CURRICULUM VITAE

Contact

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Brief Biography

I received a B.E. (2000) and M.S. (2003) degrees in Electronics and Telecommunications from Hanoi University of Science and Technology, Vietnam, a Ph.D. degree (2009) in Computer Science at Shibaura Institute of Technology, Japan. I was a postdoctoral fellow at Shibaura Institute of Technology, Japan. Currently, I am a lecturer at School of Electronics and Telecommunications, Hanoi University of Science and Technology, Hanoi, Vietnam. My interests include mobile communications, wireless networks, mobile ad-hoc networks, and wireless sensor network. I received the IEEE Section Prize Student Award in 2008, the Osamu Omoto International Students Scholarship for outstanding student, 2009, and the English Session Award for an excellent paper of ICM committee at IEICE General and Society conferences, 2011. I am a member of IEEE and IEICE.

Education

Oct. 2006 – Sep. 2009	Ph.D. in Computer Science Graduate School of Engineering, Shibaura Institute of Technology, Japan
Sep. 2001– Dec. 2003	M.S. in Electronics and Telecommunications Faculty of Electronics and Telecommunications Hanoi University of Science and Technology, Vietnam
Sep. 1995 – Jun. 2000	B.E. in Electronics and Telecommunications Faculty of Electronics and Telecommunications Hanoi University of Science and Technology, Vietnam

Work Experience

Nov. 2011 – Now	Lecturer	School of Electronics and Communications Hanoi University of Science and Technology, Vienam
Oct. 2009 – Sep. 2011	Postdoctoral Fellow	Shibaura Institute of Technology, Japan
Oct. 2006 – Sep. 2009	Ph.D. student	Multimedia Information Network Laboratory, Shibaura Institute of Technology, Japan
Feb. 2003 – Jul. 2006	Software Engineer	Library Information Network, Computer Network Technology Division, Hanoi University of Science and Technology, Vietnam
Nov. 2000 – Jul. 2006	Lecturer	Faculty of Electronics and Telecommunications, Hanoi University of Science and Technology, Vietnam

Research Interests

- Energy-efficient routing protocol for wireless sensor networks
- Routing protocol for WSN in challenge conditions
- Multiple targets tracking in wireless sensor networks
- Sensing coverage problem and energy hole in wireless sensor networks
- Wireless sensor network for underwater/ underground
- Peer-to-peer for handheld devices
- WiFi positioning system for mobile applications
- Network coding for wireless sensor network
- Security for industrial communication systems

Teaching Courses

- Computer Networks
- Advanced Computer Networking
- Mobile Communication
- Mobile Adhoc and Sensor Network
- Wireless Communication
- Broadband Networks

Research Projects

- Real-time energy-efficient target tracking system using wireless sensor networks, No: 102.04-2012.06, National Foundations for Science and Technology Development (NAFOSTED), started from 2013.
- Design and Implement an intelligent mobile tour for Dien Bien province, started from 2013.

List of Publications

Journal Articles

1. P. Nguyen Huu, V. Tran-Quang, and T. Miyoshi, "Video Compression Schemes Using Edge Feature on Wireless Video Sensor Networks," *Journal of Electrical and Computer Engineering*, Hindawi, Vol.2012, Article ID 421307, 20 pages, 2012.

2. V. Tran-Quang, P. Nguyen Huu, and T. Miyoshi, "A Transmission Range Optimization Algorithm to Avoid Energy Holes in Wireless Sensor Networks," *IEICE Transactions on Communications*, Vol. E94-B, No. 11, pp. 3026-3036, November 2011. **Online ISSN: 1745-1345, print ISSN: 0916-8516.**

3. P. Nguyen Huu, V. Tran-Quang, and T. Miyoshi, "Low-Complexity and Energy-Efficient Algorithms on Image Compression for Wireless Sensor Networks," *IEICE Transactions on Communications*, Vol. E93-B, No.12, pp. 3438-3447, December 2010. **Online ISSN: 1745-1345, print ISSN: 0916-8516.**

4. V. Tran-Quang, T. Miyoshi, "A Novel Gossip-based Sensing Coverage Algorithm for Dense Wireless Sensor Networks," *Computer Networks*, Vol. 53, Issue 13, pp. 2275-2287, August 2009. **ISSN:1389-1286**

5. V. Tran-Quang and T. Miyoshi, "Adaptive Routing Protocol with Energy Efficiency and Event Clustering for Wireless Sensor Networks," *IEICE Transactions on Communications*, Vol. E91-B, No. 9, pp. 2795-2805, September 2008. **Online ISSN: 1745-1345, print ISSN: 0916-8516.**

6. V. Tran-Quang, "Optical Burst Switching Architecture for Service Differentiation in the Next Generation Optical Internet," *Post, Telecommunications & Information Technology Journal*, Vol. 1, No. 6, pp. 31-36, ISSN 0866-7039, June 2006. (in Vietnamese).

International Conference Papers

7. V. Tran-Quang, Hung Nguyen-Khanh, and Thu Ngo-Quynh, "Target Tracking System Using Lateration Estimation Method in Wireless Sensor Networks," the Fifth International Conference on Ubiquitous and Future Networks (ICUFN 2013), pp. 264-269, July 2013.

8. V. Tran-Quang, P. Nguyen Huu, and T. Miyoshi, "Extended Kalman Filter for Target Tracking in Wireless Sensor Networks," 2013 AUN/SEED-Net Regional Conference in Electrical and Electronics Engineering (RC-EEE2013), Bangkok, Thailand, pp. 129-132, February 2013.

9. Thu Ngo Quynh, Hieu Tran Trung, and <u>Vinh Tran-Quang</u>, "Improving energy efficiency for ARPEES routing protocol in wireless sensor networks," *International Conference on Advanced Technologies for Communications* (ATC), pp. 73-77, Otc. 2012.

10. P. Nguyen Huu, <u>V. Tran-Quang</u>, and T. Miyoshi, "Distributed Image Encoding Scheme Using LDPC Codes over GF(q) on Wireless Sensor Networks," *4th International Conference on Intelligent Networking and Collaborative Systems* (INCoS2012), Bucharest, Romania, pp.198-205, September 2012.

11. P. Nguyen Huu, <u>V. Tran-Quang</u>, and T. Miyoshi, "Multi-hop Reed-Solomon Encoding Scheme for Image Transmission on Wireless Sensor Networks," *4th International Conference on Communications and Electronics* (ICCE2012), Hue, Vietnam, pp. 74-79, August 2012.

12. P. Nguyen Huu, <u>V. Tran-Quang</u>, and T. Miyoshi, "Low-Complexity Distributed Encoding Scheme for Low-Density Parity-Check Codes in Wireless Sensor Networks," World Telecommunications Congress (WTC2012), Miyazaki, Japan, March 2012.

13. P. Nguyen Huu, <u>V. Tran-Quang</u>, and T. Miyoshi, "Low-Complexity Motion Estimation Algorithm Using Edge Feature for Video Compression on Wireless Video Sensor Networks," *13th Asia-Pacific Network Operations and Management Symposium* (APNOMS2011), Taipei, Taiwan, September 2011. (**The Best Student Grant Award, Awardee: P. Nguyen Huu**).

14. <u>V. Tran-Quang</u>, P. Nguyen Huu, and T. Miyoshi, "A Collaborative Target Tracking Algorithm Considering Energy Constraint in WSNs," *19th International Conference on Software, Telecommunications and Computer Networks* (SoftCOM2011), Hvar, Croatia, September 2011.

15. P. Nguyen Huu, <u>V. Tran-Quang</u>, and T. Miyoshi, "Efficient Motion Estimation Algorithm Using Edge Feature and Arithmetic Coding for Video Compression on WVSNs," *19th International Conference on Software, Telecommunications and Computer Networks* (SoftCOM2011), Hvar, Croatia, September 2011. (**The Best Conference Paper Award**.)

16. P. Nguyen Huu, <u>V. Tran-Quang</u>, and T. Miyoshi, "Energy Threshold Adaptation Algorithms on Image Compression to Prolong WSN Lifetime," *7th International Symposium on Wireless Communication Systems* (ISWCS 2010), York, UK, pp. 834-838, September 2010.

17. <u>V. Tran-Quang</u>, P. Nguyen Huu, and T. Miyoshi, "Adaptive Transmission Range Assignment Algorithm for In-routing Image Compression on Wireless Sensor Networks," *3rd International Conference on Communications and Electronics* (ICCE 2010), Nha Trang, Vietnam, pp. 18-23, August 2010.

18. P. Nguyen Huu, <u>V. Tran-Quang</u>, and T. Miyoshi, "Image Compression Algorithm Considering Energy Balance on Wireless Sensor Networks," *8th IEEE International Conference on Industrial Informatics* (INDIN 2010), Osaka, Japan, pp. 1005-1010, July 2010.

19. <u>V. Tran-Quang</u> and T. Miyoshi, "A Transmission Range Adjustment Algorithm to Avoid Energy Holes in Wireless Sensor Networks," *8th Asia-Pacific Symposium on Information and Telecommunication Technologies* (APSITT 2010), Kuching, Malaysia, Paper No. A-5-4, June 2010.

20. P. Nguyen Huu, <u>V. Tran-Quang</u>, and T. Miyoshi, "Image Compression Algorithm Considering Energy Balance on Wireless Sensor Networks," *4th South East Asian Technical University Consortium* (SEATUC) Symposium, Tokyo, Japan, pp. 233-236, February 2010.

21. <u>V. Tran-Quang</u> and T. Miyoshi, "Energy Balance on Adaptive Routing Protocol Considering the Sensing Coverage Problem for Wireless Sensor Networks," *2nd International Conference on Communications and Electronics* (HUT-ICCE 2008), Hoi An, Vietnam, pp. 86-91, June 2008. (**IEEE Student Best Paper Award**).

22. <u>V. Tran-Quang</u> and T. Miyoshi, "An Algorithm for Sensing Coverage Problem in Wireless Sensor Networks," *2008 IEEE Sarnoff Symposium*, Princeton, New Jersey, USA, Paper No. S3.5, April 2008.

23. <u>V. Tran-Quang</u> and T. Miyoshi, "ARPEES: Adaptive Routing Protocol with Energy-Efficiency and Event-Clustering for Wireless Sensor Networks," *4th International Conference on Ubiquitous Robots and Ambient Intelligence (URAI 2007)*, Pohang, Korea, pp. 95-100, November 2007.

24. <u>V. Tran-Quang</u> and T. Miyoshi, "Adaptive Routing Protocol for Wireless Sensor Networks," *1st South East Asia Technical University Consortium (SEATUC) Symposium*, Bangkok, Thailand, pp. 19-20, February 2007.

Other Publications

25. P. Nguyen Huu, <u>V. Tran-Quang</u>, and T. Miyoshi, "Applying Distributed LDPC Encoding Scheme Using 3-D Model for Wireless Underground Sensor Networks," *2012 Communications Society Conference of IEICE*, English Session, BS-5-18, pp. S-61 - S-62, September 2012.

26. <u>V. Tran-Quang</u>, P. Nguyen Huu, R. Yamamoto, and T. Miyoshi, "A Target Tracking Algorithm Considering Energy Balance in WSNs," *2011 Communications Society Conference of IEICE, English Session*, BS-6-34, pp. S-96 - S-97, September 2011.

27. <u>V. Tran-Quang</u>, P. Nguyen Huu, and T. Miyoshi, "Energy Hole Avoidance for In-routing Image Compression on Wireless Multimedia Sensor Networks," *2011 IEICE General Conference, English Session*, BS-4-34, pp. S-75 - S-76, March 2011.

28. P. Nguyen Huu, <u>V. Tran-Quang</u>, and T. Miyoshi, "Motion Estimation Algorithm for Video Compression Using Edge Feature and Lapped Transform on Wireless Video Sensor Networks," *2011 IEICE General Conference,* English Session, BS-4-13, March 2011.

29. <u>V. Tran-Quang</u>, P. Nguyen Huu, and T. Miyoshi, "Dynamic Transmission Range Adjustment Algorithm to Avoid Energy Holes in Wireless Sensor Networks," *2010 Communications Society Conference of IEICE, English Session*, BS-7-1, pp. S-45 - S-46, September 2010. (**The English Session Award of Information and Communication Management Committee, IEICE**.)

30. P. Nguyen Huu, <u>V. Tran-Quang</u>, and T. Miyoshi, "Low-Complexity Motion Estimation Algorithm for Video Compression on Wireless Sensor Networks," *2010 Communications Society Conference of IEICE, English Session*, BS-7-9, pp. S-61 - S-62, September 2010.

31. <u>V. Tran-Quang</u> and T. Miyoshi, "Energy Efficient Adaptive Routing Protocol for Wireless Sensor Networks," *The Research Reports of Shibaura Institute of Technology, Natural Sciences and Engineering*, Vol. 54, No. 1, pp. 39-48, 2010.

32. P. Nguyen Huu, <u>V. Tran-Quang</u>, and T. Miyoshi, "Image Compression Algorithm Considering Energy Balance on Wireless Sensor Networks," *2010 IEICE General Conference, English Session*, BS-3-25, pp. S-72 - S-73, March 2010.

33. <u>V. Tran Quang</u> and T. Miyoshi, "Prediction-based Mobile Object Tracking Technique with Load Balance for Wireless Sensor Networks," *2009 IEICE Society Communication Conference, English Session*, BS-10-26, pp. S-115-S-115, September 2009.

34. <u>V. Tran-Quang</u> and T. Miyoshi, "An Algorithm for Reducing Redundant Nodes in Dense Wireless Sensor Networks," *2009 IEICE General Conference, English Session*, BS-4-32, pp. S-63-S-64, March 2009.

35. <u>V. Tran-Quang</u> and T. Miyoshi, "Energy Balance on Multi-hop Relay Routing Protocol for Large Scale Wireless Sensor Networks," *IEICE Technical Report*, Vol. 108, No. 134, NS2008-40, pp. 83-88, July 2008.

36. <u>V. Tran-Quang</u> and T. Miyoshi, "Energy Balance on Adaptive Routing Protocol for Wireless Sensor Networks," *2008 General Conference of IEICE*, BS-3-14, Japan, March 2008.

37. <u>V. Tran-Quang</u> and T. Miyoshi, "ARPEES: Adaptive Routing Protocol for Large Scale Wireless Sensor Networks," *2007 Communications Society Conference of IEICE* , BS-12-3 , pp.S-154-S-155 , Japan, September 2007.

Awards

2011	English Session Award for an excellent paper of ICM committee at IEICE General and Society conferences
2009	Osamu Omoto International Students Scholarship for outstanding student
2008	IEEE Section Prize Student Paper Award
2006 – 2009	Ph.D. scholarship, Shibaura Institute of Technology
1995 – 2000	Scholarship of Ministry of Education and Training of Vietnam for undergraduate students MOTOROLA Scholarship for outstanding undergraduate students HUT Scholarship for outstanding undergraduate students

Other Professional Activities

Reviewer of several journal (IEICE Transactions on Communications, Journal of Communications and Networks JCN, Elsevier Computer Networks) and conferences (IEEE Sarnoff Symposium, IEEE Globecom 2011, ICCE 2010, ICCE 2012, SoftCOM2011)

Professional Skills

- Languages: English, fluently in reading and writing technical materials, moderate in speaking
- Operating Systems: Windows, Linux
- Programming Languages: C++, Visual Basic
- Database Systems: Apache, MySQL, SQL Server
- Web Design Tools: Microsoft FrontPage, PHP
- Simulation Tools: **OMNet++**, MATLAB, OPNET
- Graphic Design Tools: AutoCAD, Photoshop
- Project Management Tool: Microsoft Project

Referees

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