

Curriculum Vitae Hung Q. Ngo

201 Bell Hall
University at Buffalo
Amherst, NY 14260

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1 Education

Ph.D., University of Minnesota, Twin Cities, 2001
Thesis: *Issues in Interconnection Networks*

Computer Science & Engineering
Advisor: Ding-Zhu Du

M.S., University of Minnesota, Twin Cities, 2001
Thesis: \mathbb{P} -Species and the q -Mehler Formula

Mathematics
Advisor: Dennis Stanton

B.S., Ho Chi Minh city Univ. of Tech., Vietnam, 1995
Senior Project: *A Tourism Company Management Software*

Computer Engineering

2 Employment History

Aug 2007 – Present

Department of Computer Science and Engineering, University at Buffalo
Associate Professor

Aug 2001 – Aug 2007

Department of Computer Science and Engineering, University at Buffalo
Assistant Professor

Sep 1996 – July 2001

Department of Computer Science and Engineering, University of Minnesota
Teaching Assistant and Research Assistant

Jun 1998 – Sep 1998

Microsoft Corporation, Semantic Platforms Group
Software Design Engineer Intern

Jun 1997 – Jun 1998

Department of Astro-Physics, University of Minnesota
Research Assistant

3 Awards and Honors

- Best paper award (COCOON 2008).
- Exceptional Scholar (Young Investigator) Award, University at Buffalo, 2005.
- NSF CAREER Award, 2004–2009.
- Fall 2002, Spring 2003, Fall 2003: Outstanding Teacher Awards, presented by the Graduate Student Association of the Department of Computer Science & Engineering, State University of New York at Buffalo.
- Guidant Fellowship for outstanding achievement, one fellowship was awarded by the Department of Computer Science and Engineering, University of Minnesota, 2000-2001.
- Japanese Government Scholarship, awarded for outstanding achievement to 16 undergraduates in Vietnam to study in Japan, 1992.
- Vietnamese Government Scholarship, awarded for top scoring in the University Entrance Examination to about 250 students nation wide to study in an Eastern European country of one's choice, 1990.
- First prize in the Ho Chi Minh city Mathematical Olympiad, 1990.

- Various prizes in the Vietnamese Mathematical Olympiads, 1989 and 1990.
- Second prize in the Ho Chi Minh city Physics Olympiad, 1988. (No first prize awarded.)

4 Professional Memberships and Activities

- Member of SIAM, ACM, IEEE
- Refereed for various Professional Journals and Conferences, including: IEEE Transactions on Computers, SIAM Journal on Discrete Mathematics, IEEE Transactions on Parallel and Distributed Systems, IEEE/ACM Transactions on Networking, Journal of Complexity, Theoretical Computer Science, IEEE Journal on Selected Areas in Communications, Information Processing Letters, The Computer Journal, IEEE Transactions on Parallel and Distributed Systems, Journal of Combinatorial Optimization, ICC, GlobeCom, COCOON, INFOCOM, SODA, WASA, MASS, HPSR, COMSWARE, ICMAN, IANA, etc.
- Reviewer for Mathematical Reviews (MathSciNet)
- Technical Program Committees (TPC):
 - The 29th IEEE Conference on Computer Communications (INFOCOM 2010).
 - The 28th IEEE Conference on Computer Communications (INFOCOM 2009).
 - The 20th International Symposium on Algorithm and Computation (ISAAC 2009)
 - The IEEE 23rd International Conference on Advanced Information Networking and Applications (AINA 2009)
 - The 2009 IEEE International Conference on Communications (ICC'2009), Advances in Networks and Internet Symposium.
 - The 2008 IEEE International Conference on Communications (ICC'2008), Advances in Networks and Internet Symposium.
 - The 27th IEEE Conference on Computer Communications (INFOCOM 2008).
 - The IEEE 22nd International Conference on Advanced Information Networking and Applications (AINA 2008)
 - The 2007 International Workshop on Self-Assembling Wireless Networks (SAWN 2007)
 - The International Workshop on Intermittently Connected Mobile Ad hoc Networks (ICMAN 2007), in conjunction with IEEE PerCom 2007
 - The IEEE 21st International Conference on Advanced Information Networking and Applications (AINA 2007)
 - The Second International Conference on Communication Systems Software and Middleware (IEEE COM-SWARE 2007)
 - The International Conference on Algorithms, Systems, and Applications of Wireless Networks (WASA 2006)
 - The 2006 Workshop on High Performance Switching and Routing (HPSR 2006).
 - The Second IEEE International Conference on Mobile Ad Hoc and Sensor Systems (MASS 2005).
 - The 9th International Conference on Combinatorics and Computing, (COCOON 2003).
- Session chairs:
 - The 28rd IEEE Conference on Computer Communications (INFOCOM 2009).
 - The 23rd IEEE Conference on Computer Communications (INFOCOM 2004).
 - The 2004 Workshop on High Performance Switching and Routing (HPSR 2004).
- Local arrangement chair:
 - The 2003 IEEE International Symposium on a World of Wireless, Mobile and Multimedia Networks (WoW-MoM 2006).
- Conference chair:
 - The 15th International Conference on Combinatorics and Computing, (COCOON 2009).
- NSF panelists:
 - ITR theoretical computer science, small grants
 - TOC panel
 - CCF-FMF panel

5 Department Service

2008–2009	Library Committee (Chair) Teaching Quality Committee Alternate Member of SEAS Tenure Committee Graduate Affairs Committee
2007–2008	Graduate Affairs Committee Chair of the Library Committee Alternate Member of SEAS Tenure Committee
2006–2007	Undergraduate Affairs Committee
2005–2006	Graduate Affairs Committee Faculty Search Committee
2004–2005	Chair of the Colloquium Committee Faculty Search Committee Undergraduate Curriculum Committee
2003–2004	Graduate Affairs Committee Internships Committee
2002–2003	Faculty Search Committee Library Committee
2001–2002	Graduate Affairs Committee CSE Facilities Committee

6 Courses Taught

Year	Semester	Course	Size	Course Name
2001	Fall	CSE 489/589	85	Modern Network Concepts
		CSE 700	3	Independent Study
		CSE 799	2	Supervised Research
2002	Spring	CSE 736	10	Interconnection Networks: Complexity and Algorithms
		CSE 700	3	Independent Study
		CSE 799	1	Supervised Research
2002	Fall	CSE 431/531	72	Algorithm Analysis and Design
		CSE 700	2	Independent Study
		CSE 799	1	Supervised Research
		CSE 800	2	Thesis Guidance
2003	Spring	CSE 594	7	Combinatorial and Graph Algorithms
		CSE 700	6	Independent Study
		CSE 736	12	Markov Chains: Fundamentals and Applications
		CSE 799	1	Supervised Research
		CSE 800	2	Thesis Guidance
2003	Fall	CSE 489/589	90	Modern Network Concepts
		CSE 700	3	Independent Study
		CSE 713	12	Random Graphs and Applications
		CSE 799	1	Supervised Research
		CSE 800	2	Thesis Guidance
2004	Spring	CSE 594	7	Combinatorial and Graph Algorithms
		CSE 700	4	Independent Study
		CSE 799	1	Supervised Research
		CSE 800	2	Thesis Guidance
2004	Fall	CSE 431/531	80	Algorithm Analysis and Design
		CSE 713	6	Probabilistically Checkable Proofs
		CSE 799	3	Supervised Research
		CSE 800	4	Thesis Guidance

2005	Spring	CSE 594	8	Combinatorial and Graph Algorithms
		CSE 799	2	Supervised Research
		CSE 800	4	Thesis Guidance
2005	Fall	CSE 620	25	Advanced Networking Concepts
		CSE 700	2	Independence Study
		CSE 800	3	Thesis Guidance
2006	Spring	CSE 489/589	57	Modern Networking Concepts
		CSE 700	4	Independence Study
		CSE 799	3	Supervised Research
		CSE 800	1	Thesis Guidance
2006	Fall	CSE 594	8	Combinatorial and Graph Algorithms
		CSE 700	3	Independence Study
		CSE 799	2	Supervised Research
		CSE 800	2	Thesis Guidance
2007	Spring	CSE 431/531	76	Design and Analysis of Algorithms
		CSE 725	10	Network Coding
		CSE 799	1	Supervised Research
		CSE 800	2	Thesis Guidance
2007	Fall	CSE 531	49	Design and Analysis of Algorithms
		CSE 700	1	Independence Study
		CSE 799	1	Supervised Research
		CSE 800	2	Thesis Guidance
2008	Spring	CSE 694	9	Probabilistic Analysis and Randomized Algorithms
		CSE 799	1	Supervised Research
		CSE 800	1	Thesis Guidance
2008	Fall	CSE 694	5	Probabilistic Analysis and Randomized Algorithms
		CSE 800	3	Thesis Guidance
2009	Spring	CSE 489/589	75	Modern Networking Concepts
		CSE 725	5	Expanders, Property Testing, and the PCP Theorem - II
		CSE 800	3	Thesis Guidance

Other Teaching Activities:

- Introduced and Designed CSE 725 (with Atri Rudra): Expanders, Property Testing, and the PCP Theorem
- Introduced and Designed CSE 725 (with Atri Rudra): Data Streams
- Introduced and Designed CSE 694: Probabilistic Analysis and Randomized Algorithms
- Introduced and Designed CSE 725: Network Coding and Applications
- Revised CSE 594: Combinatorial and Graph Algorithms
- Revised CSE 489/589: Modern Network Concepts
- Introduced and Designed CSE 736: Interconnection Networks - Complexity and Algorithms
- Revised CSE 431/531: Algorithm Analysis and Design
- Revised CSE 594: Combinatorial and Graph Algorithms
- Introduced and Designed CSE 736: Markov Chains - Fundamentals and Applications
- Introduced and Designed CSE 713: Random Graphs and Applications
- Introduced and Designed CSE 713: Probabilistically Checkable Proofs and Inapproximability Results
- Introduced and Designed CSE 713: Expanders - Theory and Applications
- Introduced and Designed CSE 725: Data Streams and Applications

7 Research Supervision

Ph.D. students under supervision:

- Duc Ha (expected May 2009)
- Anh Le (expected May 2009)

- Yang Wang (expected May 2010)
- Thanh-Nhan Nguyen (expected May 2010)

Ph.D. students graduated:

- Dazhen Pan, Summer 2006. *Thesis title*: “Complexity and Constructions of WDM Switching Networks.” Currently with Microsoft.

M.S. students under supervision:

- Abhishek Murthy (expected May 2009)

M.S. students graduated:

- Himanshu Mehra, Spring 2003. Currently with Millennial Net as a programmer, protocol/algorithm designer.
- Vikas P. Verma, Spring 2003. *Thesis title*: “Distributed Algorithms for Computing Connected Dominating Sets.” Currently with FCS Business Solutions as an integration developer.
- Purnima M. Mavinkurve, Spring 2003. *Thesis title*: “Centralized and Distributed Algorithms for Power-Conserving Multicasting in Static Wireless Ad Hoc Networks.” Currently with Amazon.com as a Software Development Engineer.
- Tuong Nguyen, Spring 2005. Currently with a telecom company in Viet Nam.
- Harleen Dhillon, Spring 2005. *Thesis title*: “On reducing control overhead in on-demand multicast routing protocol.” Currently with Bear Measurerisk, NYC.

Ph.D. thesis committee:

- Xiaojun Cao (Advisor: Chunming Qiao, defended May 2004)
- Huaming Zhang (Advisor: Xin He, defended May 2005)
- Ramkumar Chinchani (Advisor: Shambhu Upadhyaya, defended May 2005)
- Sumesh Philip (Advisor: Chunming Qiao, defended May 2005)
- Xiang Yu (Advisor: Chunming Qiao, defended Jul 2005)
- Guang Xu (Advisor: Jinhui Xu, defended Apr 2006)
- Zhenming Chen (Advisor: Jinhui Xu, defended Jan 2007)
- Peng Lin (Advisor: Chunming Qiao, defended Apr 2007)
- Ranjani Sridharan (Advisor: Ramalingam Sridhar)
- S. Vidyaraman (Advisor: Shambhu Upadhyaya, defended Apr 2008)
- Yulai Xie (Advisor: Jinhui Xu, defended Apr 2008)
- Mingen Lin (Advisor: Jinhui Xu, defended Aug 2008)
- Xi Zhang (Advisor: Jan Chomicki)
- Seokhoon Yoon (Advisor: Chunming Qiao)

M.S. thesis committee:

- Aarthie Muthukrishnan (Advisor: Shambhu Upadhyaya, defended in May 2004)
- Aruna Balasubramanian (Advisor: Ramalingam Sridhar, defended in May 2005)
- Madhusudhanan Chandrasekaran (Advisor: Shambhu Upadhyaya, defended in May 2005)
- Ranjani Sridharan (Advisor: Ramalingam Sridhar)

8 Grant Support

- National Science Foundation (NSF), Proposal # 0347565, “CAREER: Designs and Analyses of WDM Switching Architectures,” \$ 409,999, 2004–2009, PI.
- The Defense Advanced Research Projects Agency (DARPA), “Mitigating the Insider Threat using High-dimensional Search and Modeling,” \$ 1,292,295, co-PI. UB’s PI is Shambhu Upadhyaya, total UB’s share is \$ 255,862, of which my share is 50% (\$ 127,931). Subcontract from Telcordia Technologies, with Eric Van Den Berg as PI; the other subcontractor is R. Maxion, CMU), 2004–2006.

9 Invited Talks

1. “Combinatorial Group Testing Algorithms with Applications to DNA Library Screening,” DIMACS Workshop on Discrete mathematical problems with medical applications. December 2000. New Brunswick, New Jersey, U.S.A.
2. “On an error tolerance pooling design and a finite-field hyperplane arrangement problem,” DIMACS Workshop on Combinatorial Group Testing, May 17 - 19, 2006. DIMACS Center, CoRE Building, Rutgers University.
3. “Sociological Orbits - A Framework for Experimental and Analytic Research on Mobility Users’ Profiling and Its Applications,” IEEE Joint Chapter for Communications and Aerospace technical meeting, July 11, 2006. Rochester, NY.

10 Publications

Books

- [B1] Ding-Zhu Du and **Hung Q. Ngo** (editors), “Switching Networks: Recent Advances,” Network Theory and Applications Series, Vol. 5, Kluwer Academic Publishers (June 2001), 368pp., ISBN 0-7923-6953-X

Refereed Journal Articles

- [J1] Ding-Zhu Du, Frank. K Hwang, J. Jung, and **Hung Q. Ngo**, “Optimal Consecutive k -out-of- n : G cycle for $n = 2k + 1$,” in *Journal of Global Optimization*, vol. 19 (2001), no. 1, pp. 51-60.
- [J2] **Hung Q. Ngo** and Ding-Zhu Du, “New Constructions of Non-Adaptive and Error-Tolerance Pooling Designs,” in *Discrete Mathematics*, vol. 243 (2002), no. 1-3, pp. 161–170.
- [J3] Ding-Zhu Du and **Hung Q. Ngo**, “An Extension of DHH-Erdős Conjecture on Cycle-Plus-Triangle Graphs,” in *Taiwanese Journal of Mathematics*, vol. 6 (2002), no. 2, pp. 261-267.
- [J4] Ding-Zhu Du, Frank K. Hwang, X. Jia, and **Hung Q. Ngo**, “Optimal Consecutive k -out-of- n : G cycle for $n \leq 2k + 1$,” in *SIAM Journal on Discrete Mathematics*, vol. 15 (2002), no. 3, pp. 305-316.
- [J5] **Hung Q. Ngo**, Ding-Zhu Du, and R. L. Graham, “New Bounds on a Hypercube Coloring Problem,” *Information Processing Letters*, vol. 84 (2002), no. 5, pp. 265–269.
- [J6] Ding-Zhu Du, D.F. Hsu, **Hung Q. Ngo**, and G.W. Peck, “On Connectivity of Consecutive- d Digraphs,” in *Discrete Mathematics*, vol. 257 (2002), no. 2–3, pp. 371–384.
- [J7] S. Varadarajan, **Hung Q. Ngo**, and J. Srivastava, “Error Spreading: A Perception-Driven Approach Orthogonal to Error Handling in Continuous Media Streaming,” in *IEEE/ACM Transactions on Networking*, vol. 10 (2002), no. 1, pp. 139-152.
- [J8] **Hung Q. Ngo**, “P-Species and the q -Mehler Formula,” *Séminaire Lotharingien de Combinatoire*, vol. 48 (2002), Article B48b, 21pp.
- [J9] **Hung Q. Ngo**, “A New Routing Algorithm for Multi-rate Rearrangeable Clos Networks” *Theoretical Computer Science*, vol. 290 (2003), no. 3, pp. 2157–2167.
- [J10] Xiaoyan Cheng, Xiufeng Du, Manki Min, **Hung Q. Ngo**, Lu Ruan and Jianhua Sun, “Super-connectivity of Iterated Line Digraphs,” *Theoretical Computer Science*, vol. 304 (2003), no. 1-3, pp. 461–469.
- [J11] **Hung Q. Ngo** and Van H. Vu, “Multi-rate Rearrangeable Clos Networks and a Generalized Bipartite Graph Coloring Problem,” *SIAM Journal on Computing*, vol. 32 (2003), no. 4, pp. 1040–1049.
- [J12] L. Ruan, S. Han, D. Li, **Hung Q. Ngo**, and S. Huang, “Transmission Fault-Tolerance of Iterated Line Digraphs,” *Journal of Interconnection Networks*, vol 5 (2004), no 4, pp 475 – 487.

- [J13] Ramkumar Chinchani, Duc Ha, Anusha Iyer, **Hung Q. Ngo**, and Shambhu Upadhyaya, “On the Hardness of Approximating the MIN-HACK Problem,” *Journal of Combinatorial Optimization*, vol. 9 (2005), no. 3, pp 295 – 311.
- [J14] **Hung Q. Ngo**, “WDM Switching Networks: Rearrangeable and Nonblocking $[w, f]$ -connectors,” *SIAM Journal on Computing*, vol. 35 (2005-2006), no. 3, pp. 766–785.
- [J15] **Hung Q. Ngo**, Dazhen Pan, and Chunming Qiao, “Nonblocking WDM Switching Fabrics Based on Arrayed Waveguide Grating and Limited Wavelength Conversion,” *ACM/IEEE Transactions on Networking*, vol. 14 (2006), no. 1, pp. 205–217.
- [J16] **Hung Q. Ngo**, Dazhen Pan, and Yuanyuan Yang, “Optical Switching Networks with Minimum Number of Limited Range Wavelength Converters,” *ACM/IEEE Transactions on Networking*, vol. 15 (2007), no. 4, pp. 969–979.
- [J17] **Hung Q. Ngo**, “On a Hyperplane Arrangement Problem and Tighter Analysis of an Error-Tolerant Pooling Design,” *Journal of Combinatorial Optimization*, vol. 15 (2008), no. 1, pp. 61–76.
- [J18] **Hung Q. Ngo**, Yang Wang, and Dazhen Pan, “Rearrangeable and Nonblocking $[w, f]$ -Distributors,” *ACM/IEEE Transactions on Networking*, accepted for publication, 2009.
- [J19] Yang Wang, **Hung Q. Ngo**, and Thanh-Nhan Nguyen, “Constructions of Given-Depth and Optimal Multirate Rearrangeably Nonblocking Distributors,” *IEEE Transactions on Communications*, 2009.
- [J20] **Hung Q. Ngo**, Yang Wang, and Anh Le, “A Linear Programming Duality Approach to Analyzing Strictly Nonblocking d -ary Multilog Networks under General Crosstalk Constraints,” *Journal of Combinatorial Optimization*, 2009.
- [J21] **Hung Q. Ngo**, Thanh-Nhan Nguyen, and Duc T. Ha, “Analyzing Nonblocking Multilog Networks With the König-Egevarý Theorem,” *Discrete Mathematics, Algorithms, and Applications*, to appear.
- [J22] Duc T. Ha and **Hung Q. Ngo**, “On the trade-off between speed and resiliency of Flash worms and similar malcodes,” *Journal of Computer Virology*, 2009. Accepted for publication.
- [J23] Seokhoon Yoon, Duc T. Ha, **Hung Q. Ngo**, and Chunming Qiao, “MOPADS: A Mobility Prole Aided File Downloading Service in Vehicular Networks,” submitted
- [J24] Yang Wang, **Hung Q. Ngo**, and Xiaohong Jiang, “Strictly Nonblocking f -cast d -ary Multi-log Networks under Fanout and Crosstalk Constraints,” submitted
- [J25] Joy Ghosh, Seokhoon Yoon, **Hung Q. Ngo**, and Chunming Qiao, “On Profiling Mobility and Predicting Locations of Sporadic Wireless Network Users,” submitted
- [J26] **Hung Q. Ngo**, Thanh-Nhan Nguyen, and Dahai Xu, “Hardness and Approximation of the Survivable Multi-Level Fat Tree Problem,” submitted
- [J27] Thanh-Nhan Nguyen, **Hung Q. Ngo**, and Yang Wang, “Strictly Nonblocking f -cast Photonic Switching Networks under General Crosstalk Constraints,” submitted

Refereed Conference Papers

- [C1] Wonjun Lee, Difu Su, **Hung Q. Ngo**, and J. Srivastava, “A QoS-Driven Networked Continuous Media Server,” in *Proceedings of SPIE International Symposium on Lasers, Optoelectronics, and Microphonics: Electronic Imaging and Multimedia Systems II*, Vol. 3561, pp. 274-285, Sep 1998.
- [C2] C.S. Cornuelle, J.E. Cabanela, **Hung Q. Ngo**, J. Srivastava, R. Rees, J.R. Kriessler, Humphreys, “The APS Catalogs of the POSS I - New Data and New Tools,” *Bulletin of the American Astronomical Society*, 1997, 191, #16.07.
- [C3] J.R. Kriessler, R.M. Humphreys, J.E. Cabanela, R.F. Rees, **Hung Q. Ngo**, and J. Srivastava, “The New APS Catalog of the POSS I,” in the *Bulletin of the American Astronomical Society*, 1998, 192, #55.09.

- [C4] **Hung Q. Ngo**, S. Varadarajan, and J. Srivastava, "Error Spreading: Reducing Bursty Errors in Continuous Media Streaming," in Proceedings of *IEEE Multimedia Systems '99 (ICMCS'99)*, Vol. 1, pp. 314-319, IEEE, Jun 1999. [acceptance rate 25%].
- [C5] S. Varadarajan, **Hung Q. Ngo**, and J. Srivastava, "Error Spreading: A Perception-Driven Approach to Error Handling in Continuous Media Streaming," in Proceedings of the *20th International Conference on Distributed Computing Systems (ICDCS'00)*, pp. 475-483, IEEE, Apr 2000. [acceptance rate 39%].
- [C6] **Hung Q. Ngo** and Ding-Zhu Du, "On the Rearrangeability of Shuffle-Exchange Networks," in Proceedings of the *4th International Conference on Algorithms and Architectures for Parallel Processing (ICA3PP'2000)*.
- [C7] **Hung Q. Ngo**, Ding-Zhu Du, and R. L. Graham, "New Bounds on a Hypercube Coloring Problem and Linear Codes," in Proceedings of the *IEEE International Conference on Information Technology: Coding and Computing (ITCC)*, pp. 542-546, IEEE, Apr 2001.
- [C8] **Hung Q. Ngo**, and Van H. Vu, "On Multirate Rearrangeable Clos Networks and a Generalized Edge Coloring Problem on Bipartite Graphs," in Proceedings of the *Fourteenth Annual ACM-SIAM Symposium on Discrete Algorithms (SODA)*, pp. 834-840, Baltimore, Maryland, Jan 12-14, 2003. [acceptance rate 27%].
- [C9] Purnima Marvinkuve, **Hung Q. Ngo**, and Himanshu Mehra, MIP3S: Algorithms for Power-conserving Multicasting in Wireless Ad Hoc Networks, Proceedings of the 11th IEEE International Conference on Networks (ICON), Sep 28 - Oct 1, 2003, Sydney, Australia. [acceptance rate about 35%]
- [C10] Vikas P. Verma, Amit Chandak, and **Hung Q. Ngo**, "DIP3S: A Distributive Routing Algorithm for Power-Conserving Broadcasting in Wireless Ad Hoc Networks," Proceedings of the Fifth IFIP International Conference on Mobile and Wireless Communications Networks (MWCN), 159-162, 27-29 October 2003, Singapore. [acceptance rate about 35%].
- [C11] **Hung Q. Ngo**, Dazhen Pan, and Chunming Qiao "Nonblocking WDM Switches Based on Arrayed Waveguide Grating and Limited Wavelength Conversion," Proceedings of the 23rd IEEE Conference on Computer Communications (INFOCOM), March 11-17, 2004, HongKong. [acceptance rate 18% - 260 of 1420].
- [C12] Dazhen Pan, Vishal Anand, and **Hung Q. Ngo**, "Cost-effective constructions for nonblocking WDM multicast switching networks," Proceedings of the 2004 International Conference on Communications (ICC 2004), June 20-24, Paris, France. IEEE. [acceptance rate 29%].
- [C13] Harleen Dhillon and **Hung Q. Ngo**, "CQMP: A Mesh-based Multicast Routing Protocol with consolidated Query Packets," Proceedings of the IEEE Wireless Communications & Networking Conference (WCNC 2005), Mar 13-17, 2005, New Orleans, Louisiana, U.S.A. [acceptance rate about 42%]
- [C14] **Hung Q. Ngo**, Dazhen Pan, and Yuanyuan Yang, "Optical Switching Networks with Minimum Number of Limited Range Wavelength Converters," Proceedings of the 24th IEEE Conference on Computer Communications (INFOCOM), 13-17 March 2005, Miami, Florida, U.S.A. [acceptance rate 17% - 244 of 1419].
- [C15] Ramkumar Chinchani, Anusha R. Iyer, **Hung Q. Ngo**, and Shambhu J Upadhyaya, "Towards A Theory Of Insider Threat Assessment," Proceedings the 2005 International Conference on Dependable Systems and Networks (DSN 2005), June 28 - July 01, 2005, Yokohama, Japan. [acceptance rate 27%].
- [C16] Joy Ghosh, Cedric Westphal, **Hung Q. Ngo**, and Chunming Qiao, "Bridging Intermittently Connected Mobile Ad hoc Networks (ICMAN) with Sociological Orbits," Poster and Demo Session. The 25th IEEE Conference on Computer Communications (INFOCOM), 23-29 Apr 2006. Barcelona, Spain.
- [C17] Joy Ghosh, **Hung Q. Ngo**, and Chunming Qiao, "Mobility Profile based Routing within Intermittently Connected Mobile Ad hoc Networks (ICMAN)," in Proceedings of the International Wireless Communications and Mobile Computing Conference (IWCMC), July 3-6, 2006, Vancouver, Canada.
- [C18] Peng Lin, **Hung Q. Ngo**, Chunming Qiao, Xin Wang, and Ting Wang, "Minimum cost wireless broadband overlay network planning," in Proceedings of the IEEE International Symposium on a World of Wireless, Mobile and Multimedia Networks (WoWMoM), June, 2006. Niagara Falls, NY. [acceptance rate: 48/144 = 33%]

- [C19] Hoang Duong Tuan, Nguyen Thien Hoang, **Hung Q. Ngo**, Tuy Hoang, Ba-Ngu Vo, “A frequency-selective positive real lemma and its applications to IIR filter design,” in Proceedings of the 45th IEEE Conference on Decision and Control, 2006. [acceptance rate roughly 60%]
- [C20] Sumesh J. Philip, Joy Ghosh, **Hung Q. Ngo**, and Chunming Qiao, “Routing on Overlay Graphs in Mobile Ad hoc Networks,” in Proceedings of the 49th annual IEEE Global Telecommunications Conference (GLOBECOM), Nov 27 – Dec 01, 2006, San Francisco, California, U.S.A. [acceptance rate roughly 35%]
- [C21] Joy Ghosh, **Hung Q. Ngo**, Seokhoon Yoon, and Chunming Qiao, “On a Routing Problem within Probabilistic Graphs,” Proceedings of the 26th IEEE Conference on Computer Communications (INFOCOM), 6-12 May 2007, Anchorage, Alaska, U.S.A.. [acceptance rate 18% - 252 of over 1400 submissions].
- [C22] Seokhoon Yoon, **Hung Q. Ngo**, and Chunming Qiao, “On ‘Shooting’ and moving vehicle with data flows,” Poster and Demo Session. MOBILE Networks for Vehicular Environments workshop (MOVE’ 2007), in conjunction with INFOCOM 2007.
- [C23] Yang Wang, **Hung Q. Ngo**, and Xiaohong Jiang, “Strictly Nonblocking f -cast d -ary Multi-log Networks under Fanout and Crosstalk Constraints,” in proceedings of the 2008 IEEE International Conference on Communications (ICC 2008).
- [C24] **Hung Q. Ngo**, Yang Wang, and Anh Le, “A Linear Programming Duality Approach to Analyzing Strictly Nonblocking d -ary Multilog Networks under General Crosstalk Constraints,” in Proceedings of the 14th Annual International Computing and Combinatorics Conference (COCOON 2008), June 27–29, 2008. Dalian, China. [acceptance rate 38% - 66 of over 172 submissions]. **Best Paper Award.**
- [C25] Sunu Matthew, Shambhu Upadhyaya, Duc Ha, and **Hung Q. Ngo**, “Insider Abuse Comprehension through Capability Acquisition Graphs,” in Proceedings of the The 11th International Conference on Information Fusion (FUSION 2008), June 30–July 03, 2008. Cologne, Germany.
- [C26] **Hung Q. Ngo**, Thanh-Nhan Nguyen, and Duc Ha, “Crosstalk-Free Widesense Nonblocking Multicast Photonic Switching Networks,” in Proceedings of the 51st IEEE Global Communications Conference (GLOBECOM), Nov 30 – Dec 04, 2008, New Orleans, GA, U.S.A.. [acceptance rate 36% - 1051 of over 2854 submissions].
- [C27] Thanh-Nhan Nguyen, **Hung Q. Ngo**, and Yang Wang “Strictly Nonblocking f -cast Multilog Networks under General Crosstalk Constraints,” in Proceedings of the 51st IEEE Global Communications Conference (GLOBECOM), Nov 30 – Dec 04, 2008, New Orleans, GA, U.S.A.. [acceptance rate 36% - 1051 of over 2854 submissions].
- [C28] Duc Ha, **Hung Q. Ngo**, and Madhusudhanan Chandrasekaran “CRESTBOT: A New Family of Resilient Botnets,” in Proceedings of the 51st IEEE Global Communications Conference (GLOBECOM), Nov 30 – Dec 04, 2008, New Orleans, GA, U.S.A.. [acceptance rate 36% - 1051 of over 2854 submissions].
- [C29] **Hung Q. Ngo**, Thanh-Nhan Nguyen, and Dahai Xu, “Hardness and Approximation of the Survivable Multi-Level Fat Tree Problem,” in Proceedings of the 28th IEEE Conference on Computer Communications, (INFOCOM 2009), Apr 19 – 25, 2009, Rio de Janeiro, Brazil. [acceptance rate 19.6% - 282 of over 1435 submissions].
- [C30] Duc T. Ha, Guanhua Yan, Stephan Eidenbenz, and **Hung Q. Ngo**, “On the Effectiveness of Structural Detection and Defense Against P2P-based Botnets,” in Proceedings of the 39th Annual IEEE/IFIP International Conference on Dependable Systems and Networks (DSN 2009), June 29 – July 02, Estoril, Lisbon, Portugal. [acceptance rate 20.9% - 37 of 177].

Book Chapters

- [BC1] J. Srivastava and **Hung Q. Ngo**, “Statistical Databases,” in the *Wiley Encyclopedia of Electrical and Electronics Engineering*, John G. Webster (Editor), John Wiley and Sons (Mar 1999)
- [BC2] Ding-Zhu Du, Bing Lu, **Hung Q. Ngo** and Panos Pardalos, “The Steiner Tree Problem,” in the *Encyclopedia of Optimization*, (C.A. Floudas and P.M. Pardalos. Editors) Kluwer Academic Publishers (2001), vol. 5, pp. 277–290.

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