

Hwee Pink Tan

Institute for Infocomm Research (I²R)
Networking Protocols Department
1 Fusionopolis Way, #21-01, Connexis
Singapore 138632
+65 6408-2274

Email: hptan@i2r.a-star.edu.sg

Homepage: <http://www1.i2r.a-star.edu.sg/~hptan>

EDUCATION

Ph.D., Electrical Engineering, Technion, Israel Institute of Technology, September 2004. Thesis: *Quality of Service (QoS) Provisioning in Wireless Networks*. Advisors: Prof. Raphael Rom and Prof. Moshe Sidi.

Master of Science, Electrical Engineering (EE), with major in Wireless Communications, National University of Singapore (NUS), June 2000. Dissertation: *TCP/IP performance of EDGE/EGPRS*. Advisors: Dr. Anthony Lo and Dr. Winston Seah.

Bachelor of Engineering (EE) with First Class Honours, NUS, June 1994. Final year dissertation: *Second Generation Image Coding using Wavelets*. Advisor: Dr. Surrendra Ranganath.

RESEARCH EXPERIENCE

Post-Doctoral Research, I²R, 03/2008 –

Scientist-III / Principal Investigator:

- (i) Underwater Networks for Intelligent Deepwater Mooring Systems (funded by A*STAR, in collaboration with NUS), 03/2008 – 08/2010
- (ii) MANET and Mesh Interconnectivity in Vehicular Ad hoc Networks (funded by French ICT Asia Program, in collaboration with Telecom Sud Paris, NTU (Singapore), Fujian Catholic University (Taiwan), IIT-Bombay (India), Osaka University (Japan)), 01/2009 – 12/2010.
- (iii) Robust Underwater Multihop Network to support Long Range Sensing Applications (funded by NUS), 04/2009 – 04/2011
- (iv) Exploiting Ambient Energy Harvesting and Multi-hop Wireless Technology in Predictive Maintenance for Mass Rapid Transit Systems (funded by Land Transport Innovation Fund, in collaboration with SysEng (S) Pte Ltd and SMRT(S) Pte Ltd), 12/2010 – 12/2011 (Expected)
- (v) Exploiting Ambient Energy Harvesting and Multi-hop Wireless Technology for Open Car Park Monitoring (funded by A*STAR A*CAR program, in collaboration with SysEng(S) Pte Ltd), 11/2010 – 11/2012
- (vi) Cross Layer Protocols for Multi-hop Underwater Networking using advanced features of Evologics hydro-acoustic modems (in collaboration with Evologics GmbH), 09/2010-03/2012.

Group leader (Algorithms and Modeling, Wireless Mesh and Sensor Networks)

Post-Doctoral Research, CTVR, 07/2006 – 03/2008

Research fellow (PLASTIC project, funded by Science Foundation Ireland and National Development Plan) involved in the study of spectrum sharing etiquettes in cognitive radio networks. Dr. Linda E. Doyle (Department of Electronic and Electrical Engineering, TCD), Dr. Joe Bater and Dr. Kenneth N. Brown (Cork Constraint Computation Center, UCC). Collaborative research with Dr. Winston Seah (I2R, Singapore) and Dr. Adriana Gabor (TU/e) on the study of advanced communication protocols for underwater acoustic networks. Led and coordinated the submission of a research proposal in response to FP7 Joint call on ICT and Security Themes for

Last update: 3 August 2011

* Authors are listed in alphabetical order for publications between 2000-2006.

Critical Infrastructure Protection ICT-SEC-2007.1.7, jointly with TUDelft, I2R, SINTEF and CWI. Achieved good score of 12/15.

Post-Doctoral Research, EURANDOM, 12/2004 – 06/2006

Principal investigator in a joint-project with Vodafone. Using time-scale decomposition, we developed approximations to evaluate the performance of an admission control strategy for integrated services in a single UMTS cell. Prof. Onno Boxma (Department of Mathematics and Computer Science, Technical University of Eindhoven (TU/e), EURANDOM, CWI), Dr. Rudesindo Nunez-Queija (CWI, TNO) and Dr. Adriana Gabor (TU/e, EURANDOM).

Post-Doctoral Research, University of Ferrara, 09/2004 – 10/2004

Investigated the problem of scheduling in Ad-Hoc Networks. Extensive survey of existing literature, and devised possible work items in the area of topology-transparent scheduling in Ad-Hoc networks, in collaboration with research group in Telecommunications group. Prof. Michele Zorzi, Professor of Telecommunications, Department of Information Engineering, University of Padua and Dr. Daniele Miorandi, CREATE-NET.

Doctoral Research, Technion, 10/2000 – 09/2004

Developed stochastic models for channel-aware wireless schedulers operating in Markov channel models. Proposed a performance analysis framework to study the trade-offs amongst various QoS metrics such as throughput, delay, fairness and wireless receiver buffer requirement as a function of input flow and channel parameters. Conceived novel idea of exploiting long-term channel effects in addition to the instantaneous channel state in the wireless scheduler design. Future work involves extension of the scheduling scenario and a study of implementation issues. Prof. Raphael Rom and Prof. Moshe Sidi, Department of EE, Technion.

Summer Intern, Institute for Infocom Research, Singapore, 07/2003 to 09/2003

Devised the optimization criteria and developed performance analysis tools to evaluate the periodicity properties of weighted-time division cyclic schedulers. Dr. Q. H. Yin and Dr. Winston Seah, Networking Department.

Masters Research, Center for Wireless Communications, NUS, 07/1996 – 06/2000

Simulated a 2.5G EDGE/EGPRS network using the Network Simulator tool and investigated the TCP performance of such a network for various channel-aware link layer enhancement protocols. Dr. Anthony Lo and Dr. Winston Seah, Strategic Research Group.

Bachelors Research, EE Department, NUS, 07/1993 – 06/1994

Investigated image compression techniques using wavelets. Implemented wavelet-based coders and decoders in C and performed simulations to study tradeoffs between image quality and achievable compression ratio. Dr Surendra Ranganath, Department of EE, NUS.

TEACHING / SUPERVISORY EXPERIENCE

Final-year EE Project Co-Supervisor, CTVR, TCD, 10/2006 – 03/2008

1. Mr Kevin Ward, Efficient Communication in Underwater Sensor Networks, 10/2006-03/2007
2. Mr. Colman O'Sullivan, Spectrum Sharing in Cognitive Radio Networks, 10/2006-03/2007
3. Mr. Eoin M Caffrey, Spectrum Sharing in Cognitive Radio Networks, 10/2007-03/2008

PhD / MSc supervisor

1. Mr. Colman O'Sullivan (Trinity College Dublin), 10/2007-03/2008.
2. Mr. Deepak Sarath (Trinity College Dublin), 04/2007-03/2008.
3. Mr. Eu Zhi Ang (National University of Singapore), 03/2008-04/2011
4. Mr. Jong-Pil Kim (Kyungpook National University), 02/2009-08/2009
5. Mr. Keita Takahashi (Shizuoka University), 07/2009-11/2009
6. Mr. Marc Waldmeyer (EPFL), 09/2009-03/2010
7. Mr. Nicky de Battista (University of Sheffield, jointly with James Brownjohn), 10/2010-10/2012

Last update: 3 August 2011

** Authors are listed in alphabetical order for publications between 2000-2006.*

8. Mr. Fu-Yun Tsuo (National Taiwan University, jointly with Chew Yong Huat), 7/2010-9/2010
9. Mr. Alvin Valera (National University of Singapore, jointly with Soh Wee Seng), 8/2010-
10. Mr. Zhang Pengfei (Nanyang Technological University, jointly with Xiao Gaoxi), 8/2010-
11. Mr. Lim Yuncai (National University of Singapore, jointly with Tham Chen Khong), 9/2010-
12. Mr. Liang Hui Guang (CMU, jointly with Yeow Wai Leong and Hyong Kim), 8/2011-

NUS Vacation Internship Programme Supervisor

1. Mr Koh Wenbin (May-July 2009)
2. Mr Ma Xiaoping (May-July 2009)
3. Mr Pei Mingxing (May-July 2009)
4. Wong Jingjie (May-July 2010)

Polytechnic Student Research Programme (Singapore) Supervisor

1. Mr Clifton Tan (Mar-Aug 2010)
2. Mr Chen Jingwen (Mar-Aug 2010)
3. Mr Xia Zhaobin (Sep 2010 – Jan 2011)
4. Mr Luo Chao (Sep 2010 – Jan 2011)
5. Mr Ngyuen Quang Linh (Sep 2010 – Jan 2011)
6. Mr Toh Kah Chee (Sep 2010 – Jan 2011)
7. Ms Wong Yoke Meng (Sep 2010 – Jan 2011)
8. Mr Wan Shenjie (Sep 2010 – Jan 2011)

Science Mentorship Programme (Ministry of Education, Singapore) co-supervisor

1. Mr Yao Zexi, Motion Detection Using Wireless Networks, 01/2009-05/2009
2. Mr Isaac Ng, Mr Sim Xiang Rong and Mr Cao Yuxin, 01/2010-06/2010

PEER-REVIEWED PUBLICATIONS (Appeared and In-press*)

Book Chapters:

Winston K. G. Seah, **H. P. Tan** and Pius W. Q. Lee. Multipath Virtual Sink Architecture for Underwater Sensor Networks . Chapter 4, Underwater Acoustic Sensor Networks, Edited by Yang Xiao, Auerbach Publications, Taylor and Francis, CRC Press, May 2010.

Journal Articles:

H. P. Tan, R. Diamant, Winston K. G. Seah and M. Waldmeyer, “A Survey of Techniques and Challenges in Underwater Localization”, Accepted for publication in Elsevier Journal of Ocean Engineering, July 2011.

Zhi-Ang Eu, **H. P. Tan** and Winston K. G. Seah, “Design and Performance Analysis of MAC Schemes for Wireless Sensor Networks Powered by Ambient Energy Harvesting”, Elsevier Journal of Ad Hoc Networks, vol 9, No 3, pp 300-323, May 2011.

Zhi-Ang Eu, **H. P. Tan** and Winston K. G. Seah, “Opportunistic Routing in Wireless Sensor Networks Powered by Ambient Energy Harvesting”, Elsevier Journal of Computer Networks, vol 54, No 17, pp 2943-2966, December 2010.

Pius W. Q. Lee, Winston K.G. Seah, **H. P. Tan** and Z. Yao, “Wireless Sensing without Sensors – An Experimental Study of Motion/Intrusion Detection using RF Irregularity”, IoP Journal of Measurement Science and Technology, vol 21, No 12, October 2010.

R. Rom and **H. P. Tan**, “Analysis of Tradeoffs between buffer and QoS requirements in Wireless Networks”, Springer Journal of Wireless Networks, vol 15, No 7, pp 931-943, October 2009.

H. P. Tan, R. Nunez-Queija, A. F. Gabor and O. J. Boxma, “*Admission Control for Differentiated Services in Future Generation CDMA Networks*”, Elsevier Journal of Performance Evaluation, vol 66, No 9-10, pp 488-504, September 2009.

R. Rom, M. Sidi and **H. P. Tan**, “*Performance Analysis of a Recursive Cyclic Scheduler for Class-based Scheduling*”, Elsevier Journal of Performance Evaluation, vol 63, No 9-10, pp 839-863, October 2006.

R. Rom and **H. P. Tan**, “*Stochastic Analysis and Performance Evaluation of Wireless Schedulers*”, Wiley Journal of Wireless Communications and Mobile Computing Special Issue: Performance Evaluation of Wireless Networks, vol 4, No 1, pp 19-41, February 2004.

Conference Proceedings:

Pengfei Zhang, Gaoxi Xiao and **H. P. Tan**, “A Preliminary Study on Lifetime Maximization in Clustered Wireless Sensor Networks with Energy Harvesting Nodes”, Proc. of IEEE ICICS, Singapore, December 2011 [**Invited**]

H. Zhuang, A. C. Valera, Z. A. Eu, Pius W. Q. Lee and **H. P. Tan**, “Opportunistic XOR Network Coding for Multihop Data Delivery in Underwater Acoustic Networks”, Accepted for publication at IEEE Oceans '11, IEEE Santander, June 2011

Fu-Yun Tsuo, **H. P. Tan**, Y. H. Chew and H. Y. Wei, “Energy-Aware Transmission Control for Wireless Sensor Networks Powered by Ambient Energy Harvesting: A Game-Theoretic Approach”, Accepted for publication at IEEE ICC, June 2011 [Acceptance Ratio: 38.5%]

Z. A. Eu, Pius W. Q. Lee and **H. P. Tan**, “Classification of Packet Transmission Outcomes in Wireless Sensor Networks”, Accepted for publication at IEEE ICC, June 2011 [Acceptance Ratio: 38.5%]

Pius W. Q. Lee, Z. A. Eu, M. D. Han, **H. P. Tan**, “Empirical Modeling of a Solar-Powered Energy Harvesting Wireless Sensor Node for Time-Slotted Operation”, Proc. of IEEE WCNC, pp 179-184, March 2011 [Acceptance Ratio = 48.1%]

J. P. Kim, **H. P. Tan** and H. S. Cho, “Impact of MAC on Localization in Large Scale Seabed Sensor Networks”, Proc. of IEEE AINA, pp 391-396, March 2011 [Acceptance Ratio = 33.3%]

Pius W. Q. Lee, M. D. Han, **H. P. Tan** and A. C. Valera, “An Empirical Study of Harvesting-aware Duty Cycling in Sustainable Wireless Sensor Networks”, Proc. of IEEE ICCS, Special Session on Energy Harvesting and Sustainable Communications, November 2010 [Invited Paper].

H. Zhuang, Z. Bai, A. C. Valera and **H. P. Tan**, “A Robust Multihop Underwater Network for Sensing Applications – Implementation and Experimental Evaluation”, Proc. of IEEE ICCS, Special Session on Underwater Communications, November 2010 [Invited Paper].

R. Diamant, **H. P. Tan** and L. Lampe, “NLOS Identification Using a Hybrid ToA-Signal Strength Algorithm for Underwater Acoustic Localization”, Proc. of the OCEANS 2010 MTS/IEEE Seattle, September 2010.

H. P. Tan, A. C. Valera and W. Koh, “Transmission Power Control in 2-D Wireless Sensor Networks Powered by Ambient Energy Harvesting”, Proc. of the IEEE PIMRC 2010, pp 1671-1676, September 2010 [Acceptance Ratio = 45.4%].

A. C. Valera, **H. P. Tan** and Winston K. G. Seah, “Improving Link Failure Detection and Response in IEEE 802.11 Wireless Ad Hoc Networks”, Proc. of the IEEE PIMRC 2010, pp 1814-1819, September 2010 [Acceptance Ratio = 45.4%].

H. P. Tan , A. F. Gabor, Zhi-Ang Eu and Winston K. G. Seah, “A Wide Coverage Positioning System (WPS) for Underwater Localization”, Proc. of the IEEE ICC, May 2010 [Acceptance Ratio = 38.5%]

H. Zhuang, **H. P. Tan**, A. C. Valera and Z. Bai, “Opportunistic ARQ with Bidirectional Overhearing for Reliable Multihop Underwater Networking”, Proc. of the Oceans '10, IEEE Sydney, May 2010.

Zhi-Ang Eu, **H. P. Tan** and Winston K. G. Seah, “Wireless Sensor Networks Powered by Ambient Energy Harvesting: An Empirical Characterization”, Proc. of the IEEE ICC, May 2010 [Acceptance Ratio = 38.5%]

K. Takahashi, M. Bandai, **H. P. Tan**, Winston K. G. Seah and T. Watanabe, “Least Impact Routing Towards Sustainable Sensor Networks Enhanced by Energy Harvesting”, Proc. of the ICMU (Poster), April 2010.

Alvin Valera, **H. P. Tan** and Xiaoping Ma, “Underground Wireless Communications for Monitoring of Drag Anchor Embedment Parameters: A Feasibility Study”, Proc. of the IEEE AINA, pp. 713-720, April 2010 [Acceptance Ratio = 25%]

H. P. Tan , Zhi-Ang Eu and Winston K. G. Seah, “An Enhanced Underwater Positioning System to Support Deepwater Installations”, Proc. of the OCEANS 2009 MTS/IEEE Biloxi, Oct 2009.

Pius W. Q. Lee, Winston K. G. Seah, **H. P. Tan** and Z Yao, , “Wireless Sensing without Sensors – An experimental approach”, Proc. of IEEE PIMRC, pp 62-66, Sept 2009.

Winston K. G. Seah, Z. A. Eu and **H. P. Tan**, “Wireless Sensor Networks Powered by Ambient Energy Harvesting (WSN-HEAP) – Survey and Challenges”, Proc. of Wireless VITAE, May 2009 [**Invited Paper**].

A. C. Valera, Pius W. Q. Lee, **H. P. Tan**, H. G. Liang, Winston K. G. Seah, “Implementation and Evaluation of Multihop ARQ for Reliable Communications in Underwater Acoustic Networks”, Proc. of the Oceans '09 IEEE Bremen, May 2009.

A. C. Valera, Pius W. Q. Lee, **H. P. Tan**, Winston K. G. Seah and Z. A. Eu, “An *In-situ* Measurement Approach for IEEE 802.11 Wireless Multihop Networks”, Proc. of the IEEE I2MTC, pp 522-525, May 2009.

H. P. Tan, Zhi-Ang Eu and Winston K. G. Seah, “Impact of Power Control in Wireless Sensor Networks Powered by Ambient Energy Harvesting (WSN-HEAP) for Railroad Health Monitoring “, Proc. of the IEEE AINA Workshops, pp 804-809, May 2009.

Zhi-Ang Eu, **H. P. Tan** and Winston K. G. Seah, “Routing and Relay Node Placement in Wireless Sensor Networks Powered by Ambient Energy Harvesting “, Proc. of the IEEE WCNC, pp. 2003-2008, April 2009 [Acceptance ratio = 38%].

A. C. Valera, P. Lee, Y. F. Wong, W. Seah, **H. P. Tan** and H. Ju, “An Experimental Study on Connectivity and Topology Control in Real Multi-hop Wireless Networks”, Proc. of the ICST 4th WICON, November 2008 [Acceptance ratio = 36%].

Z. A. Eu, **H. P. Tan** and W. Seah, "A Study of MAC Schemes for Wireless Sensor Networks Powered by Ambient Energy Harvesting", Proc. of the ICST 4th WICON, November 2008 [Acceptance ratio = 36%].

H. P. Tan, C. O'Sullivan and W. Seah, "Interference Management for Medium Access Control in CDMA Underwater Acoustic Sensor Networks", Proc. of the 67th IEEE VTC, pp 2116-2120, May 2008 [Acceptance ratio = 40%].

H. P. Tan, W. Seah and L. Doyle, "Exploring Cognitive Techniques for Bandwidth Management in Integrated Underwater Acoustic Systems", Proc. of the IEEE/MTS Oceans Kobe, April 2008.

H. P. Tan, A. F. Gabor, W. Seah and P. Lee, "Performance Analysis of Data Delivery Schemes for a Multi-sink Wireless Sensor Network", Proc. of the 22nd IEEE AINA, pp 418-425, March 2008 (*Highly Commended Paper Award*) [Acceptance ratio = 147/469, 31%].

J. Bater, **H. P. Tan**, K. Brown and L. Doyle, "Maximising Access to a Spectrum Commons using Interference Temperature Constraints", Proc. of the Crowncom, August 2007.

J. Bater, **H. P. Tan**, K. Brown and L. Doyle, "Modelling Interference Temperature Constraints for Spectrum Access in Cognitive Radio Networks", Proc. of the IEEE ICC, pp 6493-6498, June 2007 [Acceptance ratio = 15/42, 36%].

H. P. Tan, W. Seah and L. Doyle, "A Multi-hop ARQ Protocol for an Underwater Acoustic Channel", Proc. of the IEEE OCEANS Europe, pp 1-6, June 2007.

H. P. Tan, C. O'Sullivan and L. Doyle, "FSMA – A Topology-Transparent Scheme for Opportunistic Spectrum Access", Proc. of the 65th IEEE VTC, pp 2890-2894, April 2007 [Acceptance ratio = 685/1443, 47.4%].

R. Nunez-Queija and **H. P. Tan**, "Location-based Admission Control for Differentiated Services in 3G cellular networks", Proc. of the 9th ACM-IEEE MSWiM, pp 322-329, October 2006 [Acceptance ratio = 39/160, 24%].

M. Mamun, M. Rahman and **H. P. Tan**, "Performance Evaluation of TCP over Routing Protocols for Mobile Ad-Hoc Networks", Proc. of 1st Chinacom, October 2006.

Winston K.G. Seah and **H. P. Tan**, "*Multipath Virtual Sink Architecture for Wireless Sensor Networks in Harsh Environments*", Proc. of the ACM first international conference on Integrated internet ad hoc and sensor networks (Intersense), vol 138, May 2006 [**Invited Paper**]

O. J. Boxma, A. F. Gabor, R. Nunez-Queija and **H. P. Tan**, "*Performance Analysis of Admission Control for Integrated Services with Minimum Rate Guarantees*", Proc. of the 2nd Euro-NGI conference, pp 41-47, April 2006 [Acceptance ratio = 32/125, 25.6%].

D. Miorandi, **H. P. Tan** and M. Zorzi, "*Ad Hoc Networks with Topology-Transparent Scheduling Schemes: Scaling Laws and Capacity / Delay Tradeoffs*", Proc. of the 4th IEEE WiOpt, April 2006 [Acceptance ratio = 42/130, 30 %].

H. P. Tan, "*Performance Analysis of Wireless Scheduling with ARQ over Fast Fading Channels*", LNCS 3552, pp 353-355 (IWQoS), June 2005 [Acceptance ratio = 23+17/120, 30%].

R. Rom and **H. P. Tan**, "*Analysis of Tradeoffs between buffer and QoS requirements in Wireless Networks*", Proc. of the 16th ITC Specialist Seminar on Performance Evaluation of Wireless and Mobile Systems, pp 65-76, August 2004.

Last update: 3 August 2011

** Authors are listed in alphabetical order for publications between 2000-2006.*

R. Rom, M. Sidi and **H. P. Tan**, “*Performance Analysis of a Recursive Cyclic Scheduler for Class-based Scheduling*”, Proc. of the 16th ITC Specialist Seminar on Performance Evaluation of Wireless and Mobile Systems, pp 43-54, August 2004.

R. Rom and **H. P. Tan**, “*Framework for Performance Analysis of Channel-aware Wireless Schedulers*”, Proc. of the IEEE IPCCC, pp 153-157, April 2004 [Acceptance ratio = 28%].

R. Rom and **H. P. Tan**, “*Performance Tradeoffs in Wireless Scheduling with Flow Aggregation*”, Proc. of the IEEE WCNC, vol 3, pp 1633-1638, March 2003 [Acceptance ratio = 377/730, 52%].

H. P. Tan, A. Lo and W. Seah, “*Performance Evaluation of TCP/IP over EDGE*”. Presented at the 10th International Conference on Computing and Information, Kuwait, Nov 2000.

H. P. Tan and U. Ramanathan, “*Intelligent selection of useful features for optimal feature-based classification*”. Proc. of the IEEE IGARSS, pp 3012-3014, July 2000.

H. P. Tan and U. Ramanathan, “*Extraction of Height Information from target shadow for applications in ATC*”. Proc. of the IEEE IGARSS, pp 351-353, July 1999.

TECHNICAL REPORTS

O. J. Boxma, A. F. Gabor, R. Nunez-Queija and **H. P. Tan**, “*Admission Control for Differentiated Services in 3G Cellular Networks*”, *Technical Report*, EURANDOM, April 2007.

R. Rom and **H. P. Tan**, “*Analysis of Trade-offs between Buffer and QoS Requirement in Wireless Networks*”, *Technical Report*, Technion EE publication CCIT #471, Feb 2004.

R. Rom, M. Sidi and **H. P. Tan**, “*Performance Analysis of a Recursive Cyclic Scheduler or Class-based Scheduling*”, *Technical Report*, Technion EE publication CCIT #470, Feb 2004.

R. Rom and **H. P. Tan**, “*Framework for Delay Analysis of Channel-aware Wireless Schedulers*”, *Technical Report*, Technion EE publication CITT #423, May 2003.

R. Rom and **H. P. Tan**, “*Stochastic Analysis of Symmetric Two-Flow Wireless-Fair Scheduling*”, *Technical Report*, Technion EE publication CITT #371, March 2002.

TALKS / SEMINARS / LECTURES

H. P. Tan “A Survey of Recent Techniques and Challenges in Underwater Localization”, Invited Talk at High Speed Intelligent Communication (HSIC) Forum, Nanyang Technological University, Singapore, 13 May 2010.

H. P. Tan “Robust Data Delivery over Energy Harvesting and Underwater Wireless Sensor Networks”, Seminar at 3rd A*STAR NKTH Symposium on Systems Biology and Communication Systems, Pazmany Peter Catholic University, Budapest, Hungary, 30 March 2010.

H. P. Tan “An Interference Temperature Constraints Model for Spectrum Access in Cognitive Radio Networks”, Seminar at Institute for Infocomm Research, Singapore, 4 July 2007.

H. P. Tan “FM Modulation”, Guest lecturer for third year course 3C5 (Telecommunications), TCD, April 2007.

H. P. Tan “Wireless Ad Hoc Networks”, Guest lecturer for final year course 4E1 (Management for Engineers), TCD, 5-6 February 2007.

H. P. Tan “Admission Control for Integrated Services in UMTS”, CWI Queuing Colloquium, 22 June 2006.

PROFESSIONAL EXPERIENCE

Senior Member of Technical Staff, DSO National Laboratories, Singapore, 06/1995 to 06/2000

- Project Leader / Principal Investigator in R&D projects focused on development of new techniques and algorithms in the area of image and signal processing for radar systems
- System administrator responsible for the maintenance of UNIX workstations
- Appointed Resident Project Officer / System Engineer (Overseas attachment for the period May 97 - July 98) in charge of all technical and managerial liaisons between collaborating parties
- Presented technical papers at DSO monthly technical talk (1996) and Radar Seminar (1997)

Industrial Trainee, Institute of Systems Science, Singapore (ISS), 01/1992 – 06/1992

- Developed a simulation program in C++ to emulate an ATM network in order to study its performance. Dr Kent Tseng and Mr K.S. Lim, ISS.

PROFESSIONAL AFFILIATIONS / ACTIVITIES

Institute of Electrical and Electronics Engineers (IEEE).

2000-2004 : Student Member

2004-current : Member

ACM Singapore Chapter:

2009-current : Executive Committee Member (Coordinator, SIGMETRICS)

Asia Pacific Signal and Information Processing Association (APSIPA):

2010-current : Technical Committee Member, Wireless Communications and Networking

Guest Editor, International Journal of Ad Hoc and Ubiquitous Computing: Special Issue on Underwater Sensor Networks: Technology and Theory, 2011/2012

Reviewer for Euro-NGI 2005, 2006, VTC Fall 2006, Spring 2007, Fall 2007, Spring 2008, Fall 2008, Spring 2009, Spring 2010, Spring 2011. PIMRC 2006, PIMRC 2007, PIMRC 2008, Med-Hoc-Nets 2005, ISWCS 2007, Mobility Conference 2007, 2008, 2009, AINA 2008, 2009, WCNC 2008, HiPC 2008, ICCS 2008, 2010, QoSIm 2009, IEEE Globecom 2009, IEEE LCN 2009, IEEE ICICS 2009, ISSNIP 2009, ICDCN 2010, IEEE ISCC 2010, IEEE CWCN.

Reviewer for IEEE Journal of Wireless Communication, IEEE Journal of Communications and IEEE Transactions on Wireless Communications, Wireless Networks Journal, Journal of Telecommunications Systems, 3rd and 4th EuroNGI Workshop on Mobility and Wireless, IEEE Communication Magazine, IEEE JSAC, Annals of telecommunications, Wiley Journal of Wireless Communications and Mobile Computing, IEICE Transactions, EURASIP Journal of Wireless Communications and Networking, Journal of Industrial and Management Optimization, International Journal of Communication Systems, International Journal of Grid and Ubiquitous Computing, Elsevier Journal of Computer Communications, IEEE Wireless Communications Magazine, Elsevier Journal of Ad Hoc Networks, IEEE Transactions on Communications

Conference/Workshop Organization

1. Program Co-Chair, IEEE AINA 2011
2. TPC Member, IEEE AINA 2008, 2009, 2010
3. TPC Member, 4th Euro-NGI Workshop on Wireless and Mobility, January 2008.
4. TPC Member, PIMRC 2008, 15-18 September 2008.

Last update: 3 August 2011

** Authors are listed in alphabetical order for publications between 2000-2006.*

5. TPC Member, Mobility Conference, 2008, 2009, 2010.
6. TPC Member, IEEE ICCS 2008, November 2008.
7. TPC Co-Chair, IEEE International Workshop on Underwater Networks (WUnderNet), in conjunction with IEEE AINA, May 2009.
8. TPC Member, European Wireless 2009, May 2009.
9. TPC Member, IFIP Med-Hoc-Nets, June 2009, 2010, 2011
10. TPC Member, ICUFN, June 2009, 2010.
11. General Co-Chair, 4th International Conference on Queueing Theory and Network Applications (QTNA), July 2009.
12. TPC Chair, 16th Infocomm and Media Horizons (ICM09), 7 October 2009.
13. General Vice-Chair, 18th Infocomm and Media Horizons (ICM11), Aug 2011.
14. TPC Member, ACM WUWNet 2009, 2011.
15. TPC Member, IFIP Wireless Days, 2009, 2010, 2011
16. TPC Co-Chair, WUnderNet 2010, May 2010.
17. TPC Member, IEEE Globecom 2010, December 2010.
18. TPC Member, IEEE APWCS 2010, 2011.
19. Local arrangement chair, IEEE APWCS 2011.
20. TPC Member, Net-Coop, 2010, 2011.
21. TPC Member, IEEE APCC, December 2010.
22. TPC Member, ACM MoMM, December 2011.

HONORS AND AWARDS

Recipient, I²R (A*STAR) Excellent Team Player Award 2010, April 2011
 Recipient, I²R (A*STAR) Good Team Player Award 2009, April 2010
 Recipient, I²R (A*STAR) Best Paper Award 2009, March 2009
 Recipient, Highly Commended Paper Award, *IEEE AINA, March 2008*
 Recipient, International Fellowship, *A-STAR, Singapore, Dec 2004-Feb 2008*
 Recipient, Faculty Scholarship, *Technion, Israel Institute of Technology, Oct 2001-Sep 2004*
 Recipient, Lady Davis Fellowship, *Technion, Israel Institute of Technology, Oct 2000-Sep 2001*
 Placement on Dean's List, *National University of Singapore, 1993/94*
 Recipient, Local Merit Scholarship, *Public Service Commission, Singapore, 1990- 1994*

LANGUAGES

Language (Written / Spoken)	Competency Level
English	Excellent
Mandarin	Excellent
Hebrew	Intermediate
Japanese	Basic
Dutch	Basic

COMPUTING SKILLS

Matlab, C and C++ programming, Microsoft Office, Latex-based Word Processing, Unix OS, Network Simulator *ns-2*

REFERENCES

Winston Seah K.G., Dr. Eng.
 Professor of Network Engineering,
 School of Engineering and Computer Science,
 Victoria University of Wellington
 P.O.Box 600, Wellington 640, New Zealand.

Winston.Seah@ecs.vuw.ac.nz
 (Tel) +64 4 463 5233 (x8493)
 (Fax) +64 4 463 5045

Last update: 3 August 2011

** Authors are listed in alphabetical order for publications between 2000-2006.*

Linda Doyle, Ph.D.
Associate Professor,
Department of Electronic and Electrical Engineering
Director, Centre for Telecommunications Value-chain Research
(CTVR)

Trinity College Dublin,
Dublin 2,
Republic of Ireland

Onno Boxma, Ph.D.
Professor,
Department of Mathematics and Computer Science,
Technical University of Eindhoven, Eindhoven 5600 MB,
The Netherlands

Scientific Director,
EURANDOM,
P. O. Box 513,
Eindhoven 5600 MB, The Netherlands

Raphael Rom, Ph.D.
Professor,
Department of Electrical Engineering,
Technion, Israel Institute of Technology, Technion City 32000, Israel

Moshe Sidi, Ph.D.
Professor (concurrent appointment as Dean)
Department of Electrical Engineering,
Technion, Israel Institute of Technology, Technion City 32000, Israel

Hian-Lim Chan, M. Eng.
Programme Director,
Defense Science Organization National Laboratories,
20 Science Park Drive,
Singapore 118253

ledoyle@tcd.ie
(Tel) +353 1 8962567

boxma@win.tue.nl
(Tel) +31 40 2478101
(Fax) +31 40 2478190

rom@ee.technion.ac.il
(Tel) +972 4 8294657
(Fax) +972 4 8295757

moshe@ee.technion.ac.il
(Tel) +972 4 8294650
(Fax) +972 4 8295757

CHIANLIM@dso.gov.sg
(Tel) +65 68795057
(Fax) +65 6872 6854

Further information regarding my research interests and detailed transcripts are available at my personal webpage:
<http://www1.i2r.a-star.edu.sg/~hptan>.