] [Scopus Indexed]

2015

- Ali Shanon Alsaadi, **Tat-Chee Wan**, Alhamza Munther, “Application of Harmony Search Optimization Algorithm to Improve Connectivity in Wireless Sensor Network with Non-Uniform Density,” *Journal of Information Science and Engineering*, Vol. 31, No. 4, Jul. 2015, pp. 1475-1489. ISSN 1016-2364. [[Link](#)] [**ISI 2014 I.F.: 0.414**]
- Sima Ahmadpour, Zohreh Toghrayee, **Tat-Chee Wan**, “An Extended Discrete Autoregressive Model for Variable Bit Rate Video Traffic Encoded by Scalable Video Codec,” *International Journal of Communication Systems* Vol. 28 No. 18, pp. 2239-2254, Dec. 2015. ISSN 1074-5351. [[Link](#)] [ISI Indexed, **ISI 2015 I.F.: 1.099**]
- Pantea Keikhosrokiani, Nasriah Zakaria, Norlia Mustaffa, **Tat-Chee Wan**, Muhammad-Imran Sarwar, Keyvan Azimi, “Wireless Networks in Mobile Healthcare,” *Mobile Health: A Technology Roadmap*, Springer Series in Bio-/Neuroinformatics, Volume 5, 2015, pp. 687 - 726. Ed. S. Adibi, Springer, ISSN 2193-9349. [[Link](#)]
- Baidaa Hamza Khudayer, Mohammed M. Kadhum, **Wan Tat Chee**, “Multi-disjoint Routes Mechanism for Source Routing in Mobile Ad-hoc Networks,” *Information Science and Applications*, Lecture Notes in Electrical Engineering, Volume 339 / 2015, 2015, pp. 189 - 204. Ed. K. Kim, Springer, ISSN 1876-1100. ISBN 978-3-662-46577-6. [[Link](#)] [Scopus Indexed]
- Hadi Asharioun, Hassan Asadollahi, **Tat-Chee Wan**, Niyayesh Gharaei, “A Survey on Analytical Modeling and Mitigation Techniques for the Energy Hole Problem in Corona-Based Wireless Sensor Network,” *Wireless Personal Communications*, Vol 81, No. 1, Mar. 2015, pp. 161-187. ISSN 0929-6212. [[Link](#)] [**ISI 2014 I.F.: 0.653**]

2014

- Alireza Taghizadeh, **Tat-Chee Wan**, Rahmat Budiarto, “A Fast Inter-Domain Network-based IP Mobility Scheme for Urban Areas,” *Journal of Communications and Networks*, Vol 16 No 6, Dec. 2014, pp. 645-655. ISSN 1229-2370. [[Link](#)] [**ISI 2013 I.F.: 0.747**]
- Sabri M. Hanshi, Mohammad M. Kadhum, **Tat-Chee Wan**, “Relative Velocity-based Forwarding Strategy for Vehicular Ad Hoc Networks,” *Information*, Vol. 17, No. 8, Aug.

2014, pp. 3833-3848. ISSN 1343-4500. [Scopus Indexed]

- Hadi Asharioun, Hassan Asadollahi, **Tat-Chee Wan**, Abdul Samad Ismail, “An Investigation into the Effect of Coronas on Using Balanced-Energy Scheme in Corona-Based Wireless Sensor Networks,” *Information*, Vol. 17, No. 2, Feb. 2014, pp. 627-635. ISSN 1343-4500. [Scopus Indexed]
- Hadi Asharioun, **Tat-Chee Wan**, “A Multi Transmission Range Scheme to Maximize Lifetime in the Corona-Based Wireless Sensor Networks,” *International Journal of Digital Content Technology and its Applications (JDCTA)*, Vol. 8, No. 2, Apr. 2014, pp. 52-59. ISSN 1975-9339. [[Link](#)]

2013

- Mohammed Zaki Hasan, **Tat-Chee Wan**, “Optimized Quality of Service for Real-Time Wireless Sensor Networks Using a Partitioning Multipath Routing Approach,” *Journal of Computer Networks and Communications*, Vol. 2013, Article ID 497157, 18 pages, Apr. 2013. ISSN 2090-7141. [[Link](#)] [Scopus Indexed]
- Yung-Wey Chong, **Tat-Chee Wan**, “Comparative Study on Hybrid Header Compression Over Satellite-Wireless Network,” *IETE Technical Review*, Vol. 30, No. 6, Nov.-Dec. 2013, pp. 461-472. ISSN 0256-4602. [[Link](#)] [*ISI 2012 I.F.: 0.705*]
- Abdulghani Ali Ahmed, Aman Jantan, **Tat-Chee Wan**, “Real-Time Detection of Intrusive Traffic in QoS Network Domains,” *IEEE Security & Privacy*, Vol. 11, No. 6, Nov.-Dec. 2013, pp. 45-53. ISSN 1540-7993. [[Link](#)] [*ISI 2012 I.F.: 0.962*]
- Sima Ahmadpour, **Tat-Chee Wan**, Zohreh ToghrayeeSemiromi, Mohammed. M. Kadhum, “Characterizing the Long Tail Behavior of SVC Video Frame Size Distribution,” *International Journal of Digital Content Technology and its Applications (JDCTA)*, Vol. 7, No. 13, Sep. 2013, pp. 33-40. ISSN 1975-9339. [[Link](#)]
- Ali Abdulqader Bin Salem, **Tat-Chee Wan**, Yung-Wey Chong, Adel Nadhem Naeem, Sima Ahmadpour, Nibras Abdullah Faqera, “Review of Cross-layer Solutions for Packet Loss,” *International Journal of Advancements in Computer Technology (IJACT)*, Vol. 5, No. 10, June 2013, pp. 88-97, ISSN 2005-8039. [[Link](#)]
- Badiea Abdulkarem Mohammed, **Tat-Chee Wan**, “Handoff and Route Optimization in Mobile Networks Over IEEE 802.16e,” *International Journal of Mobile Computing and Multimedia Communications (IJMCMC)*, Vol. 5, No. 2, Apr-Jun. 2013, pp. 32-45. ISSN 1937-9412 [[Link](#)] [Scopus Indexed]
- Ammar Almomani, **Tat-Chee Wan**, Ahmad Manasrah, Altyeb Altaher, Mahmoud Baklizi, and Sureswaran Ramadass, “An Enhanced Online Phishing E-mail Detection Framework Based on “Evolving Connectionist System”,” *International Journal of Innovative Computing, Information and Control (IJICIC)*, Vol. 9, No. 3, Mar. 2013, pp. 1065-1086. ISSN 1349-4198 [[Link](#)] [ISI/Scopus Indexed]
- Ammar Almomani, B. B. Gupta, **Tat-Chee Wan**, Altyeb Altaher and Selvakumar Manickam, “Phishing Dynamic Evolving Neural Fuzzy Framework for Online Detection “Zero-day” Phishing Email,” *Indian Journal of Science and Technology*, Vol. 6, No. 1, Jan. 2013, pp. 3960-3964. ISSN 0974-6846. [[Link](#)] [ISI/Scopus Indexed]

2012

- Anas F. Bayan and **Tat-Chee Wan**, “In-Depth Understanding, Analysis and Classification of WiMAX Scheduling State-of-art for Effective Practical Scheduler Design and Development,” *IETE Technical Review*, Vol. 29, No. 6, Nov.-Dec. 2012, pp. 449-460. ISSN 0256-4602. [[Link](#)] [*ISI 2011 I.F.: 0.724*]
- Ammar Almomani, **Tat-Chee Wan**, Ahmad Manasrah, Altyeb Altaher, and Eman Almomani, “A survey of Learning Based Techniques of Phishing Email Filtering,” *International Journal of Digital Content Technology and its Applications (JDCTA)*, Vol. 6, No. 18, Oct. 2012, pp. 119-129. ISSN 1975-9339. [[Link](#)] [Scopus Indexed]
- Ali Shanoon, **Tat-Chee Wan**, and Wafaa Obeed, “The Multi-hop Cluster Transmission Of Information Method For Solving the Low Connectivity Problem In Wireless Sensor Networks With Non-uniform Density,” *International Journal of Innovative Computing, Information and Control (IJICIC)*, Vol. 8, No. 11, Nov. 2012, pp. 7641-7661. ISSN 1349-4198 [[Link](#)] [Scopus Indexed]
- Alireza Taghizadeh, **Tat-Chee Wan**, Rahmat Budiarto, Fa Toh Yap, and Azlan Osman, “A

Performance Evaluation Framework For Network-based IP Mobility Solutions,” *International Journal of Innovative Computing, Information and Control (IJICIC)*, Vol. 8, No. 10(B), Oct. 2012, pp. 7263-7288. ISSN 1349-4198 [[Link](#)] [Scopus Indexed]

- Ammar ALmomani, **Tat-Chee Wan**, Altyeb Altaher, Ahmad Manasrah, Eman ALmomani, Mohammed Anbar, Esraa ALomari and Sureswaran Ramadass, “Evolving Fuzzy Neural Network for Phishing Emails Detection,” *Journal of Computer Science*, Vol. 8 No. 7, July 2012. pp. 1099-1107. ISSN 1549-3636 [[Link](#)] [Scopus Indexed]
- Faisal Y. Alzyoud, **Tat-Chee Wan**, “The effect of using P-XCAST routing protocol on many-to-many applications,” *International Arab Journal of Information Technology (IAJIT)*, Vol. 9, Issue 4, July 2012, pp. 314-321. ISSN 1683-3198 [[Link](#)] [*ISI 2011 I.F.: 0.127*]
- Ali Abdulqader Bin Salem and Tat-Chee Wan, “Survey of Cross-layer Designs for Video Transmission Over Wireless Networks,” *IETE Technical Review*, Vol. 29, No. 3, May-June 2012. pp. 229-247. ISSN 0256-4602 [[Link](#)] [*ISI 2011 I.F.: 0.724*]
- Mohammed A. Mahdi, Mohamed M. Abd-Eldayem, Salwa S. Elgamal and **Tat-Chee Wan**, “Security Analysis and Enhancement of Authentication in CDMA based on Elliptic Curve Cryptography,” *Research Journal of Information Technology*, Vol. 4, No. 3, 2012, pp. 106-123. ISSN 1815-7432 [[Link](#)] [Scopus Indexed]
- Muhammad-Imran Sarwar, **Tat-Chee Wan**, Pantea Keikhosrokiani, Sureswaran Ramadass, “ROHC Tunneling Protocol for Source Specific Multicast Architecture,” *2011 International Conference on Material Science and Engineering Technology (ICMSET 2011), Zhengzhou, Nov. 11-13, 2011*, Advanced Materials Research, Vol. 462, 2012 (Material Science and Engineering Technology), pp. 881-885. ISSN 1662-8985. [[Link](#)] [Scopus Indexed]
- Mosleh M. Abu-Alhaj, Manjur SK, R. Sureswaran, **Tat-Chee Wan**, Imad J. Mohamad, and Ahmed M. Manasrah, “ITTP: A New Transport Protocol for VoIP Applications,” *International Journal of Innovative Computing, Information and Control (IJICIC)*, Vol. 8, No. 3(A), Mar. 2012, pp. 1879-1895. ISSN 1349-4198. [[Link](#)] [Scopus Indexed]

2011

- Hean-Loong Ong, Essam Natsheh, Tat-Chee Wan, “Routing with a density-based probabilistic algorithm for mobile ad-hoc networks,” *Journal of High Speed Networks*, Vol. 18 No 2, 2011, pp. 83-114. ISSN 0926-6801. [[Link](#)]
- Mahdi Zareei, Alireza Taghizadeh, Rahmat Budiarto, and **Tat-Chee Wan**, “EMS-MAC: Energy Efficient Contention-Based Medium Access Control Protocol for Mobile Sensor Networks,” *The Computer Journal*, Vol. 54 Issue 12, 2011, pp. 1963-1972. ISSN 0010-4620. [[Link](#)] [*ISI 2010 I.F.: 1.363*]
- A. Meulenberg, **T. C. Wan**, “LEO-Ring-Based Communications Network,” *Physics Procedia*, Vol. 20, 2011, pp. 232-241. ISSN 1875-3892. [[Link](#)] [Scopus Indexed]
- Anas F. Bayan, **Tat-Chee Wan**, “A Review on WiMAX Multihop Relay Technology for Practical Broadband Wireless Access Network Design,” *Journal of Convergence Information Technology*, Vol. 6 No. 9, 2011, pp. 363-372. ISSN 1975-9320 [[Link](#)] [Scopus Indexed]
- Ammar Ali Deeb Al-Momani, **Tat-Chee Wan**, Karim Al-Saedi, Altyeb Altaher, Sureswaran Ramadass, Ahmad Manasrah, Loai Bani Melhiml and Mohammed Anbar, “An Online Model on Evolving Phishing E-mail Detection and Classification Method,” *Journal of Applied Sciences*, Vol. 11 No. 18, 2011, pp. 3301-3307. ISSN 1812-5654 [[Link](#)] [Scopus Indexed]
- Ali Shanoon-Aiyal, **Tat-Chee Wan**, Sureswaran Ramadass, “Collective Information Transmission to Improve Connectivity of Non-Uniform Density Wireless Sensor Networks,” *Journal of Applied Sciences*, Vol. 11 No. 17, 2011, pp. 3169-3176. ISSN 1812-5654 [[Link](#)] [Scopus Indexed]
- Yung-Wey Chong, **Tat-Chee Wan**, “Header Compression Scheme in Point To Point Link Model Over Hybrid Satellite WiMAX Network,” *International Journal of Ad hoc, Sensor & Ubiquitous Computing (IJASUC)*, Vol. 2 No. 3, Sept. 2011, pp. 113-124. ISSN 0976-2205. [[Link](#)]
- Abdulghani Ali Ahmed, Aman Jantan, **Tat-Chee Wan**, “SLA-based Complementary Approach for Network Intrusion Detection,” *Computer Communications*, Vol. 34 Issue 14, Sept. 2011, pp. 1738-1749. ISSN 0140-3664 [[Link](#)] [*ISI 2010 I.F.: 0.815*]
- Yung-Wey Chong, Imad J. Mohamad, **Tat-Chee Wan**, “Header Compression Scheme over Hybrid Satellite-WiMAX Network”, *The Third International Conference on Networks &*

*Communications (NeCoM 2011), Chennai, India, July 15-17, 2011*, Trends in Network and Communications, Vol. 197, Part 1, pp 167-176, Eds. D. C. Wyld, M. Wozniak, N. Chaki, N. Meghanathan and D. Nagamalai, Springer Berlin Heidelberg, 2011. ISBN 978-3-642-22543-7. [[Link](#)] [Scopus Indexed]

- Seyed-Amin Hosseini-Seno, Rahmat Budiarto, **Tat-Chee Wan**, “A Routing Layer-Based Hierarchical Service Advertisement and Discovery for MANETs,” *Ad Hoc Networks*, Vol. 9 Issue 3, May 2011, pp. 355-367. ISSN 1570-8705 [[Link](#)] [*ISI 2010 I.F.: 1.592*]
- Seyed-Amin Hosseini-Seno, Rahmat Budiarto, **Tat-Chee Wan**, “A Secure Mobile Ad hoc Network Based on Distributed Certificate Authority,” *Arabian Journal for Science and Engineering*, Vol. 36 No. 2, Mar 2011, pp. 245-257. ISSN 1319-8025 [[Link](#)] [*ISI 2010 I.F.: 0.224*]
- Ali Abdulqader bin Salem, **Tat-Chee Wan** & Chan Huah Yong, “Performance Optimization for Broadcasting Video Streaming Using Hybrid Multicast and Peer-to-Peer (Distributed Hash Table) Model,” *Journal of Communication and Computer*, Vol. 8, No. 2, Feb. 2011, pp. 134-142. ISSN 1548-7709
- Manjur S Kolhar, Mosleh Abu-Alhaj, Omar Abouabdalla, **Tat-Chee Wan**, Rahmat Budiarto & Ahmed M. Manasrah, “Conference Gateway for Heterogeneous Clients: Real Time Switching Clients and InterAsterisk eXchange Clients,” *International Journal of Innovative Computing, Information and Control (IJICIC)*, Vol.7 No.1, January 2011, pp. 395-406. ISSN 1349-4198 [[Link](#)] [*ISI 2010 I.F.: 1.664*]

2010

- Imad J. Mohamad, Yung-Wey Chong, **Tat-Chee Wan**, Putra Sumari, “Improving Client-Server Response Time Using IPv6 Header Suppression Over MPLS,” *International Journal of Computer Science and Information Security (IJCSIS)*, Vol. 8 No. 9, December 2010. pp. 121 – 126. ISSN 1947-5500 [[Link](#)]
- Anas F. Bayan, **Tat-Chee Wan** and Sureswaran Ramadass, “Delay Analysis and System Capacity Control for Mobile WiMAX Relay Networks” *Journal of Computer Science*, Vol. 6 No. 10, Oct. 2010. pp. 1108-1114. ISSN 1549-3636 [[Link](#)] [Scopus Indexed]
- Seyed-Amin Hosseini-Seno, **Tat-Chee Wan**, Rahmat Budiarto, Masashi Yamada, “Management of Energy Consumption on Cluster Based Routing Protocol for MANET,” *IEICE Transactions on Information and Systems*, Vol. E93-D No.3, 2010. pp. 550-559. ISSN 0916-8532 [[Link](#)] [*ISI 2009 I.F.: 0.396*]

2009

- Manjur S. Kolhar, Mosleh M. Abu-Alhaj, Omar Abouabdalla, **Tat-Chee Wan**, Ahmad M. Manasrah, “Comparative Evaluation and Analysis of IAX and RSW,” *International Journal of Computer Science and Information Security (IJCSIS)*, Vol. 6 No. 3, December 2009. pp. 250 – 252. ISSN 1947-5500 [[Link](#)]
- Seyed Amin Hosseini Seno, Rahmat Budiarto, **Tat-Chee Wan**, “SHSDAP: Secure Hierarchical Service Discovery and Advertisement Protocol in Cluster Based Mobile Ad hoc Network,” *World Applied Sciences Journal (WASJ)*, Vol. 7 (C&IT), 2009 (Special Issue for Computer & IT), ISSN 1818-4952 [[Link](#)] [ISI Journal]
- S. A. Hosseini-Seno, B. Pahlevanzadeh, **T. C. Wan**, R. Budiarto, M. M. Kadhum, “A distributed resource-management approach in MANETs,” *Journal of Engineering Science and Technology (JESTEC)*, Vol. 4 Issue 2, June 2009. pp. 142 – 153. ISSN 1823-4690 [[Link](#)] [Scopus Indexed]
- Manjur S. Kolhar, Anas F. Bayan, **Tat-Chee Wan**, O. Abouabdalla, R. Sureswaran, “Heterogeneous multimedia sessions,” *Journal of Engineering Science and Technology (JESTEC)*, Vol. 4 Issue 2, June 2009. pp. 196 – 205. ISSN 1823-4690 [[Link](#)] [Scopus Indexed]

2008

- Way-Chuang Ang, **Tat-Chee Wan**, Kotaro Kataoka, Chee-Hong Teh, “Performance Evaluation of ROBust Header Compression (ROHC) over Unidirectional Links using DVB-S Testbed,” *KEIO SFC JOURNAL*, Vol. 8 No. 2, 2008. pp. 33-48. ISSN 1347-2828 [[Link](#)]
- Essam Natsheh, **Tat-Chee Wan**, “Adaptive and Fuzzy Approaches for Nodes Affinity Management in Wireless Ad-Hoc Networks,” *International Journal of Mobile Information Systems (IJMIS)*, Vol. 4 No. 4 / 2008. pp. 273–295. ISSN 1574-017X [[Link](#)] [Scopus Indexed]

- Seyed Amin Hosseini Seno, Bahareh Pahlevanzadeh, **Tat-Chee Wan**, Rahmat Budiarto, Masoumaeh Ghahremani, “A New Approach CBRP Based Resource Information Management in MANETs,” *International Journal of Computer Science and Network Security, (IJCSNS)*, Vol. 8 No. 5, May 30, 2008, pp. 301-308. ISSN 1738-7906 [[Link](#)]
- Wilson T.H. Woon, **Tat-Chee Wan**, “Performance Evaluation of IEEE 802.15.4 Wireless Multi-Hop Networks: Simulation and Testbed Approach,” *International Journal of Ad Hoc and Ubiquitous Computing (IJAHUC)*, Vol. 3, No. 1, 2008. pp. 57-66. ISSN 1743-8225 [[Link](#)] [Scopus Indexed]

2007

- Chee-Hong Teh, **Tat-Chee Wan**, Rahmat Budiarto, Way-Chuang Ang, “Unidirectional Lightweight Encapsulation with Header Compression for IP Based Satellite Communication over DVB-S,” *Sustainable Internet: Third Asian Internet Engineering Conference, AINTEC 2007, Phuket, Thailand, November 27-29, 2007*, Lecture Notes in Computer Science, Volume 4866 / 2007, Nov 2007, pp. 99 - 113. Ed. S. Fdida and K. Sugiura, Springer-Verlag. ISBN 978-3-540-76808-1. [[Link](#)] [Scopus Indexed]
- Seyed Amin Hosseini Seno, Rahmat Budiarto, **Tat-Chee Wan**, “Survey and New Approach in Service Discovery and Advertisement for Mobile Ad Hoc Networks,” *International Journal of Computer Science and Network Security, (IJCSNS)*, Vol. 7 No. 2, Feb 28, 2007, pp. 275-284. ISSN 1738-7906 [[Link](#)]

2006

- Hean-Loong Ong, **Tat-Chee Wan**, Hean-Kuan Ong, Sureswaran Ramadass, “Node Density Effects on Reactive Routing Protocols for Mobile Ad Hoc Wireless Networks,” *Technologies for Advanced Heterogeneous Networks II: Second Asian Internet Engineering Conference, AINTEC 2006, Pathumthani, Thailand, November 28-30, 2006*, Lecture Notes in Computer Science, Volume 4311 / 2006, Nov 2006, pp. 206 - 211. Ed. K. Cho, P. Jacquet, Springer-Verlag. ISBN 978-3-540-49364-8. [[Link](#)] [*ISI 2005 I.F.: 0.402*] [Scopus Indexed]
- Mohammed Saghir, **Tat-Chee Wan**, Rahmat Budiarto, “A New Cross-Layer Framework for QoS Multicast Applications in Mobile Ad hoc Networks,” *International Journal of Computer Science and Network Security, (IJCSNS)*, Vol. 6 No. 10, Oct 30, 2006, pp. 142-151. ISSN 1738-7906 [[Link](#)]

2005

- Mohammed Saghir, **Tat Chee Wan**, Rahmat Budiarto, “Load Balancing QoS Multicast Routing Protocol in Mobile Ad Hoc Networks,” *Technologies for Advanced Heterogeneous Networks: First Asian Internet Engineering Conference, AINTEC 2005, Bangkok, Thailand, December 13-15, 2005*, Lecture Notes in Computer Science, Volume 3837 / 2005, Nov 2005, pp. 83 - 97. Ed. K. Cho, P. Jacquet, Springer-Verlag. ISBN 978-3-540-30884-3. [[Link](#)] [*ISI 2004 I.F.: 0.513*]

2001

- **Tat Chee Wan**, Chee Hoong Leong, Ronnie Chee Weng Thum, “Bandwidth Management for Intranets Using Multicast Firewalls,” *PERTANIKA Journal of Science and Tecnology Supplement* 9(2):159-172 (2001), Universiti Putra Malaysia Press, 2001. ISSN 0128-7680. Pre-print [[PDF](#)]

1994

- **Tat Chee Wan**, Christos Douligeris, “Improved estimator for a discretised learning routing algorithm,” *Electronics Letters*, IEE, Vol. 30, No. 2, 20th February, 1994. ISSN 0013-5194. [[Link](#)]

## Conference Publications (Most Recent First)

[top](#)

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In Press

- N/A

2017

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1. *Quality of Service Enabled Cross-Layer Multicast Framework for Mobile Ad Hoc Networks*, Mohammed Mohammed Saghir Omar [co-supervised with Assoc. Prof. Rahmat Budiarto]: PhD. Comp. Sci. — Feb. 2008.
2. *Hierarchical Framework For Energy-Efficient And Secure Resource Management In Mobile Ad Hoc Networks*, Syed Amin Hosseini Seno [co-supervised with Assoc. Prof. Rahmat Budiarto]: PhD. Comp. Sci. — Jan. 2010.
3. *An Optimized Framework for Header Suppression of Real Time IPv6 Traffic in MultiProtocol Label Switching (MPLS) Networks*, Imad Jasim Mohammed: PhD. Adv. Comp. Networks — Aug. 2011.
4. *XCAST Based Routing Protocol For Push To Talk Application in Mobile Ad Hoc Networks*,

- Faisal Yousef Abed-Alrahman Alzyoud: PhD. Comp. Sci. — Dec. 2011.
5. *Dynamic Evolving Neural Fuzzy Framework for Phishing E-mail Detection*,  
Ammar Ali Deeb Almomani: PhD. Adv. Comp. Networks — Mar. 2013.
  6. *A Performance Evaluation and Enhancement Scheme for Network-Based Inter-Domain IP Handover in Mobile Networks*,  
Alireza Taghizadeh: PhD. Comp. Sci. — Mar. 2013.
  7. *Enhanced Network Connectivity And Node Lifetime Techniques in Wireless Sensor Networks*,  
Ali Shanon Aiyal Al-Saidi: PhD. Adv. Comp. Networks — May 2013.
  8. *Layered Botnet Detection Framework Based on Signal Processing and Discrete Time Analysis*,  
Loai Kayed Hassan Bani Melhim: PhD. Adv. Comp. Networks — July 2013.
  9. *Per-Priority Flow Control (PPFC) Framework for Enhancing QoS in Metro Ethernet*,  
Bahareh Pahlevanzadeh: PhD. Comp. Sci. — Nov. 2013.
  10. *Optimized Multipath Quality of Service Routing Protocol Using Partitioning Approach For Wireless Sensor Networks*,  
Mohammed Zaki Hasan: PhD. Comp. Sci. — Jan. 2014.
  11. *Performance Evaluation of a New Uplink Scheduling Architecture for WiMAX Multi-Hop Relay Networks*,  
Anas Fouad Hossein Bayan: PhD. Adv. Comp. Networks — Dec. 2014.
  12. *Development of Energy-Balanced Node Deployment Strategies to Reduce Energy Hole Problem in Wireless Sensor Networks*,  
Hadi Asharioun: PhD. Adv. Comp. Networks — Jan. 2015.
  13. *Enhanced Statistical Modelling for Variable Bit Rate Video Traffic Generated From Scalable Video Codec*,  
Sima Ahmadpour: PhD. Adv. Comp. Networks — Feb. 2016.
  14. *Multipath Cluster Based Routing Protocol For Non-Uniform Node Density Mobile Ad Hoc Networks*,  
Mohammed Abdo Mohammed Mahdi: PhD. Comp. Sci. — Aug. 2016.
  15. *Forwarding Strategy For Vehicular Ad Hoc Networks Based on Mobility Information and Connectivity Perspectives*,  
Sabri Mohammed Abhood Hanshi [co-supervised with Dr. Mohammed M. Kadhum]: PhD. Adv. Comp. Networks — Jan. 2017.
  16. *Botnet Group Domain Name System Behaviour Detection using Improved Traffic Similarity Approach*,  
Nur Nadiyah Suppiah Abdullah: PhD. Adv. Comp. Networks — Jan. 2017.
  17. *Improved Link Adaptation Modelling for LTE/LTE-A Networks*,  
Ali Abdulqader Bin Salem: PhD. Adv. Comp. Networks — Feb. 2017.
  18. *ROHC-MPLS Tunnel Architecture for Wireless Mesh Network*,  
Muhammad Imran Sarwar: PhD. Adv. Comp. Networks — Jan. 2018.
  19. *Enhancing The Quality of Service In Mobile Networks Based on NEMO Basic Support Protocol*,  
Badiae Abdulkarem Mohammed Al-Shaibani: PhD. Comp. Sci. — Jan. 2018.

#### **Masters of Science (Research)**

1. *Design of Point to Multipoint Satellite Based Networking Protocol using IP over DVB-S*,  
Tan Chen Wei: MSc Comp. Sci. (Research) — Dec. 2005.
2. *Distributed Time Division Multiple Access (DTDMA) Medium Access Control Protocol for Wireless Sensor Networks*,  
Woon Thean Hung Wilson: MSc Comp. Sci. (Research) — Dec. 2006.
3. *An Investigation on an Efficient Approach of Improving Quality of Service of VoIP over Satellite*,  
Sayid Mohamed Abdule: MSc Comp. Sci. (Research) — June 2007.
4. *ULE Robust Header Compression for IP-Based Communications over Digital Video Broadcast-Satellite (DVB-S)*,

- Teh Chee Hong: MSc Comp. Sci. (Research) — Aug. 2007.
5. *Ad Hoc Wireless Routing With Density Based Probabilistic Algorithm For Mobile Wireless Networks With Non-Uniform Node Distribution*,  
Ong Hean Loong: MSc Comp. Sci. (Research) – Aug. 2010.
  6. *Performance Characterization of Robust Header Compression (RoHC) Over Satellite Based Unidirectional Link (UDL)*,  
Ang Way Chuang: MSc Comp. Sci. (Research) – Mar. 2011.
  7. *SEAMSAR: Seamless and Secure Handover Model for Mobile IPTV Using MIPv6*,  
Amanda Caesario Cornelis [co-supervised with Assoc. Prof. Rahmat Budiarto]: MSc. Comp. Sci. (Research) — July 2011.
  8. *Heuristic Based Planning Approach for Improving Wireless Network Coverage of Multi-Storey Building*,  
Yeong Shoa Yei: MSc. Adv. Comp. Networks (Research) — Aug. 2011.
  9. *Header Compression Schemes Over Hybrid Satellite-WiMAX Networks*,  
Chong Yung Wey: MSc. Adv. Comp. Networks (Research) — Feb. 2012.
  10. *Enhanced GANG Algorithm For Enhanced Mobile Lightweight Medium Access Control Protocol For Multi-Hop Wireless Sensor Network*,  
Amina Ahmed Mohamed: MSc. Comp. Sci. (Research) — June 2014.
  11. *Real-Time Capable Multi-Hop Media Access Control Protocol for Smart Home Environment*,  
Nurulfaizal M. Shukeri: MSc. Comp. Sci. (Research) — Nov. 2017.

#### **Masters of Science (Mixed Mode)**

1. *Robust Header Compression for RTP Header in a RTP Profile over Ethernet*,  
Mihir J. Mehta: MSc Comp. Sci. (Mixed Mode) — June 2009.
2. *Low Delay Medium Access Control Protocol for Wireless Sensor Networks*,  
Quan XiangYu: MSc Comp. Sci. (Mixed Mode) — June 2009.
3. *EML-MAC: A Simplified Time Slot Synchronization Algorithm for Wireless Sensor Networks*,  
Ehsan Tabatabaei Yazdi: MSc Comp. Sci. (Mixed Mode) — January 2010.
4. *Enhancement of WiFi Indoor Positioning System*,  
Ahed Hussein Aboodi: MSc Comp. Sci. (Mixed Mode) — June 2011.
5. *EP1D: Enhanced 1-Persistence Data Dissemination Protocol for Vehicular Ad Hoc Networks in Highway Environments*,  
Fahimeh Rostami: MSc Comp. Sci. (Mixed Mode) — August 2012.
6. *An Experimental Methodology For Evaluation of Multi-Hop Medium Access Control Protocols Of Wireless Sensor Networks*,  
Mohammad Ali Sarvghadi: MSc Comp. Sci. (Mixed Mode) — August 2012.
7. *Enhancing the Quality of Service of Malaysian Emergency Response System by using a Multilayered Approach*,  
Balogun Khalil Olatunji: MSc Comp. Sci. (Mixed Mode) — August 2017.

#### **Masters of Science in IT Technopreneurship**

1. *MeshNet: Application of MeshNet & iLearnDB for Satellite Telecommunication Channels in Remote Areas*,  
Shamsuri Chik: MSc IT Technopreneurship — Nov. 2009.
2. *MeshNet: An Impact of Service Quality Factors on Customer Satisfaction*,  
Hazrieffendy Bakri: Msc IT Technopreneurship — Nov. 2009.

## **Grants**

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#### **International Level**

1. “Distributed and Cloud-based Network Defense System for NRENs (DCNDS),” TEIN\* Cooperation Center Asi@Connect Grant (Funded by European Union) (principal researcher for USM). Jun 2018 — May 2020 (expected).
2. “Supporting European Union and Southeast Asia ICT Strategic Partnership and Policy



Dialogue: Connecting ICT EU-SEA Research Development and Innovation Knowledge Network (CONNECT2SEA),” European Union FP7 Support Action Grant (principal researcher for USM). Dec 2013 — May 2016 (extended to May 2018).

### ***National Level***

1. “Intelligent Network Monitoring System (NetMON),” IRPA Long Term Grant (co-researcher). Sept 1999 — July 2002.
2. “Multicasting IPv6 and Reliable Multimedia Conferencing over Satellite,” IRPA Long Term Grant (co-researcher). Jan 2000 — July 2003.
3. “An Investigation Into Adaptive Digital Signal Processing for Wireless Communication: Modeling and Analysis of Algorithms,” IRPA Long Term Grant (co-researcher). Oct 2000 — Sept 2003.
4. “Development of ICT Infrastructure Platform for Network Monitoring — Wireless Monitoring,” IRPA PR (Top Down) Grant (principal researcher). Apr 2002 — June 2004.
5. “Investigation of Satellite-Based Unidirectional Link for Wide Area Collaboration,” IRPA EA Grant (principal researcher). Sept 2002 — Dec 2004.
6. “Improving Performance of Unidirectional Link (UDL) Mesh Network via Header Compression Scheme,” MOSTI eScience Grant (principal researcher). Dec 2006 — Dec 2008.
7. “Wireless Sensor Network Routing Protocol for Smart Home Environment,” CREST Industry Research Grant, Jul 2013 — Dec 2016.
8. “Research and Collaboration in Internet of Things,” Research Collaboration Agreement with Celcom Networks Sdn. Bhd. & EdotCo Malaysia Sdn. Bhd., Jul 2014 — Jun 2017 (expected).

### ***University Level***

1. “Characterization of ATM Networks for Wireless Environment,” IRPA Short Term Grant (principal researcher). Jan 1998 — Nov 1999.
2. “Investigation of Weather Effects on Performance of Satellite Communications,” IRPA Short Term Grant (co-researcher). Jul 1998 — Jan 2000.
3. “SurvNet (Surveillance System over the Internet),” IRPA Short Term Grant (co-researcher). Dec 1999 — Nov 2000.
4. “Software Development Environment for PESONA 16 Microprocessor,” IRPA Short Term Grant (principal researcher). Sept 2000 — Dec 2002.
5. “Background Study on IPv6 over Ad Hoc Wireless,” IRPA Short Term Grant (principal researcher). Sept 2005 — Sept 2006.
6. “Performance Study on Mobile Ad Hoc Networks Routing Protocols in Heterogeneous Density Environment,” USM Short Term Grant (principal researcher). Sept 2008 — Oct 2010.
7. “QoS Provisioning and Bandwidth Allocation in WiMAX Mesh Multi-hop Relay Networks,” USM Short Term Grant (principal researcher). Sep 2009 – Sep 2011.
8. “Fast and Scalable Network-Controlled Handover Between All-IP 3GPP LTE/SAE and Mobile WiMAX Networks,” USM Research University Individual Project Grant (principal researcher). Aug 2010 – Jul 2014.
9. “Improvement of Cluster Lifetime for Wireless Sensor Networks,” USM Short Term Research Grant (principal researcher). Oct 2012 – Oct 2014.
10. “Modeling of SVC for Variable Bit Rate Video Transmission in Wireless Sensor Network,” USM Research University Individual Project Grant (principal researcher). Jul 2012 – Apr 2016.
11. “Development of Enhanced Real-Time Capable Wireless Sensor MAC Protocol for Streaming Data Applications,” USM Research University Individual Project Grant (principal researcher). Mar 2016 – Aug 2018 (expected).

## **Honors and Societies**

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### **Awards**

- Malaysia Technology Expo 2006 (MTE 2006) Invention/Innovation Competition: *Bronze Medal (Project Leader, Unidirectional Link Mesh Network over DVB-S)*
- 19<sup>th</sup> International Invention, Innovation & Technology Exhibition (ITEX 2008): *Silver Medal (Project Co-Researcher, REDMUG – Video On Demand)*
- Korea Invention Promotion Association 2008 (KIPA 2008): *Silver Medal (Project Co-Researcher, jPortable)*
- Malaysia Technology Expo 2009 (MTE 2009) Invention/Innovation Competition: *Silver Medal (Project Leader, Bandwidth Efficient Satellite Feed and Receiver Gateway)*
- Malaysia Technology Expo 2010 (MTE 2010) Invention/Innovation Competition: *Bronze Medal (Project Co-Researcher, Wi3D Planning Tool)*

### **Professional**

Graduate Member: The Institution of Engineers, Malaysia (IEM)

Member: Institute of Electrical and Electronic Engineers Communications Society (IEEE Comsoc)

Member: Institute of Electrical and Electronic Engineers (IEEE)

Member: Institute of Electronics, Information and Communication Engineers (IEICE)

### **Academic**

Member: Eta Kappa Nu Electrical Engineering Honorary Society

Member: Tau Beta Pi Engineering Honorary Society

Member: Phi Kappa Phi Academic Honorary Society

Award: College of Engineering Award, Univ. of Miami, FL, USA

Award: Electrical and Computer Engineering Departmental Award, Univ. of Miami, FL, USA

Scholarship: Isaac B. Singer Full Tuition Undergrad. Scholarship, Univ. of Miami, FL, USA