

**Poo Kuan Hoong, Ph.D**

Lecturer

Faculty of Information Technology

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## Research Interest

Design, modeling and measurement of large-scale peer-to-peer networks, multimedia systems, and distributed systems.

## Education

- **Nagoya Institute of Technology**, Nagoya, Japan  
*Ph.D. in Computer Science*, April 2008.  
(Japanese Government Monbusho Scholar)  
Thesis: “*Peer-to-Peer Live Media Streaming: Design and Implementation.*”
- **Universiti Kebangsaan Malaysia**, Bangi, Malaysia  
*Master in Information Technology*, July 2001.
- **Universiti Kebangsaan Malaysia**, Bangi, Malaysia  
*Bachelor of Science*, July 1997.

## Research Experience

- **Improvement of the File Transfer Method by using Hybrid ARIMA and ANN Models (2009-2011)**  
This is an Intel Corp. funded research. For further details, please email us.  
Members: K.H. Poo, Ian K T Tan, Nithipidary, K.H. Ng
- **Nagoya Institute of Technology**, Nagoya, Japan  
*Ph.D. Student, 2004 - 2008. Advisor: Professor Hiroshi Matsuo*
  - Investigated the properties of live media streaming model via Peer-to-Peer (P2P) networks.
  - Developed a simulation model based on Network Simulator, Ns-2 tool.
  - Tested and optimized the design of live P2P media streaming simulation model.

## Teaching Experience

- **Multimedia University**, Cyberjaya, Malaysia  
*TDB2111- Database Systems: First Semester 2001, First Semester 2002*  
*TCS2111 - Computer Graphics: Second Semester 2001.*  
*TCS 1011 - Data Structures and Algorithms: First Semester 2008.*  
*TDP 3471 - Distributed and Parallel Computing: Second Semester 2008.*  
*TCN2394 – Computer Networks and Internet Computing, First Semester 2009*  
*TDP 3471 - Distributed and Parallel Computing: Second Semester 2010.*

## Journal Publications

- Samini A/P Subramaniam, Haw Su-Cheng and Poo Kuan Hoong, s-XML: An Efficient Mapping Scheme to Bridge XML and Relational Database, *Knowledge-Based Systems*, 2011, Vol. 27, pp. 369 - 380. ISSN: 0950-7051.
- Mahedi Hassan, Poo Kuan Hoong, One-time key and Diameter Message Authentication Protocol for Proxy Mobile IPv6, *International Journal on New Computer Architectures and Their Applications (IJNCAA)*, vol. 1(3), pp. 624-639, 2011.
- Mahedi Hassan, Poo Kuan Hoong, Integrated Solution Scheme for Handover Latency Diminution In Proxy Mobile IPv6, *International Journal of Wireless and Mobile Networks (IJWMN)*, Vol.3(4), pp. 250 - 269, 2011.
- Ian K. T. Tan, Chai Ian, and Poo Kuan Hoong, "An Adaptive Task-Core Ratio Load Balancing Strategy for Multi-core Processors," *International Journal of Computer and Electrical Engineering (IJCEE)*, Vol. 3, No. 5, pp. 748-753, 2011.
- Poo Kuan Hoong, Hiroshi Matsuo, "Push-pull incentive-based P2P live media streaming system", *WSEAS Transactions on Communications*, 2008, vol. 7, no. 2, pp. 33-42, February 2008.
- Poo Kuan Hoong, Hiroshi Matsuo, "Push-Pull Two-layer Super-Peer based P2P Live Media Streaming", *Journal of Applied Sciences*, 2008. vol.8, no. 4, pp. 585-595, January 2008.
- Poo Kuan Hoong, Hiroshi Matsuo, "A Two-Layer Super-Peer based P2P Live Media Streaming System", *Journal of Convergence Information Technology*, vol.2, no. 3, pp.47-57, September 2007.

## Conference Proceedings

- Jay Lim Wei Yik, Poo Kuan Hoong, Yeoh Eng Thiam, "Heuristic Neighbour Selection Algorithm for Decentralized Load Balancing in Clustered Heterogeneous Computational Environments", *Proceedings of 14th International Conference on Advanced Communication Technology (ICACT12)*, Korea, February 2012, pp. 1215 - 1219. [Core C]
- Ng Kar Hoong, Poo Kuan Hoong, Wong Chee Onn, "Deployment of hybrid methodology in enhancing large file transfer", *Proceedings of 14th International Conference on Advanced Communication Technology (ICACT12)*, Korea, February 2012, pp. 864 - 869. [Core C]
- Chee Yik Keong, Poo Kuan Hoong, Ting Choo Yee, Efficient Hybrid Push-Pull Based P2P Media Streaming System, In *The 5th International Workshop on Peer-to-Peer Networked Virtual Environments (P2PNVE 2011)*, Tainan City, Taiwan, December, 2011.
- Jay Lim Wei Yik, Poo Kuan Hoong, Yeoh Eng Thiam, Ian K.T. Tan, Performance Analysis of Parallel Computing In A Distributed Overlay Network, *IEEE Region Ten Conference (TENCON11)*, Bali, Indonesia, pp. 1386 – 1390, 21-24 November, 2011
- Mahedi Hassan, Poo Kuan Hoong, "Integrated Solution Scheme with One-time key Diameter Message Authentication framework for Proxy Mobile IPv6", In *The 2nd International Conference on Software Engineering and Computer Systems (ICSECS2011)*, Universiti Malaysia Pahang, Malaysia, June 2011, pp. 342 – 352.
- Mahedi Hassan, Poo Kuan Hoong, "Performance Simulation and Analysis of Video Transmission over Proxy Mobile IPv6 in a Micro mobility domain", In *2011*

*International Conference on Telecommunication Technology and Applications, (ICTTA 2011)*, Sydney, Australia, Vol. 5, pp. 229 – 235, May 2011.

- Mahedi Hassan, Poo Kuan Hoong, “Handover Latency Reduction Using Integration Solution Scheme for Proxy Mobile IPv6”, In *The Third International Conference on Wireless & Mobile Networks (WiMo-2011)*, Ankara, Turkey, June 2011, pp. 45 – 56.
- Yik Keong Chee, Jay W. L. Lim, Ian K.T. Tan, Poo Kuan Hoong, Kin Wai Lau, “A Scalable Approach to Real-Time Multiplayer Online In-Game Advertisement via Peer-to-Peer”, In *The Third IEEE International Conference on Communication Software and Networks (ICCSN2011)*, pp. 242 – 246, Xi'an, China, May 2011.
- Ng Kar Hoong, Poo Kuan Hoong, Ian K. T. Tan, Nithiapidary A/P Muthuvelu and Lee Ching Seng, “Impact of Utilizing Forecasted Network Traffic for Data Transfers”, *Proceedings of 13th International Conference on Advanced Communication Technology (ICACT11)*, Korea, February 2011. pp. 1199 - 1204.
- Samini A/P Subramaniam, Haw Su-Cheng and Poo Kuan Hoong. "XML Labeling Schemes for Dynamic Updates: Strengths and Limitations", In the *International Conference on Advanced Science, Engineering and Information Technology 2011 (ICASEIT 2011)*, January 2011, Kuala Lumpur, Malaysia. pp. 236 - 241.
- Samini A/P Subramaniam, Haw Su-Cheng and Poo Kuan Hoong, “s-XML: An Efficient Mapping Scheme for Storing XML Data in a Relational Database”, In *The 3rd International Conference on Advanced Computer Theory and Engineering (ICTACTE 2010)*, Chengdu, Sichuan, China. 2010. Vol 2, pp. 149 - 153.
- Mahedi Hassan and Poo Kuan Hoong, “Simulated Evaluation of the Impact on Inter-domain and Intra-domain Handover Performance”, In *The 2nd International Conference on Computer Engineering and Technology (ICCET 2010)*, Chengdu, Sichuan, China Vol. 7 pp. 374 - 379
- Samini A/P Subramaniam, Haw Su-Cheng and Poo Kuan Hoong, “Mapping and Labeling XML Data For Dynamic Update”, In *2nd International Conference on Electronic Computer Technology (ICECT 2010)*, Kuala Lumpur, Malaysia, 2010. pp. 781 - 786
- Ian K.T. Tan, Poo Kuan Hoong, Chee Yik Keong, “Towards Forecasting Low Network Traffic for Software Patch Downloads: An ARMA model forecast using CRONOS”, In *2nd International Conference on Computer and Network Technology (ICCNT 2010)*, Bangkok, Thailand, 2010. pp. 88 – 92.
- Ian K.T. Tan, Ian Chai and Poo Kuan Hoong, “Pthreads Performance Characteristics on Shared Cache CMP, Private Cache CMP and SMP”, In *2nd International Conference on Computer Engineering and Applications (ICCEA 2010)*, Bali, Indonesia, 2010, pp. 186 - 191
- Ian K.T. Tan, Ian Chai and Poo Kuan Hoong, “Abridgement of LinSched’s Raw Data for Process Scheduling and Migration”, In *2nd International Conference on Engineering & ICT 2010 (ICEI 2010)*, Melaka, Malaysia, 2010, pp. 616 - 620
- Poo Kuan Hoong, Ian K.T. Tan and Ng Kar Hoong, “Computing Autoregressive Moving Average (ARMA) with Cronos: A Case Study of Bursa Malaysia”, In *2nd International Conference on Engineering & ICT 2010 (ICEI 2010)*, Melaka, Malaysia, 2010, pp. 516 - 520
- Goh Chin Shuang, Haslinda Md Isa and Poo Kuan Hoong, “Mobile Learning Application in Foreign Language Learning: Student Survey Feedback”. In *2nd International Conference of e-Learning (iCEL 2009)*, UITM, Malaysia, 2009

- Poo Kuan Hoong, Hiroshi Matsuo, “PALMS : Reliable P2P Live Media Streaming”. In: *The 2007 IAENG International Conference on Communication Systems and Applications*, Hong Kong, IAENG Publication, 2007, pp.1230 - 1237.
- Poo Kuan Hoong, Hiroshi Matsuo, “A Super-Peer based P2P Live Media Streaming System”. In: *International Conference on Internet and Multimedia Technologies 2007*, Berkeley, San Francisco, USA. IAENG Publication, 2007, pp.639 - 647

### Book Chapter

- Poo Kuan Hoong, Hiroshi Matsuo, PALMS: A Reliable and Incentive-Based P2P Live Media Streaming System, *Advances in Communication Systems and Electrical Engineering*, vol. 4, 2008, pp. 51-66

### Honours and Awards

- [Best Paper Award] Poo Kuan Hoong, Hiroshi Matsuo A Super-Peer based P2P Live Media Streaming System. In: *International Conference on Internet and Multimedia Technologies 2007*, Berkeley, San Francisco, USA. Proceedings..., IAENG Publication, 2007, pp.639-647

### Reviewer/Editorial

- Reviewer for The 14th International Conference on Advanced Communication Technology (ICACT2012)
- Reviewer for IEICE Transactions on Communications (2011-)
- International Journal of Network and Mobile Technologies (2010-)
- Reviewer for the Journal of Multimedia Tools and Applications (2008-)
- Reviewer for MMU 10<sup>th</sup> Symposium on Communications and Information Technologies 2007 (M<sup>2</sup>USIC 2007)
- Reviewer for MMU 9<sup>th</sup> Symposium on Communications and Information Technologies 2006 (M<sup>2</sup>USIC 2006)

### Thesis Examiner

- 2009
  - Wong Chee Siang, Master of Science (Information Technology), Weighted Multi-Threaded Process-Fair Operating System Scheduler
  - Lam Jun Wei, Master of Science (Information Technology), Cache-Aware Multi-Core Operating System Scheduler Design

### Guest Speaker/Trainer/Facilitator

- Moderator for The 4th CEO Forum Discussion, The Chinese Chamber of Commerce and Industry of Kuala Lumpur and Selangor (KLSCCC), 16th October 2010.
- “*Intel Multicore Forum/Embedded System Curriculum Development Workshop*”, E & O hotel, on 14th & 15th April 2010.
- “*Seamless AV Communication Utilizing Peer To Peer Technology & Challenges*”, 2nd MSC Malaysia R&D Exchange Forum 2009 - Knowledge sharing in R&D on TelePresence and Video conferencing, Royale Bintang Hotel, Kuala Lumpur, 8<sup>th</sup> December 2009.
- Facilitator to Intel Multicore Programming Curriculum Development Workshop, Faculty of Engineering, Multimedia University, Cyberjaya, 6<sup>th</sup> October – 9<sup>th</sup> October 2009.

### Training/Workshop Attended

- Intel Embedded Workshop 2011, September 12<sup>th</sup> – 15<sup>th</sup> 2011, Eastin Hotel, Penang.
- TRIZ Level 1 Workshop, June 13<sup>th</sup> – 14<sup>th</sup> 2011, Faculty of Information Technology, Multimedia University.
- Intel Embedded Curriculum Summit 2011, February 23<sup>rd</sup> – 25<sup>th</sup> 2011, Chandler, Arizona, USA.
- Microsoft Windows Azure - Cloud Computing for Researchers on 15 - 17 Dec 2010, Monash University Sunway.
- Intel Asia Academic Forum 2010, November 10<sup>th</sup> - 12<sup>th</sup> 2010, Ho Chi Minh City, Vietnam.
- 2nd MSC Malaysia R&D Series 2009, Cloud Computing, Fact or Hype, Faculty of Engineering, Universiti Putra Malaysia, 2<sup>nd</sup> July 2009.
- iPhone MDeC Developer Workshop at Universiti Kuala Lumpur, 9<sup>th</sup> June 2009
- ENUM Seminar 2009 organized by SKMM (18<sup>th</sup> -20<sup>th</sup> May 2009) at Prince Hotel & Residence Kuala Lumpur.
- MSC Malaysia R&D Series 2009, Innovation in the Global Economy, Cyberview Lodge Resort & Spa, Cyberjaya, 8<sup>th</sup> April 2009.
- Japan International Cooperation Agency (JICA)’s Multimedia E-Learning 1 month training at University of Electro-Communications, Chofu, Tokyo (Feb 2002).

## Certification

- Cisco Certified Network Associate (CCNA) 1,2 and 3

## Patents

Lau Kin Wai, Poo Kuan Hoong, Jay Lim Wei Yik, Chee Yik Keong (Inventors), “A method for delivering context and location aware real time in-game advertisement using game state data enabled peer-to-peer (P2P) technology”, Patent Application No. PI 2010006009

## Advisory and Committee

- Technical Committee Member for The IET International Conference on Wireless Communications and Applications ICWCA 2012 (2012)
- Advisor to Multimedia University Film and Photography Society (2010-)
- MMU Coordination Committee (2010-)
- MMU FIT IT Cluster Promotion Committee (2010-)
- Head of [Systems Innovation Group SIGS](#) (2010 -)
- Head of Special Interest Group (SIG) for Multimedia Network Computing (2008-2009)
- Information Technology Research Cluster Committee Member (2008-)
- FIT MMU Workload Committee 2009/2010 (2008-)
- Credit Transfer Committee 2008/2009 (2008-)
- Co-coordinator for IBM-MMU Collaboration 2008/2009 (2008)
- Committee Member for Cognitive and Exploratory in Digital Age (CELDA) International Conference 2005 (2005)
- JICA Network Multimedia Education System (NMES) MMU’s Expert for Content Development, (2002-2004)

## Consultations

- Oriented Media Berhad, Real Time In-Game Context Aware Advertising (RICA), (Feb 2010 – Feb 2011)
- CALMS Technologies Sdn Bhd – Cloud Computing and Distributed Systems (May 2010 – Nov 2010)

- Panasonic R & D Centre Malaysia Sdn. Bhd. – P2P Streaming Applications (September 2009 – March 2010)
- Oriented Games Sdn Bhd – Web 2.0 Presence Consultant (June 2009 – December 2009)

### Working Experience

- **PERNAS Hotel School**  
Lecturer/Marketing (1999-2001)  
Lecturer and Marketing Executive with responsibilities in lectures, general marketing including road shows, exhibition and LAN subject's accreditations.
- **Flamingo Institute of Further Education**  
Lecturer/Marketing (1997-1999)  
Lecturer and Marketing Executive with responsibilities in lectures, general marketing including road shows and exhibitions

### Languages

- Fluent in English, Bahasa Malaysia, Chinese, Japanese

### Professional Membership and Activities

- Member, the Institute of Electronics, Information and Communication Engineers (IEICE)
- Member, the Institute of Electrical and Electronic Engineers (IEEE)
- Member, the Association for Computing Machinery (ACM)