

XU LI

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CITIZENSHIP: Canadian

RESEARH INTERESTS

- Wireless Ad Hoc, Sensor, and Robot Networks
- Delay (Disruption) Tolerant Networks
- Topology Control and Data Communication
- Distributed and Localized Algorithms
- Quality of Service, Wireless Security

RESEARCH & EDUCATION EXPERIENCE

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|--------------------------------|----------------------------------|-------------------|
| • NSERC Post-doc Fellow | University of Waterloo, Canada | 2010.07 ~ Present |
| • Post-doc Research Fellow | INRIA, France | 2010.02 ~ 2010.06 |
| • Post-doc Research Fellow | University of Ottawa, Canada | 2008.11 ~ 2010.02 |
| • Visiting Post-doc Researcher | CNRS/INRIA, France | 2008.12 ~ 2009.03 |
| • Visiting Researcher | National Research Council Canada | 2004.01 ~ 2004.08 |
| • Ph.D. in Computer Science, | Carleton University, Canada | 2005.09 ~ 2008.10 |
| • Master of Computer Science, | University of Ottawa, Canada | 2004.01 ~ 2005.05 |
| • B.Sc. in Computer Software, | Jilin University, China, | 1994.09 ~ 1998.07 |

SCHOLASHIPS, FELLOWSHIPS, AWARDS & HONOURS

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|---|--|-------------------|
| • NSERC Postdoctoral Fellowships, | \$80,000CAD | |
| Natural Science and Engineering Research Council of Canada | | 2010 ~ 2012 |
| • MITACS Accelerate Internship Awards, | \$40,000CAD (turned down) | |
| Mathematics of Information Technology and Complex Systems, Canada | | 2010 ~ 2011 |
| • NSERC Postgraduate Scholarships – Doctoral, | \$42,000CAD | |
| Natural Science and Engineering Research Council of Canada | | 2007.09 ~ 2009.08 |
| • Domestic Tuition Scholarship, | Carleton University, | 2005.09 ~ 2009.08 |
| • Graduate Scholarship, | Carleton University, | 2005.09 ~ 2009.08 |
| • Nortel Networks Scholarship, | Nortel Networks & Carleton University, | 2005.09 ~ 2006.08 |
| • Excellent Student Scholarship, | Jilin University, China, | 1997.09 ~ 1998.08 |
| • IEEE Travel Award, | The 6 th IEEE Int’l Conf. Mobile Ad-hoc and Sensor Systems, | 2009 |
| • Service Award, | The 4 th IEEE Int’l Conf. Mobile Ad-hoc and Sensor Systems, | 2007 |
| • Best Thesis Award Nomination, | SITE, University of Ottawa, | 2005 |
| • Best Paper Award Nomination, | The 4 th IEEE Int’l Workshop on Wireless Local Networks, | 2004 |
| • Computer Application Excellent Achievement Prize, | Shandong Province, China, | 2002 |
| • Best Employee of the Year, | Hisense Group, China, | 1999, 2001 |
| • Certified Software Engineer, | Ministry of Information Industry, China, | 1999 |

GRANT APPLICATION EXPERIENCE

- Made significant contribution to the following grant proposals
 - “Reliable and secure QoS routing and transport protocols for mobile and ad hoc networks”, NSERC Collaborative Research & Development (CRD) project. Grant #: CRDPJ 386874-09. PI: Amiya Nayak, Co-PI: Ivan Stojmenovic, 2010 – 2012.

SUPERVISORY EXPERIENCE

- One Ph.D. student and two M.C.S. student at the University of Ottawa 2009 ~ present

TEACHING EXPERIENCE

- **Course Instructor** SCS, Carleton University 2008.05 ~ 2008.08
 - COMP3804 Design and Analysis of Algorithms I, Summer 2008
- **Guest Lecturer** SITE, University of Ottawa 2008.09
 - CSI5140 Wireless Ad Hoc Networking
- **Teaching Assistant** Carleton University and University of Ottawa 2004 ~ 2008
 - COMP4001, COMP2402, COMP2404, COMP1005/1405, COMP1007, COMP1001, CSI2010, CSI3317

OTHER EXPERIENCES

- **R&D Team Leader** Hisense Group, China 1998 ~ 2002

PROFESSIONAL ACTIVITIES

- **Organizing committee membership (11 international events)**
 - Program Co-Chair, 10th Int'l Conference on AD-HOC Networks & Wireless (AdHoc-NOW), 2011
 - Submission Co-Chair, 2nd IEEE Int'l Workshop on Intelligent Vehicular Networks (InVeNET), 2010
 - Program Co-Chair, 2nd Int'l Work. Wireless Sensor, Actuator and Robot Networks (WiSARN2010-FALL), 2010
 - Program Co-Chair, 6th Int'l Work. Localized Comm.& Topo. Protocol for Ad hoc Networks (LOCAN), 2010
 - Program Co-Chair, 1st Int'l Work. Wireless Sensor, Actuator and Robot Networks (WiSARN2010-Spring), 2010
 - Publicity Co-Chair, 3rd IEEE Int'l Symp. Trust, Security and Privacy for Emerging App. (TSP), 2010
 - Program Co-Chair, 5th Int'l Work. Localized Comm.& Topo. Protocol for Ad hoc Networks (LOCAN), 2009
 - Submission Chair, 2nd IFIP Int'l Conference on Wireless Sensor and Actor Networks (WSAN), 2008
 - Submission Chair, 7th Int'l Conference on AD-HOC Networks & Wireless (AdHoc-NOW), 2008
 - Submission Chair, 4th IEEE Int'l Conference on Mobile Ad-hoc and Sensor Systems (MASS), 2007
 - Web Chair, 1st Research Workshop on Wireless Computing and Sensor Networks (WCSN), 2007
- **Technical program committee membership (22 international events)**
 - 7th International Conference on Networking and Services (ICNS), 2011
 - The 9th International Conference on AD-HOC Networks & Wireless (AdHoc-NOW), 2010
 - 3rd IEEE International Workshop on Wireless Network Algorithm and Theory (WiNA), 2010
 - 8th IEEE/IFIP International Conference on Embedded and Ubiquitous Computing (EUC), 2010
 - 35th IEEE Conference on Local Computer Networks (LCN), 2010
 - 6th Int'l Workshop on Algorithmic Aspects of Wireless Sensor Networks (ALGOSENSORS), 2010
 - 10th IEEE International Conference on Computer and Information Technology (CIT), 2010
 - 5th International Conference on Frontier of Computer Science and Technology (FCST), 2010
 - 3rd IEEE Int'l Conf. on Sensor Networks, Ubiquitous, and Trustworthy Computing (SUTC), 2010
 - 6th International Conference on Networking and Services (ICNS), 2010
 - Doctoral Conference on Computing, Electrical and Industrial Systems (DoCEIS), 2010
 - 4th Int'l Work. on Intelligent, Mobile and Internet Services in Ubiquitous Computing (IMIS), 2010
 - 11th International Conference on Distributed Computing and Networking (ICDCN), 2010
 - 20th IEEE Int'l Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC), 2009
 - 12th IEEE International Conference on Computational Science and Engineering (CSE), 2009
 - International Conference on Wireless Information Networks and Systems (WINSYS), 2009
 - 8th International Conference on AD-HOC Networks & Wireless (AdHoc-NOW), 2009
 - 2nd IEEE International Workshop on Wireless Network Algorithm and Theory (WiNA), 2009
 - 2nd ACM Int'l Work. Foundation of Wireless Ad Hoc and Sensor Netw. and Computing (FOWANC), 2009
 - 3rd Int'l Work. Mobility, Algorithms, Graph Theory in Dynamic Networks (IMAGINE), 2009
 - 3rd Int'l Work. Localized Algorithms & Protocols for Wireless Sensor Networks (LOCALGOS), 2009
 - 6th International Workshop on Wireless Ad hoc and Sensor Networks (WWASN), 2009

- Journal/Conference Reviewer
 - IEEE Sensors Journal
 - IEEE Transactions on Services Computing
 - IEEE Transactions on Automatic Control
 - IEEE Transactions on Parallel and Distributed Systems
 - ACM/Springer Wireless Networks
 - ACM/Springer Mobile Networks and Applications
 - Ad Hoc & Sensor Wireless Networks
 - Wireless Communications and Mobile Computing
 - Journal of Computer Science and Technology
 - EURASIP Journal on Wireless Communications and Networking
 - International Journal of Communication Systems
 - International Journal of Distributed Sensor Networks
 - International Journal of Computers and Applications
 - International Journal of Parallel, Emergent and Distributed Systems
 - Journal of Zhejiang University - Science A
 - 7th IEEE International Conference on Mobile Ad-hoc and Sensor Systems (MASS), 2010
 - The IEEE Global Communications Conference (GLOBECOM), 2010.
 - The IEEE 72nd Vehicular Technology Conference (VTC), 2010.
 - 9th International Symposium on Experimental Algorithms (SEA), 2010.
 - 6th IEEE Comm. Society Conf. on Sensor, Mesh, and Ad Hoc Comm. and Networks (SECON), 2009
 - IEEE International Conference on Communications (ICC), 2009
 - IEEE Wireless Communications & Networking Conference (WCNC), 2009
 - 7th Annual IEEE Int'l Conf. on Pervasive Computing and Communications (PerCom), 2009
 - 12th International Conference on Principles of Distributed Systems (OPODIS), 2008
 - 16th Int'l Conference on Advanced Computing and Communication (ADCOM), 2008
 - 19th IEEE Int'l Symp. on Personal, Indoor and Mobile Radio Communications (PIMRC), 2008
 - 7th International Conference on AD-HOC Networks & Wireless (AdHoc-Now), 2008
 - IEEE Wireless Communications & Networking Conference (WCNC), 2008
 - 4th IEEE International Conference on Mobile Ad-hoc and Sensor Systems (MASS), 2007
 - IEEE International Conference on Communications Workshop (ICCW), 2007
 - 3rd IEEE International Conference on Mobile Ad-hoc and Sensor Systems (MASS), 2006
 - 12th ACM Annual Int'l Conf. on Mobile Computing and Networking (MobiCom), 2006
- Invited talks
 - Research Meeting and School on Distributed Computing by Mobile Robots, Ottawa, Canada, 2010
 - Seminar on *Moving and Computing: Agents, Robots, Sensors*, Carleton University, Canada, 2009
 - 1st International Workshop on Intelligent Vehicular Networks (InVeNet), Macau, China, 2009
 - 1st Research Work. Wireless Computing and Sensor Networks (WCSN), Havana, Cuba, 2007

PUBLICATIONS

- Journal publications
 - R. Falcon, **X. Li**, and A. Nayak. "Carrier-based Focused Coverage Formation in Wireless Sensor and Robot Networks." [Submitted]
 - **X. Li**, H. Frey, N. Santoro, and I. Stojmenovic. "Strictly Localized Sensor Self-Deployment for Optimal Focused Coverage." [Submitted]
 - **X. Li**, N. Santoro, and I. Stojmenovic. "Localized Distance-Sensitive Service Discovery in Wireless Sensor and Actor Networks." IEEE Transactions on Computers, 58(9): 1275-1288, 2009.
 - **X. Li**, H. Frey, N. Santoro, and I. Stojmenovic. "Localized Sensor Self-Deployment with Coverage Guarantee." ACM SIGMOBILE Mobile Computing and Communications Review, 12(2): 50-52, 2008. [One of the selected best posters from *ACM MobiHoc*, 2007]

- **X. Li**, A. Nayak, I. Ryl, and D. Simplot. "On Secure Mobile Ad Hoc Routing." *Ad Hoc & Sensor Wireless Networks*, 4(3): 229-254, 2007.
- A. Boukerche, **X. Li**, and K. El-Khatib. "Trust-based security for wireless ad hoc and sensor networks." *Computer Communications*, 30(11-12): 2413-2427, 2007.
- A. Boukerche, K. El-Khatib, **X. Li**, and L. Korba. "Performance evaluation of an anonymity providing protocol for wireless ad hoc networks." *Performance Evaluation*, 63(11): 1094-1109, 2006.
- A. Boukerche, K. El-Khatib, **X. Li**, and L. Korba. "An Efficient Secure Distributed Anonymous Routing Protocol for Mobile and Wireless Ad Hoc Networks." *Computer Communications*, 28(10): 1193-1203, 2005.
- Book chapters
 - **X. Li**, A. Nayak, and I. Stojmenovic. "Sink Mobility in Wireless Sensor Networks." *Wireless Sensor and Actuator Networks: Algorithms and Protocols for Scalable Coordination and Data Communication*, Chapter 6, Wiley, 2010.
 - **X. Li**, A. Nayak, and I. Stojmenovic. "Location Service in Sensor and Mobile Actuator Networks." *Wireless Sensor and Actuator Networks: Algorithms and Protocols for Scalable Coordination and Data Communication*, Chapter 8, Wiley, 2010.
 - **X. Li**, A. Nayak, D. Simplot-Ryl, and I. Stojmenovic. "Sensor Placement in Sensor and Actuator Networks." *Wireless Sensor and Actuator Networks: Algorithms and Protocols for Scalable Coordination and Data Communication*, Chapter 10, Wiley, 2010.
- Conference/workshop proceedings
 - **X. Li**, N. Mitton, I. Simplot-Ryl, and D. Simplot-Ryl. "A Novel Family of Geometric Planar Graphs for Wireless Ad Hoc Networks." [Submitted]
 - J. Yang, **X. Li**, A. Nayak, and I. Stojmenovic. "Integrated Location Service and Geographic Routing to a Mobile Sink in Wireless Sensor Networks." [Submitted]
 - Yanli Deng, **Xu Li**, Venkat Narasimhan, Amiya Nayak, and Ivan Stojmenovic. "Localized Address Autoconfiguration in Wireless Ad Hoc Networks." [Submitted]
 - G. Fletcher, **X. Li**, A. Nayak, and I. Stojmenovic. "Randomized Robot-assisted Relocation of Sensors for Coverage Repair in Wireless Sensor Networks." *In Proceedings of the 2010 IEEE 72nd Vehicular Technology Conference (VTC 2010-Fall)*, Ottawa, Canada, 2010. To appear.
 - G. Fletcher, **X. Li**, A. Nayak, and I. Stojmenovic. "Back-Tracking based Sensor Deployment by a Robot Team." *In Proceedings of the 7th IEEE Communications Society Conference on Sensor, Mesh and Ad Hoc Communications and Networks (SECON)*, Boston, U.S., 2010. To appear.
 - R. Falcon, **X. Li**, A. Nayak, and I. Stojmenovic. "The One-Commodity Traveling Salesman Problem with Selective Pickup and Delivery: an Ant Colony Approach." *In Proceedings of the 2010 IEEE Congress on Evolutionary Computation (CEC)*, Barcelona, Spain, 2010. To appear.
 - R. Falcon, **X. Li**, and A. Nayak. "Carrier-based Coverage Augmentation in Wireless Sensor and Robot Networks." *In Proceedings of the 7th IEEE International Workshop on Wireless Ad hoc and Sensor Networks (WWASN)*, Genoa, Italy, 2010. To appear.
 - G. Yan, N. Mitton, and **X. Li**. "Reliable Routing in Vehicular Ad hoc Networks." *In Proceedings of the 7th IEEE International Workshop on Wireless Ad hoc and Sensor Networks (WWASN)*, Genoa, Italy, 2010. To appear.
 - **X. Li**, N. Mitton, I. Ryl, and D. Simplot. "A Novel Sensor Localization Scheme by Mobile Actors." *In Proceedings of the 10th ACM International Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc)*, pp. 339-340, New Orleans, U.S., 2009. [Poster Abstract]
 - **X. Li**, H. Frey, N. Santoro, and I. Stojmenovic. "Focused-Coverage by Mobile Sensor Networks." *In Proc. of the 6th IEEE Int'l Conf. on Mobile Ad-hoc and Sensor Systems (MASS)*, pp. 466-475, 2009.
 - **X. Li**, N. Mitton, I. Ryl, and D. Simplot. "Localized Sensor Self-deployment with Coverage Guarantee in Complex Environment." *In Proceedings of the 8th International Conference on AD-HOC Networks & Wireless (AdHoc-Now)*, LNCS 5793, pp. 138-151, Murcia, Spain, 2009.

- **X. Li**, H. Frey, N. Santoro, and I. Stojmenovic. “Localized Sensor Self-deployment for Guaranteed Coverage Radius Maximization.” In *Proceedings of the IEEE International Conference on Communications (ICC)*, DOI:10.1109/ICC.2009.519914, Dresden, Germany, 2009.
- **X. Li**, A. Nayak, and I. Stojmenovic. “Exploiting Actuator Mobility for Energy-Efficient Data Collection in Delay-Tolerant Wireless Sensor Networks.” In *Proceedings of the 5th International Conference on Networking and Services (ICNS)*, pp. 216-221, Valencia, Spain, 2009.
- **X. Li**, N. Santoro, and I. Stojmenovic. “Localized Distance-Sensitive Service Discovery in Wireless Sensor Networks.” In *Proceedings of the 1st ACM International Workshop on Foundations of Wireless Ad Hoc and Sensor Networking and Computing (FOWANC)*, pp. 85-92. Co-located with ACM MobiHoc, Hong Kong, China, 2008.
- **X. Li**, K. Lu, N. Santoro, I. Simplot-Ryl, and I. Stojmenovic. “Alternative Data Gathering Schemes for Wireless Sensor Networks.” In *Proceedings of the 1st Int'l Conf. on Relations, Orders and Graphs: Interaction with Computer Science (ROGICS)*, pp. 577-586, Mahdia, Tunisia, 2008.
- **X. Li**, N. Santoro, and I. Stojmenovic. “Mesh-based Sensor Relocation for Coverage Maintenance in Mobile Sensor Networks.” In *Proceedings of the 4th International Conference on Ubiquitous Intelligence and Computing (UIC)*, LNCS 4611, pp. 696-708, Hong Kong, China, 2007.
- **X. Li**, A. Nayak, I. Ryl, D. Simplot, and I. Stojmenovic. “Secure Mobile Ad Hoc Routing.” In *Proceedings of the 3rd IEEE International Workshop on Heterogeneous Wireless Networks (HWISE)*, pp. 737-742, Niagara Falls, Canada, 2007.
- **X. Li** and N. Santoro. “An Integrated Self-deployment and Coverage Maintenance Scheme for Mobile Sensor Networks.” In *Proceedings of the 2nd International Conference on Mobile Ad-hoc and Sensor Networks (MSN)*, LNCS 4325, pp. 847-860, Hong Kong, China, 2006.
- **X. Li** and N. Santoro. “ZONER: A ZONE-based Sensor Relocation Protocol for Mobile Sensor Networks.” In *Proceedings of the 6th IEEE International Workshop on Wireless Local Network (WLN)*, pp. 923-930, Tampa, U.S., 2006.
- A. Boukerche and **X. Li**. “An Agent-based Trust and Reputation Management Scheme for Wireless Sensor Networks.” In *Proceedings of IEEE Global Telecommunications Conference (GLOBECOM)*, vol. 3, pp. 1857-1861, St. Louis, U.S., 2005.
- A. Boukerche, K. EI-Khatib, **X. Li**, and L. Korba. “SDAR: A Secure Distributed Anonymous Routing Protocol for Wireless and Mobile Ad hoc Networks.” In *Proceedings of the 4th IEEE International Workshop on Wireless Local Networks (WLN)*, pp. 618-624, Tampa, U.S., 2004.
- A. Boukerche, K. EI-Khatib, **X. Li** and L. Korba. “A Novel Solution for Achieving Anonymity in Wireless Ad hoc Networks.” In *Proc. of the 1st ACM Int'l Work. on Performance Evaluation of Wireless Ad hoc, Sensor, and Ubiquitous Networks (PE-WASUN)*, pp.30-38. Venice, Italy, 2004.
- A. Boukerche, K. EI-Khatib, **X. Li**, and L. Korba. “Anonymity Enabling Scheme for Wireless Ad Hoc Networks.” In *Proceedings of IEEE Global Telecommunications Conference Workshop: Wireless Ad Hoc and Sensor Networks*, pp. 136-140, Dallas, U.S., 2004.
- Technical Report
 - **X. Li**, N. Mitton, I. Simplot-Ryl, and D. Simplot-Ryl. “Graph Planarization in Wireless Ad hoc Networks.” INRIA Research Report RR-7340, July, 2010.
 - **X. Li**, H. Frey, N. Santoro, and I. Stojmenovic. “Localized Self-Deployment of Mobile Sensors for Optimal Focused-Coverage Formation.” TR-2007-13, SITE, University of Ottawa, Dec., 2007.
 - **X. Li**, N. Santoro, and I. Stojmenovic. “Localized Distance-Sensitive Service Discovery in Wireless Sensor Networks.” TR-2007-10, SITE, University of Ottawa, May, 2007.
- Theses
 - **X. Li**. “Improving Area Coverage by Mobile Sensor Networks.” Ph.D. thesis, SCS, Carleton University, October, 2008.
 - **X. Li**. “Secure and Anonymous Routing in Wireless Ad-hoc Networks.” M.C.S thesis, SITE, University of Ottawa, May, 2005.