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University of Quebec
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Experience

Full Professor, June 2020-present
INRS-EMT, University of Quebec, Canada

Associate Professor, June 2015-May 2020
INRS-EMT, University of Quebec, Canada

Assistant Professor, October 2010-May 2015
INRS-EMT, University of Quebec, Canada

Postdoctoral Research Associate, August 2008-August 2010
Massachusetts Institute of Technology, USA

Postdoctoral Fellow, ECE Department, April 2007-August 2008
University of Waterloo, Canada

Lecturer, Telecommunications Department, April 1999-April 2003
Posts and Telecommunications Institute of Technology, Vietnam

Education

Ph.D., Dept. Electrical and Computer Engineering, May 2007
University of Manitoba (UoM), Canada,

M.Eng., Asian Institute of Technology (AIT), Thailand, December 2002

B.Eng. (Hons.), Dept. Electrical and Electronic Engineering, April 1999
Ho Chi Minh University of Technology (HCMUT), Vietnam,

Research Interests

- 5G-and-beyond enabling technologies: dense wireless HetNets, mobile edge computing, content caching, UAV communications, internet of things (IoTs), Massive MIMO, MmWave communications, Cloud-RAN, D2D communications, wireless virtualization, blockchain, wireless localization
- Applications of artificial intelligence to wireless communications and networking
- Radio resource management and network optimization for wireless networks

- Smart power grids: Demand response management, power economics, electric vehicles, renewable energy

Honors and Awards

- NSERC Discovery Accelerator Supplements (DAS) award, 2016-2019
- INRS Director's award for excellent academic performance, 2012-2019
- IEEE Senior Member
- NSERC Postdoctotal Fellowship, 2008-2010
- University of Manitoba Graduate Fellowship (UMGF), UoM, 2005-2007
- Edward R. Toporeck Graduate Fellowship in Engineering (two times), UoM, 2005-2007
- University of Manitoba Students' Union Scholarship, UoM, 2005
- IEEE Student Travel Award, IEEE WCNC'2003
- IEEE Student Travel Award, IEEE ICC'2005
- Keikyu Scholarship, AIT, 2001-2002
- University Gold Medal (1st rank in about 500 students), HCMUT, 1999
- Third Prize, Vietnam National Mathematical Olympiad, 1994

Publications (**11780+ citations on Google Scholar, h-index: 54**)

Books

[B2] Ekram Hossain, Mehdi Rasti, and **Long B. Le**, Radio Resource Management in Wireless Networks: An Engineering Approach, Cambridge University Press, 2017.

[B1] Ekram Hossain, **Long B. Le**, and Dusit Niyato, Radio Resource Management in Multi-Tier Cellular Wireless Networks, Wiley, 2013.

Book Chapters

[BC3] Tadilo Bogale, Xianbin Wang, and **Long B. Le**, "MmWave communication enabling techniques for 5G wireless systems: A link level perspective," Elsevier, 2016

[BC2] Ekram Hossain, **Long B. Le**, Natasha Devroye, and Mai Vu, "Cognitive radio: From theory to practical network engineering," invited chapter in *Advances in Wireless Communications*, (Editors V. Tarokh and I. Blake), Springer, 2009.

[BC1] **Long B. Le**, Sergiy A. Vorobyov, Khoa Phan, and Tho Le-Ngoc, "Resource allocation and QoS provisioning for wireless relay networks," invited chapter in *Quality of Service Architectures for Wireless Networks: Performance Metrics and Management* (Editors S. Adibi and R. Jain), IGI Global, 2009.

Journal Papers (Accepted/Appeared)

[J102] Vu Tuan Truong, Long B Le, and Dusit Niyato, Blockchain Meets Metaverse and Digital Asset Management: A Comprehensive Survey, *IEEE Access,* to appear.

[J101] Minh Tri Nguyen and **Long B Le**, "Multi-UAV trajectory control, resource allocation and NOMA user pairing for uplink energy minimization," *IEEE Internet Things Journal*, vol. 9, no. 23, December 2022.

[J100] Gonzalez-Palacio Maricio et al., "Machine-learning-based combined path loss and shadowing model in LoRaWAN for energy efficiency enhancement," *IEEE Internet Things Journal*, to appear.

[J99] Gonzalez-Palacio Maricio et al., "LoRaWAN path loss measurements in an urban scenario including environmental effects," *Data*, to appear.

[J98] Minh Dat Nguyen, **Long B. Le**, and Andre Girard, "Integrated UAV trajectory control and resource allocation for UAV-based wireless networks with co-channel interference management," *IEEE Internet of Things Journal*, vol. 9, no. 14, June 2022.

[J97] Minh Dat Nguyen, **Long B. Le**, and Andre Girard, "UAV placement and resource allocation for intelligent reflecting surface assisted UAV-based wireless networks," *IEEE Communications Letters,* vol. 26, no. 5, pp. 1106-1110, May 2022.

[J96] Aruna Seneviratne, Ming Ding, Quoc-Viet Pham, Pubudu N. Pathirana, **Long B. Le**, Aruna Seneviratne, Jun Li, Dusit Niyato, and H. Vincent Poor, "Federated Learning Meets Blockchain in Edge Computing: Opportunities and Challenges," *IEEE Internet Things Journal,* vol. 8, no. 16, pp. 12806-12825, 2021.

[J95] Minh Tri Nguyen and **Long B. Le**, "Resource Allocation, Trajectory Optimization, and Admission Control in UAV-Based Wireless Networks," *IEEE Networking Letters,* vol. 3, no. 3, pp. 129-132, 2021.

[J94] Quoc-Viet Pham, Nhan Thanh Nguyen, Thien Huynh-The, **Long B. Le**, Kyungchun Lee, and Won-Joo Hwang, "Intelligent Radio Signal Processing: A Survey," *IEEE Access,* vol. 9, pp. 83818-83850, 2021.

[J93] Ti Ti Nguyen, Vu N. Ha, **Long B. Le**, and Robert Schober, "Joint data compression and computation offloading in hierarchical fog-cloud systems," *IEEE Transactions on Wireless Communications,* vol. 19, no. 1, pp 293-309, January 2020.

[J92] Tung Phan, Dong Ngoduy, and **Long B. Le**, "A Cooperative Space Distribution Method for Autonomous Vehicles at A Lane-Drop Bottleneck on Multi-Lane Freeways," *IEEE Transactions on Intelligent Transportation Systems,* to appear.

[J91] Jeongho Kwak, **Long B. Le**, G Iosifidis, K Lee, DI Kim, "Collaboration of network operators and cloud providers in software-controlled networks," *IEEE Network,* vol. 34, no. 5, pp. 98-105, 2020.

[J90] Quoc Viet Pham, F Fang, V. N Ha, M. J. Piran, M. Le, **Long B. Le**, W. J. Hwang, and Z. Ding, "A survey of multi-access edge computing in 5G and beyond: Fundamentals, technology integration, and state-of-the-art," *IEEE Access,* vol. 8, pp. 116974-117017, 2020.

[J89] Thinh D Tran, and **Long B. Le**, "Resource Allocation for Multi-Tenant Network Slicing: A Multi-Leader Multi-Follower Stackelberg Game Approach," *IEEE Transactions on Vehicular Technology,* vol.

69, no. 8, pp. 8886-8899, August 2020.

[J88] Tri Nguyen and **Long B. Le**, "Interference Cancellation, Channel Estimation, and Symbol Detection for Communications on Overlapping Channels," *IEEE Access,* vol. 8, pp. 89822-89838, 2020.

[J87] Ti Ti Nguyen, Vu Nguyen Ha, **Long B. Le**, and Robert Schober, "Joint data compression and computation ofoading in hierarchical fog-cloud systems," *IEEE Transactions on Wireless Communications,* to appear.

[J86] Vu N. Ha, Ti Ti Nguyen, and **Long B. Le**, "Admission control and network slicing for multi-numerology 5G wireless networks," *IEEE Networking Letters,* to appear.

[J85] Hoang Vu, Tai Ho, and **Long B. Le,** "Mobility-aware computation offloading in MEC based vehicular wireless networks," *IEEE Communications Letters,* to appear.

[J84] Tadilo Bogale, Xianbin Wang, and **Long B. Le**, "Adaptive channel prediction, beamforming and scheduling design for 5G V2I network: Analytical and machine learning approaches," *IEEE Transactions on Vehicular Technology,* accepted

[J83] Tung Thanh Phan, Dong Ngoduy, and **Long B. Le**, "Space distribution method for autonomous vehicles at a signalized multi-lane intersection," *IEEE Transactions on Intelligent Transportation Systems,* to appear.

[J82] Ti Ti Nguyen, Vu Nguyen Ha, and **Long B. Le**, "Wireless scheduling for heterogeneous services with mixed numerology in 5G wireless networks," *IEEE Communications Letters,* to appear.

[J81] Tadilo Bogale, **Long B. Le**, Xianbin Wang, and Luc Vandendorpe, "Pilot contamination mitigation for wideband massive MIMO systems," *IEEE Transactions on Communications,* to appear.

[J80] Jeongho Kwak, **Long B. Le**, H. Kim, and Xianbin Wang, "Two time-scale edge caching and BS association for power-delay tradeoff in multi-cell networks," *IEEE Transactions on Communications,* vol. 67, no. 8, pp. 5506-5519, August 2019..

[J79] Duong Nguyen, **Long B. Le,** and Vijay Bhargava, "A market-based framework for multi-resource allocation in fog computing" *IEEE/ACM Transactions on Networking,* vol. 27, no. 3, pp. 1151-1164, June 2019.

[J78] Ti Ti Nguyen, **Long B. Le**, and Quan Le-Trung, "Computation offloading in MIMO based mobile edge computing systems under perfect and imperfect CSI estimation," *IEEE Transactions on Services Computing,* to appear.

[J77] Tai Manh Ho, Nguyen H. Tran, **Long B. Le**, Zhu Han, Ahsan Kazmi, and Choong Seon Hong, "Wireless virtualization with energy efficiency optimization for wireless heterogeneous networks," *IEEE Transactions on Mobile Computing,* vol. 18, no. 10, pp. 2386-2400, Oct. 2019.

[J76] Quoc-Viet Pham, **Long B. Le**, Sang-Hwa Chung, and Won-Joo Hwan, "Mobile edge computing with wireless backhaul: Join task offloading and resource allocation," *IEEE Access,* vol. 7, pp. 16444-16459, 2019.

[J75] Duong Nguyen, **Long B. Le,** and Vijay Bhargava, "Price-based resource allocation for edge computing: A market equilibrium approach," *IEEE Transactions on Cloud Computing,* to appear.

[J74] Hieu Nguyen and **Long B. Le,** "Sharing profit from joint offering of a group of wind power producers

in day ahead markets," *IEEE Transactions on Sustainable Energy,* vol. 9, no. 4, pp. 1921-1934, October 2018.

[J73] Thinh Tran, Tuong Hoang, and **Long B. Le,** "Caching for heterogeneous small-cell networks with bandwidth allocation and caching-aware BS association", *IEEE Wireless Communications Letters,* vol. 8, no. 1, pp. 49-52, February 2019.

[J72] Hieu Nguyen, **Long B. Le,** and Zhaoyu Wang, "A bidding strategy for virtual power plants with intraday demand response market exchange using stochastic programming," *IEEE Transactions on Industry Applications,* vol. 54, no. 4, pp. 3044-3055, July-August 2018.

[J71] Shree Sharma, Tadilo Bogale, **Long B. Le**, Symeon Chatzinotas, Xianbin Wang, and Bjorn Ottersten, "Dynamic spectrum sharing in 5G wireless networks with full-duplex technology: Recent advances and research challenges," *IEEE Communications Surveys and Tutorials,* vol. 20, no. 1, pp. 674-707, First quarter 2018.

[J70] Jeongho Kwak, Y. Kim, **Long B. Le**, and Song Chong, "Hybrid content caching in 5G wireless networks: Cloud versus edge caching," *IEEE Transactions on Wireless Communications,* vol. 17, no. 5, pp. 3030-3045, May 2018. (Listed among top-accessed IEEE TWC papers in July 2018)

[J69] Thinh Tran and **Long B. Le**, "Joint resource allocation and content caching in virtualized content-centric wireless networks," *IEEE Access,* vol. 6, pp. 11329-11341, 2018.

[J68] Tadilo Bogale, Xianbin Wang, and **Long B. Le**, "Machine learning techniques for next-generation context-aware wireless networks," *ITU Journal: ICT Discoveries,* Special issue no. 1-2, Feb. 2018.

[J67] Tuong Hoang and **Long B. Le**, "Joint prioritized scheduling and resource allocation for OFDMA-based wireless networks," *IEEE Transactions on Wireless Communications,* vol. 17, no. 1, pp. 310-323, Jan. 2018.

[J66] Vu N. Ha and **Long B. Le**, "End-to-end network slicing in virtualized OFDMA-based cloud radio access networks," *IEEE Access,* vol. 5, pp. 18675-18691, 2017.

[J65] Duy Nguyen, **Long B. Le**, Tho Le-Ngoc, Robert W. Heath, "Hybrid MMSE precoding and combining design for mmWave multiuser systems," *IEEE Access,* vol. 5, pp. 19167-19181, 2017.

[J64] Tadilo Bogale, **Long B. Le**, Xianbin Wang, and Luc Vandendorpe, "Multipath multiplexing for capacity enhancement in SIMO wireless systems," *IEEE Transactions on Wireless Communications,* vol. 16, no. 10, pp 6895-6911, Oct. 2017.

[J63] Dinh Thai Hoang, Dusit Niyato, Ping Wang, Dong In Kim, and **Long B. Le**, "Optimal data scheduling and admission control for backscatter sensor networks," *IEEE Transactions on Communications,* vol. 65, no. 5, pp. 2062-2077, May 2017.

[J62] Hieu Nguyen and **Long B. Le**, "Bi-objective based cost allocation for cooperative demand-side resource aggregators," *IEEE Transactions on Smart Grid,* vol. 9, no. 5, pp. 4220-4235, September 2018.

[J61] Tuan LeAnh, Nguyen H. Tran, Walid Saad, **Long B. Le**, Dusit Niyato, Tai Manh Ho, and Choong Seon Hong, "Matching theory for distributed user association and resource allocation in cognitive femtocell network," *IEEE Transactions on Vehicular Technology,* vol. 66, no. 9, pp. 8413-8428, Sept. 2017.

[J60] Duy Nguyen, **Long B. Le**, and Tho Le-Ngoc, "Optimal dynamic point selection for power minimization in multiuser downlink CoMP," *IEEE Transactions on Wireless Communications,* vol. 16, no. 1, pp.

619-633, Jan. 2017.

[J59] Redouane Sassioui, Mohammed Jabi, Leszek Szczecinski, **Long B. Le**, Mustapha Benjillali, Benoit Pelletier, "HARQ and AMC: Friends or foes?" *IEEE Transactions on Communications,* vol. 65, no. 2, pp. 635-650, Feb. 2017.

[J58] Tuong Hoang, **Long B. Le**, and Tho Le-Ngoc, "Joint mode selection and resource allocation for relay-based D2D communications," *IEEE Communications Letters,* vol. 21, no. 2, pp. 398-401, Feb. 2017.

[J57] Phuong Luong, Tri Nguyen, **Long B. Le**, Ngoc-Dung Dao, and Ekram Hossain, "Energy-efficient WiFi offloading and network management in heterogeneous wireless networks," *IEEE Access,* vol. 4, pp. 10210-10227, Dec. 2016.

[J56] Tuong Hoang, **Long B. Le**, and Tho Le-Ngoc, "Resource allocation for D2D communication underlaid cellular networks using graph-based approach," *IEEE Transactions on Wireless Communications,* vol. 5, no. 10, pp. 7099-7113, Oct. 2016.

[J55] Hyangwon Lee, Jeongho Kwak, and **Long B. Le**, "Robust power allocation in cognitive radio networks with uncertain knowledge of interference," *IEEE Wireless Communications Letters,* vol. 5, no. 5, pp. 468-471, 2016.

[J54] Tan Le and **Long B. Le**, "Joint data compression and MAC protocol design for smartgrids with renewable energy," *Wireless Communications and Mobile Computing,* vol. 16, no. 16, pp. 2590-2604, July 2016.

[J53] Tadilo Bogale, **Long B. Le**, Afshin Haghighat and Luc Vandendorpe, "On the number of RF chains and phase shifters, and scheduling design with hybrid analog-digital beamforming," *IEEE Transactions on Wireless Communications,* vol. 15, no. 5, pp. 3311-3326, May 2016. (Listed among top-accessed IEEE TWC papers in May, June, July, August, September, October, and December 2016, January, February, and March 2017)

[J52] Khoa Phan, Tho Le-Ngoc, and **Long B. Le**, "Optimal resource allocation for buffer-aided relaying with statistical QoS constraint," *IEEE Transactions on Communications,* vol. 64, no. 3, pp. 959-972, March 2016.

[J51] Duong Nguyen, Hieu Nguyen, and **Long B. Le**, "Dynamic pricing design for demand response integration in power distribution networks," *IEEE Transactions on Power Systems,* vol. 31, no. 5, pp. 3457-3472, Sept. 2016.

[J50] S. M. Ahsan Kazmi, Nguyen H. Tran, Walid Saad, **Long B. Le**, Tai Manh Ho, Choong Seon Hong, "Optimized resource management in heterogeneous wireless networks," *IEEE Communications Letters,* vol. 20, no. 5, pp. 974-977, May 2016.

[J49] Tai Manh Ho, Nguyen H. Tran, **Long B. Le**, Walid Saad, S.M Ahsan Kazmi, Choong Seon Hong, "Coordinated resource partitioning and data offloading in wireless heterogeneous networks," *IEEE Communications Letters,* vol. 20, no. 5, pp. 974-977, May 2016.

[J48] Le Thanh Tan and **Long B. Le**, "Design and optimal configuration of full-duplex MAC protocol for cognitive radio networks considering self-interference," *IEEE Access,* vol. 3, 2015.

[J47] Phuong Luong, Tri Nguyen, and **Long B. Le**, "Throughput analysis for coexisting IEEE 802.14.5 and IEEE 802.11 networks under unsaturated traffic," *EURASIP Journal on Wireless Communications*

and Networking, 2016.

[J46] Tadilo Bogale, **Long B. Le**, and Xianbin Wang, "Hybrid analog-digital channel estimation and beamforming: Training-throughput tradeoff," *IEEE Transactions on Communications,* vol. 63, no. 2, pp. 5235-5249, Dec. 2015.

[J45] Tadilo Bogale and **Long B. Le**, "Massive MIMO and mmWave for 5G wireless HetNet: Potentials and challenges," *IEEE Vehicular Technology Magazine,* vol. 11, no. 1, pp. 64-75, February 2016. (Listed among top-accessed IEEE VT Mag. papers in March 2016-present 2019)

[J44] **Long B. Le**, Vincent Lau, Eduard Jorswieck, Ngoc-Dung Dao, Afshin Haghighat, Dong In Kim, and Tho Le-Ngoc, "Enabling 5G mobile wireless technologies," *EURASIP J. Wirel. Commun. Networking.,* 218, 2015.

[J43] Shree Sharma, Tadilo Bogale, Symeon Chatzinotas, Björn Ottersten, **Long B. Le**, and Xianbin Wang, "Cognitive radio techniques under practical imperfections: A survey," *IEEE Communications Surveys and Tutorials,* vol. 17, no. 4, pp. 1858-1884, 4th quarter 2015.

[J42] Vu N. Ha, **Long B. Le**, and Ngoc-Dung Dao, "Coordinated multipoint transmission design for Cloud-RANs with limited fronthaul capacity constraints," *IEEE Transactions on Vehicular Technology,* vol. 65, no. 9, pp. 7432-7447, Sept. 2016.

[J41] Tuong Hoang, **Long B. Le**, and Tho Le-Ngoc, "Energy-efficient resource allocation for D2D communications in cellular networks," *IEEE Transactions on Vehicular Technology,* vol. 65, no. 9, pp. 6972-6986, Sept. 2016.

[J40] Tri Minh Nguyen, Vu N. Ha, and **Long B. Le**, "Resource allocation optimization in multi-user multi-cell massive MIMO networks considering pilot contamination," *IEEE Access,* 3, 1272–1287, 2015.

[J39] Tadilo Bogale, Luc Vandendorpe, and **Long B. Le**, "Wideband sensing and optimization for cognitive radio networks with noise variance uncertainty," *IEEE Transactions on Communications,* vol. 63, no. 4, pp. 1091–1105, April 2015.

[J38] Mehdi Rasti, Monowar Hasan, **Long B. Le**, and Ekram Hossain, "Distributed uplink power control for multi-cell cognitive radio networks," *IEEE Transactions on Communications,* vol. 63, no. 3, pp. 628–642, Mar. 2015.

[J37] Duy Nguyen, **Long B. Le**, and Tho Le-Ngoc, "Multiuser admission control and beamforming optimization algorithms for MISO heterogeneous networks," *IEEE Access,* vol. 3, pp. 759–773, 2015.

[J36] Thant Zin Oo, Nguyen H. Tran, Duc Ngoc Minh Dang, Zhu Han, **Long B. Le**, and Choong Seon Hong, "OMF-MAC: An opportunistic matched filter-based MAC in cognitive radio networks," *IEEE Transactions on Vehicular Technology*, vol. 65, no. 4, pp. 2544-2559, April 2016.

[J35] Nguyen Tran, **Long B. Le**, Shaolei Ren, Zhu Han, and Chong S. Hong, "Joint pricing and load balancing for cognitive spectrum access: Non-cooperation vs cooperation," *IEEE Journal on Selected Areas in Communications - Cognitive Radio Series,* vol. 33, no. 5, pp. 972–985, May 2015.

[J34] Hieu Nguyen, Duong Nguyen, and **Long B. Le**, "Energy management for households with solar assisted thermal load considering renewable energy and price uncertainty," *IEEE Transactions on Smart Grid,* vol. 6, no. 1, pp. 301–314, Jan. 2015.

[J33] Duong Nguyen and **Long B. Le**, "Risk-constrained profit maximization for microgrid aggregators

with demand response," *IEEE Transactions on Smart Grid,* vol. 6, no. 1, pp. 135–146, Jan. 2015.

[J32] Duong Nguyen and **Long B. Le**, "Optimal bidding strategy for microgrids considering renewable energy and building thermal dynamics," *IEEE Transactions on Smart Grid,* vol. 5, no. 4, pp. 1608-1620, July 2014.

[J31] Le Thanh Tan and **Long B. Le**, "Joint cooperative spectrum sensing and MAC protocol design for multi-channel cognitive radio networks," *EURASIP Journal on Wireless Communications and Networking,* 2014 (Listed no. 1 among most highly-accessed papers in this journal, July-August 2014).

[J30] Cuong Do, Nguyen Tran, Zhu Han, **Long B. Le**, Sungwon Lee, and Choong Seon Hong, "Optimal pricing for duopoly in cognitive radio networks: Cooperate or not cooperate," *IEEE Transactions on Wireless Communications,* vol. 13, no. 5, pp. 2574-2587, May 2014.

[J29] Vu N. Ha and **Long B. Le**, "Fair resource allocation for OFDMA femtocell networks with macrocell protection," *IEEE Transactions on Vehicular Technology,* vol. 63, no. 3, pp. 1388-1401, March 2014.

[J28] Duong Nguyen and **Long B. Le**, "Joint optimization of electric vehicle and home energy scheduling considering user comfort preference," *IEEE Transactions on Smart Grid,* vol. 5, no. 1, pp. 188-199, Jan. 2014.

[J27] Vu N. Ha and **Long B. Le**, "Distributed base station association and power control for heterogeneous cellular networks," *IEEE Transactions on Vehicular Technology,* vol. 63, no. 1, pp. 282-296, Jan. 2014.

[J26] Mui Van Nguyen, Sungwon Lee, Sung-jin You, Choong Seon Hong, and **Long B. Le**, "Cross-layer design for congestion, contention, and power control in CRAHNs under packet collision constraints," *IEEE Transactions on Wireless Communications,* vol. 12, no. 11, pp. 5557-5571, Nov. 2013.

[J25] M. Moghadari, Ekram Hossain, and **Long B. Le**, "Delay-optimal distributed scheduling in multi-user multi-relay cellular wireless networks," *IEEE Transactions on Communications,* vol. 61, no. 4, pp. 1349-1360, April 2013.

[J24] **Long B. Le**, Dusit Niyato, Ekram Hossain, Dong In Kim, and Dinh T. Hoang, "QoS-aware and energy-efficient resource management in OFDMA femtocells," *IEEE Transactions on Wireless Communications,* vol. 12, no. 1, pp. 180–194, Jan. 2013 (Listed among top-accessed IEEE TWC papers in January, February, March, and September 2013).

[J23] Duy Ngo, **Long B. Le**, and Tho Le-Ngoc, "Distributed Pareto-optimal power control for utility maximization in femtocell networks," *IEEE Transactions on Wireless Communications*, vol. 11, no. 10, pp. 3434-3446, Oct. 2012 (Listed among top-accessed IEEE TWC papers in October and November 2012).

[J22] Guner D. Celik, **Long B. Le**, and Eytan Modiano, "Dynamic server allocation over time varying channels with switchover delay," *IEEE Transactions on Information Theory,* vol. 58, no. 9, pp. 5856–5877, Sept. 2012.

[J21] Le Thanh Tan and **Long B. Le**, "Channel assignment with access contention resolution for cognitive radio networks," *IEEE Transactions on Vehicular Technology,* vol. 61, no. 6, pp. 2808–2823, July 2012.

[J20] **Long B. Le**, Eytan Modiano, and Ness B. Shroff, "Optimal control of wireless networks with finite buffers," *IEEE/ACM Transactions on Networking,* vol. 20, no. 4, pp. 1316–1329, Aug. 2012.

[J19] Duy Ngo, **Long B. Le**, Tho Le-Ngoc, Ekram Hossain, and Dong In Kim, "Distributed interference management in two-tier CDMA femtocell networks," *IEEE Transactions on Wireless Communications*,

vol. 11, no. 3, pp. 979–989, Mar. 2012 (Listed among top-accessed IEEE TWC papers in March, April, and May 2012).

[J18] Phond Phunchongharn, Ekram Hossain, **Long B. Le**, and S. Camorlinga, "Robust scheduling and power control for vertical spectrum sharing in STDMA wireless networks," *IEEE Transactions on Wireless Communications,* vol. 11, no. 5, pp. 1850–1860, May 2012.

[J17] Nazmus Saquib, Ekram Hossain, **Long B. Le**, and Dong In Kim, "Interference management in OFDMA femtocell networks: Issues and approaches," *IEEE Wireless Communications,* vol. 19, no. 3, pp. 86-95, June 2012 (Listed among top-accessed IEEE WC papers in March 2013).

[J16] Hyang-Won Lee, Eytan Modiano, and **Long B. Le**, "Distributed throughput maximization in wireless networks via random power allocation," *IEEE Transactions on Mobile Computing*, vol. 11, no. 4, pp. 577-590, April 2012.

[J15] Le Thanh Tan and **Long B. Le**, "Distributed MAC protocol for cognitive radio networks: Design, analysis, and optimization," *IEEE Transactions on Vehicular Technology,* vol. 60, no. 8, pp. 3990-4003, Oct. 2011.

[J14] Patrick Mitran, **Long B. Le**, and Catherine Rosenberg, "Queue-aware resource allocation for downlink OFDMA cognitive radio networks," *IEEE Transactions on Wireless Communications*, vol. 9, no. 10, pp. 3100-3111, Oct. 2010.

[J13] **Long B. Le** and Ravi R. Mazumdar, "Control of wireless networks with flow level dynamics under constant time scheduling," *ACM Wireless Networks*, 2010.

[J12] Khoa Phan, **Long B. Le**, Sergiy A. Vorobyov, and Tho Le-Ngoc, "Power allocation and admission control in multiuser relay networks via convex programming: Centralized and distributed schemes," *EURASIP Journal on Wireless Communications and Networking*, 2009 (special issues on Optimization Techniques in Wireless Communications).

[J11] Dong In Kim, **Long B. Le**, and Ekram Hossain, "Joint rate and power allocation for cognitive radios in dynamic spectrum access environment," *IEEE Transactions on Wireless Communications,* vol. 7, no. 12, pp. 5517-5527, Dec. 2008.

[J10] **Long B. Le** and Ekram Hossain, "Resource allocation for spectrum underlay in cognitive radio networks," *IEEE Transactions on Wireless Communications*, vol. 7, no. 12, pp. 5306-5315, Dec. 2008.

[J9] **Long B. Le** and Ekram Hossain, "Cross-layer optimization frameworks for multihop wireless networks using cooperative diversity," *IEEE Transactions on Wireless Communications*, vol. 7, no. 7, pp. 2592-2602, July 2008.

[J8] **Long B. Le** and Ekram Hossain, "An analytical model for ARQ cooperative diversity in multihop wireless networks," *IEEE Transactions on Wireless Communications*, vol. 7, no. 5, pp. 1786-1791, May 2008.

[J7] **Long B. Le** and Ekram Hossain, "Tandem queue models with applications to QoS routing in multihop wireless networks," *IEEE Transactions on Mobile Computing*, vol. 7, no. 8, pp. 1025-1040, Aug. 2008.

[J6] **Long B. Le**, Ekram Hossain, and Tho Le-Ngoc, "Interaction between radio link level truncated ARQ and TCP in multi-rate wireless networks: A cross-layer performance analysis," *IET Communications*, vol. 1, no. 5, pp. 821-830, 2007 (special issue on Wireless Mobile Networks: Cross-Layer Communication).

[J5] **Long B. Le**, Ekram Hossain, and Michele Zorzi, "Queueing analysis for GBN and SR ARQ protocols under dynamic radio link adaptation with non-zero feedback delay," *IEEE Transactions on Wireless Communications*, vol. 6, no. 9, pp. 3418-3428, Sept. 2007.

[J4] **Long B. Le** and Ekram Hossain, "Multihop cellular networks: Potential gains, research challenges, and a resource allocation framework," *IEEE Communications Magazine*, vol. 45, no. 9, pp. 66-73, Sept. 2007.

[J3] **Long B. Le**, Ekram Hossain, and Attahiru S. Alfa, "Delay statistics and throughput performance for multi-rate wireless networks under ARQ and multiuser diversity," *IEEE Transactions on Wireless Communications*, vol. 5, no. 11, pp. 3234-3243, Nov. 2006.

[J2] **Long B. Le**, Ekram Hossain, and Attahiru S. Alfa, "Radio link level performance evaluation in wireless networks using multi-rate transmission with ARQ-based error control," *IEEE Transactions on Wireless Communications*, vol. 5, no. 10, pp. 2647-2653, Oct. 2006.

[J1] **Long B. Le**, Ekram Hossain, and Attahiru S. Alfa, "Service differentiation in multi-rate wireless networks with weighted round-robin scheduling and ARQ-based error control," *IEEE Transactions on Communications*, vol. 54, no. 2, pp. 208-215, Feb. 2006.

Conference Papers(Accepted/Appeared)

[C129] Tuan Vu Truong, and **Long B. Le**, "A Blockchain-Based Framework for Secure Digital Asset Management," in *Proc. IEEE ICC,* 2023.

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Student/Researcher Supervision

- **Current Supervision**
  - Duc Hoang, PhD student (January 2023-present)
  - Vu Nguyen, MSc student (January 2023-present)
  - Hung Le, MSc student (September 2022-present)
  - Vu Truong, MSc student (January 2022-present)
  - Binh Truong, MSc student (May 2021-present)

- **Past Supervision**
  - Minh Tri Nguyen, INRS PhD (January 2017-April 2022). Current position: Senior engineer, Qualcomm.
  - Dat Nguyen, PhD INRS (June 2018-December 2022)
  - Duong Nguyen, PhD UBC (2015-2020, co-supervised). Current position: Assistant professor, Arizona State University, USA.
  - TiTi Nguyen, PhD INRS (May 2016-May 2020). Current position: postdoc, ETS.
  - Thinh Tran, PhD INRS (January 2016-May 2020). Current position: postdoc, ETS.

- Dr. Tadilo Bogale (PhD UCL 2013), Postdoctoral fellow (2013-2018). Current position: Assistant professor, North Carolina A&T State University, USA.
- Dr. Jeongho Kwak (PhD KAIST 2015), Postdoctoral fellow (2015-2017). Current position: Assistant professor, Daegu Gyeongbuk Institute of Science and Technology (DGIST), South Korea.
- Hoang Tuong, INRS PhD (July 2013 - 2017). Current position: Staff researcher, InterDigital Inc., Canada
- Dr. Imtiaz Ahmed (PhD UBC 2014), Postdoctoral fellow (2016). Current position: Assistant Professor, Howard University, USA.
- Dr. Juan Duncan, (PhD 2012, UPC Spain), NECPHY-Lab Scientist (2013-2016). Current position: Research associate, University of Luxembourg
- Dr. Duy Nguyen (PhD 2013, McGill), FRQNT postdoctoral fellow (2013-2015). Current position: Associate Professor, San Diego State University, US.
- Hieu Nguyen, INRS PhD (January 2013 - April 2017). Current position: Assistant Professor, North Carolina A&T State University, USA.
- Vu Ha, INRS PhD (August 2011 - October 2016). Current position: Research Associate, University of Luxembourg, Luxembourg.
- Tan Le, INRS PhD (January 2011 - January 2016). Current position: Assistant Professor, Old Dominion University, USA
- Duy Ngo, McGill PhD (October 2010 - July 2013). Current position: Associate Professor, University of Newcastle, Australia
- Amen Memmi, INRS MSc (2015-2018)
- Tam Tran, INRS MSc (January 2015 - 2017)
- Dai Nguyen, INRS Msc (September 2014 - 2017)
- Redouane Sassioui, INRS MSc (2012 - 2015). Current position: PhD student, INRS
- Duong Nguyen, INRS, MSc (December 2011 - May 2014). Current position: PhD student, University of British Columbia, Canada

Teaching

- TEL-302: Avanced design and analysis of wireless network algorithms, Summer 2013.

- TEL-352 (guided reading course): Winter 2011, Fall 2012, Winter 2013, Fall 2013, Summer 2013, Winter 2015, Fall 2015, Winter 2017, Winter 2018, Winter 2020, Winter 2023

Research Funding

- **Active Projects**

  - NSERC Discovery Grant, " Space-air-ground integrated networks for ubiquitous connectivity and mobile computing experience," (PI, 2022-2027)

- DND Micro-net Grant, "Toward Situational-aware and Adaptive 5G Networks for Defence and Security: A Machine Learning Approach," (co-PI, 2022-2025)
- MITACS Grant, "The control tower of the future," (PI, 2019-2023)

- **Past Projects**

  - NSERC Discovery Accelerator Supplements (DAS), (PI, 2016-2019)
  - NSERC Discovery Grant, "Adaptive wireless access techniques for cloud-based heterogeneous cellular networks," (PI, 2016-2021)
  - NSERC CREATE Training Program in "Pervasive and smart wireless applications for the digital economy (PERSWADE)," (co-PI, 2013-2019)
  - CRIAQ - NSERC CRD Grant, "Interference mitigation in satellite communications," (co-PI, 2014-2020)
  - NSERC Engage Grant, "Robust UAV-assisted mobile localization techniques using deep learning," (PI, 2018-2019)
  - Canada Foundation for Innovation (CFI) - Leaders Opportunity Fund, "Networks and Cyber-Physical Systems Laboratory (NECPHY-Lab)," (PI, 2012)
  - NSERC Engage Grant, "Design and implementation of spectrum sensing and access algorithms for Cognitive Radios in TV Bands," (PI, 2012)
  - NSERC Engage Grant, "Medium access control design for 802.15.4 radios to enhance coexistence performance in unlicensed bands," (PI, 2012-2013)
  - FQRNT New Researcher Grant, "Vers les garanties des performances des réseaux de radio cognitive: Limites théoriques, génie de protocoles et applications aux réseaux électriques intelligents," (PI, 2012-2013)
  - NSERC Engage Grant, "Communication range enhancement for Bluetooth radios via multi-hop communications to support wearable computing and E-health applications," (PI, 2013-2014)
  - INRS Start-up Grant (PI, 2011-2015)
  - NSERC Strategic Grant, "Resource management in multi-tier cellular wireless networks enhanced with peer-to-peer communications," (co-PI, 2012-2015)
  - FQRNT Team Grant, "Conception des réseaux sans fil hétérogénes de cinquième génération pour une meilleure efficacité spectrale et énergétique," (PI, 2013-2016)
  - FQRNT Team Grant, "Cross-layer management for future wireless networks," (co-PI, 2014-2017)
  - NSERC Discovery Grant, "Efficient and robust protocols for distributed control and optimization of ubiquitous wireless networks," (PI, 2011-2016)
  - NSERC CRD Grant, "Dynamic spectrum sharing techniques for next-generation wireless networks," (PI, 2014-2017)
  - NSERC Engage Grant, "Advanced techniques for robust wind forecast," (PI, 2017)

Professional Activities and Services

- **Editor**, *IEEE Transactions on Communications (2022-present)*

- **Editor**, *IEEE Transactions on Cognitive Communications and Networking (2020-present)*
- **Chair**, Commission C, URSI Canadian National Committee (2015-2018)
- **Editor**, *IEEE Transactions on Wireless Communications (2015-2020)*
- **Editor**, *IEEE Communications Surveys and Tutorials (2011-2019)*
- **Editor**, *IEEE Wireless Communications Letters (2011-2016)*
- **Lead Guest Editor**, *EURASIP Journal on Wireless Communications and Networking*, Special Issue on "5G Wireless Mobile Technologies", 2015.
- Technical Program Committee (TPC) Chair
  - **TPC Co-chair:** Biennial Symposium on Communications (BSC 2021)
  - **TPC Co-chair:** Vehicle Cooperation and Control, Assisted and Autonomous Driving Track, *IEEE VTC Fall'2020*
  - **Keynote co-chair:** *IEEE ATC'2019*
  - **International Liaison Chair:** *IEEE ICT'2019*
  - **TPC Co-chair:** *MAC Track, IEEE WCNC'2016*
  - **TPC Co-chair**: *The Twelfth International Symposium on Wireless Communication Systems, ISWCS'2015*
  - **TPC Co-chair:** *Wireless Access Track, IEEE VTC Fall'2014*
  - **TPC Co-chair:** *Networks Track, IEEE Advanced Technologies for Communications Conference (IEEE ATC'2013)*
  - **TPC Co-chair:** *New Results Track, IEEE VTC Fall'2012*
  - **TPC Co-chair:** *Wireless Networks Track, IEEE VTC Fall'2011*
  - **TPC Co-chair:** *Cognitive Radio and Spectrum Management Track, IEEE PIMRC'2011*
  - **TPC Co-chair:** *Mobile Computing Symposium, IWCMC'2011*
  - **TPC Co-chair:** *Next Generation Mobile Networks Symposium, IWCMC'2010*

Invited Talks/Tutorials (not including conference presentations)

- "Radio resource management in femtocell networks," tutorial, *IEEE International Conference on Communications 2012 (IEEE ICC'2012)*, Ottawa, Canada, June 2012.
- "Interference management in femtocell networks," tutorial, *IEEE International Symposium on Personal, Indoor and Mobile Radio Communications 2011 (IEEE PIMRC'2011)*, Toronto, Canada, Sept. 2011.
- "QoS-aware and energy-efficient resource management in OFDMA femtocells," invited talk, **University Pierre and Marie Curie (Paris 6)**, April 2012.
- "Distributed Pareto-optimal power control for femtocell networks," invited talk, **Nanyang Technological University**, July 2011.
- "Maximal scheduling in wireless networks under the SINR interference model," invited talk, **The Ohio State University**, Sept. 2009.

– "Control and optimization in adaptive wireless networks," invited talk, **McGill University**, Sept. 2009.

– "Appropriate control of wireless networks with flow level dynamics," invited talk at *Conference on Information Sciences and Systems (CISS'2008)*, **Princeton University**, Mar. 2008.

– "End-to-end performance of ARQ cooperative diversity in multihop wireless networks," invited talk, **IEEE Communications Society**, Winnipeg Chapter, May 2006.