

Curriculum Vitae

Dr. Lichun Bao

Computer Science Department
Bren School of Information and Computer Sciences
University of California
Irvine, CA 92697-3435

Email: lbao@ics.uci.edu
Phone: 949-824-8870
Fax: 949-824-4056
Web: <http://www.ics.uci.edu/~lbao>

Education:

University of California, Santa Cruz, CA, USA	Ph.D.	Computer Science,	2002.
Tsinghua University, Beijing, China	M.S.	Computer Science,	1997.
University of Science and Technology of China, Heifei, China	B.S.	Computer Science,	1994.

Employment:

Assistant Professor,	Computer Science Department, University of California, Irvine, CA	2003–present.
Senior Software Engineer,	Meru Networks, Inc., Sunnyvale, CA	2002–03.
Research Assistant,	Computer Communication Research Group, University of California, Santa Cruz, CA	1997–2002.
Teaching Assistant,	University of California, Santa Cruz, CA	1997, 1999.
Research Engineer,	Cenus Technologies, Inc., Scotts Valley, CA	2000–02.
Intern,	Sun Microsystems Laboratories, Mountain View, CA	2000.

Research Interests:

<i>Ad hoc networks</i>	Computational channel access scheduling, topology management, routing with unidirectional links, anonymous routing.
<i>Sensor networks</i>	Network coverage, target searching, network packet tracking and tracing.
<i>WLAN Systems</i>	Mobility management at layer two and three, location-based access control.
<i>Peer-to-peer networks</i>	Real-time streaming protocols in P2P networks.

Professional Membership:

- ACM member.
- IEEE member.

Honors and Awards:

- *NSF Award #0725914*: Adaptive Network Assimilations through System Reconfigurability, PI, \$300,000, 2007-2010.
- *Raytheon Company Award*, Scalable Scheduling MAC Protocols in Multi-Channel MANETs, \$80,000, 2007-2008.
- *NSF CyberTrust Award #0524050*, Co-PI, \$150,000, 2005–2007.
- *UCI/Faculty Career Development Award (FCDA)*, 2005-2006.
- *UCI/Calit2 Networking Laboratory Development Grant*, \$100,000.
- *UCI/CORCLR Travel Grant*, \$1,000.00 March 2006-June 2006.
- *UC Regents' Fellowship*, University of California, Santa Cruz, 1997.
- *Best paper award* in IFIP International Conference on Embedded and Ubiquitous Computing, 2005.

Publications:

- **Ph.D. Dissertation:**

D1. L. Bao, "*Neighbor-aware control in ad hoc networks*", University of California, Santa Cruz, Dec. 2002. Advisor: J.J. Garcia-Luna-Aceves.

- **In conferences with acceptance rates (AR):**

C1. L. Bao and J.J. Garcia-Luna-Aceves, "*Link State Routing in Networks with Unidirectional Links*", Proc. IEEE International Conference on Computer Communications and Networks (IC3N), Oct. 11-13, 1999.

C2. L. Bao and J.J. Garcia-Luna-Aceves, "*A New Collision-Free Medium Access Control Protocol*", Proc. IEEE Military Communications Conference (MILCOM), Oct. 22-25, 2000.

C3. L. Bao and J.J. Garcia-Luna-Aceves, "*A New Approach to Channel Access Scheduling for Ad Hoc Networks*", Proc. ACM/IEEE the Annual International Conference on Mobile Computing and Networking (MOBICOM), Jul. 16-21, 2001. **AR=11%**.

C4. W. Kishaba, G. Vardakas, J.J. Garcia-Luna-Aceves, L. Bao, and Y. Kang, "*Ad Hoc Networking with Beam Forming Antennas*", Proc. IEEE Military Communications Conference (MILCOM), Oct. 28-31, 2001.

C5. L. Bao and J.J. Garcia-Luna-Aceves, "*Distributed Transmission Scheduling Using Code-Division Channelization*", Proc. IFIP-TC6 Networking 2002, 19-24 May 2002. **AR=26%**.

C6. L. Bao and J.J. Garcia-Luna-Aceves, "*Transmission Scheduling in Ad Hoc Networks with Directional Antennas*", Proc. ACM/IEEE the Annual International Conference on Mobile Computing and Networking (MOBICOM), Sep. 23-28, 2002. **AR=7%**.

C7. L. Bao and J.J. Garcia-Luna-Aceves, "*Hybrid Channel Access Scheduling in Ad Hoc Networks*", Proc. IEEE International Conference on Network Protocols (ICNP), Nov. 12-15, 2002. **AR=15%**.

C8. L. Bao and J.J. Garcia-Luna-Aceves, "*Topology Management in Ad Hoc Networks*", The ACM International Symposium on Mobile Ad Hoc Networking and Computing (MOBIHOC), Jun. 1-3, 2003. **AR=15%**.

C9. L. Bao, "*MALS: Multiple Access Scheduling Based on Latin Squares*", in Proc. IEEE Military Communications Conference (MILCOM), Oct. 31-Nov. 3, 2004.

C10. H. Tan, W. Zeng and L. Bao, "*Performance Evaluation of Topology Management in Multi-Rate Ad Hoc Networks*", IEEE Wireless and Communications and Networking Conference (WCNC), Mar. 13-17, 2005.

- C11.** H. Tan, W. Zeng and **L. Bao**, "*PATM: Priority-based Adaptive Topology Management for Efficient Routing in Ad Hoc Networks*", The International Conference on Computational Science (ICCS), May 22-25, 2005.
- C12.** H. Tan, W. Zeng, **L. Bao** and T. Suda, "*A Unified Framework for Topology Management in Multi-Rate Ad Hoc Networks*", IEEE International Conference on Wireless and Mobile Computing, Networking and Communications (WIMOB), Aug. 22-24, 2005.
- C13.** J. Wang and **L. Bao**, "*Mobile Context Handoff in Distributed IEEE 802.11 Systems*", International Conference on Wireless Networks, Communications, and Mobile Computing (WIRELESSCOM), Jun. 13-16, 2005.
- C14.** L. Zan, J. Wang and **L. Bao**, "*Personal AP Protocol for Mobility Management in IEEE 802.11 Systems*", The Second Annual International Conference on Mobile and Ubiquitous Systems: Networking and Services (MOBIQUITOUS), Jul. 17-21, 2005.
- C15.** J. Wang and **L. Bao**, "*Layer-2 Mobility Management in Hybrid Wired/Wireless Systems*", The Second International Conference on Quality of Service in Heterogeneous Wired/Wireless Networks (QSHINE), Aug. 22 - 24, 2005.
- C16.** J. Lu, **L. Bao** and T. Suda, "*Probabilistic Self-Scheduling for Coverage Configuration in Sensor Networks*", in Proc. of the International Conference on Sensing Technology (ICST), Nov. 2005.
- C17.** J. Lu, **L. Bao** and T. Suda, "*Coverage-Aware Sensor Scheduling in Dense Sensor Networks*", in Proc. IFIP International Conference on Embedded and Ubiquitous Computing (EUC), Dec. 6-9 2005. The best paper award.
- C18.** D. Sy and **L. Bao**, "*CAPTRA: CoordinAted Packet TRAcEback*", The Fifth International Conference on Information Processing in Sensor Networks (IPSN), Apr. 19-21, 2006. **AR= 15%**.
- C19.** D. Sy, R. Chen and **L. Bao**, "*ODAR: On-Demand Anonymous Routing in Ad Hoc Networks*", in Proc. of The Third IEEE International Conference on Mobile Ad-hoc and Sensor Systems (MASS), Oct. 9-12, 2006. **AR=25%**.
- C20.** L. Bao, "*A New Approach to Anonymous Multicast Routing in Ad Hoc Networks*", In Proc. of The Second International Conference on Communications and Networking in China (CHINACOM), Shanghai, China, August 21-24, 2007.
- **In workshops:**

W1. **L. Bao** and J.J. Garcia-Luna-Aceves, "*Unidirectional Link-State Routing with Propagation Control*", in Proc. IEEE 7th Workshop on Mobile Multimedia Communications (MoMuC) 2000, Nov. 2000.

W2. **L. Bao** and J.J. Garcia-Luna-Aceves, "*Channel Access Scheduling in Ad Hoc Networks with Unidirectional Links*", in Proc. ACM/IEEE 5th International Workshop on Discrete Algorithms and Methods for Mobile Computing and Communications (DIAL-M), Jul. 21, 2001.

W3. Y. Cho, **L. Bao** and M.T. Goodrich, "*LAAC: A Location-Aware Access Control Protocol*", In Proc. International Workshop on Ubiquitous Access Control (IWUAC), Jul. 17, 2006.

W4. Y. Cho and **L. Bao**, "*Secure Access Control for Location-Based Applications in WLAN Systems*", In Proc. The Second International Workshop on Wireless and Sensor Networks Security (WSNS), Oct. 9-12, 2006.
 - **Book Chapters:**

B1. **L. Bao** and J.J. Garcia-Luna-Aceves, "*Distributed Channel Access Scheduling for Ad Hoc Networks*", book chapter in "Algorithms and Protocols for Wireless and Mobile Networks", Edit. A. Boukerche, Publishers: CRC/Hall Publisher, 2004.

B2. Y. Cho, **L. Bao** and M. Goodrich, "*Secure Location-Based Access Control in WLAN Systems*", to appear in "Wireless and Sensor Networks Security", Edit. Jiang Zhen, Publisher: Nova Science Publishers, Inc., 2007.

B3. **L. Bao** and D. Sy, "*Coordinated Packet Traceback in Wireless Mesh Networks*", to appear in "Wireless Mesh Networking with 802.16, 802.11, and ZigBEE", Edit. George Aggelou, Publisher: McGraw-Hill, 2008.

• **Journals:**

J1. **L. Bao** and J.J. Garcia-Luna-Aceves, "*Distributed Dynamic Channel Access Scheduling for Ad Hoc Networks*", In Journal of Parallel and Distributed Computing (JPDC), Special Issue on Wireless and Mobile Ad Hoc Networking and Computing, 2002.

J2. **L. Bao** and J.J. Garcia-Luna-Aceves, "*Receiver-Oriented Multiple Access in Ad Hoc Networks with Directional Antennas*", ACM/Kluwer Mobile Networks and Applications (MONET), 2003.

J3. J. Lu and **L. Bao** and T. Suda, "*Coverage-Aware Sensor Engagement in Dense Sensor Networks*", in Journal of Embedded Computing (JEC), Special Issue on Embedded System Optimization, IOS Press, 2007.

J4. J. Lu and L. Bao and T. Suda, "*Probabilistic Self-Scheduling for Coverage Configuration in Wireless Ad-hoc Sensor Networks*", International Journal of Pervasive Computing and Communications, Vol. 3, No. 1, 2008.

• **Patent:**

P1. J. J. Garcia-Luna-Aceves and **L. Bao**, "*System and Method for Ad Hoc Network Access Employing the Distributed Election of a Shared Transmission Schedule*", US 7,046,639 B2, filed in 09/28/2001.

Teaching Activities:

ICS 153: " <i>Computer Networks</i> ",	Winter'04, Spring'05, Spring'06.
NetSys201/CS232/EECS248A: " <i>Internet</i> "	Winter'07.
ICS 243E/NetSys 230: " <i>Wireless Networking</i> ",	Spring'04, Winter'05, Spring'06, Spring'07.
NetSys 295: " <i>Networked Systems Research Seminar</i> ",	Fall'04.
ICS 280 / NetSys 270: " <i>Ad Hoc Networking</i> ",	Fall'04.
ICS 299 " <i>Mobility Protocols</i> ",	Winter'06.
ICS 299 " <i>Economics in P2P Networks</i> ",	Spring'06.

Advising Activities:

• ***Graduate student advisor:***

Denh Sy,	Sept. 2004 – present.
Younsun Cho,	Sept. 2005 – present.
Lei Zan,	Sept. 2004 – Jun. 2005.
Jidong Wang,	Sept. 2004 – Jun. 2005.
Haixia Tan,	Jan. 2004 – present.
Yohan Chae	Jan. 2008 – present.

- **Graduate student co-advisor:**
 - Rex Chen, co-advised with Amelia Regan Sept. 2005 – present.
 - Jun Lu, co-advised with Tatsuya Suda Sept. 2004 – present.
- **Undergraduate student advisor:**
 - Michael Golightly, Jun. 2006 – Sept. 2006.
 - Hong Tan, Jun. 2004 – Sept. 2004.

Synergistic Activities:

- *Manager* of the UCI Calit2 Networking Computer Lab for collaborative research.
- *PI* of the UCI ICS/Calit2 PlanetLab Site, \$6,000.

Professional Activities:

- *Panelist* in UC Discovery Program, 2007.
- *Panelist* in NSF NeTS Program, 2005, 2006.
- *Panelist* in DoD EPSCoR PROGRAM, 2004.
- *Panelist* in University of California MICRO Program, 2003, 2004, 2005.
- *Local Coordination Chair* in WoWMoM 2008.
- *Co-Chair* of the Third ACM International Workshop on Performance Evaluation of Wireless Ad Hoc, Sensor, and Ubiquitous Networks (PE-WASUN), 2006.
- *Technical program committee member* of BroadWISE 2004, INFOCOM 2007, WASA 2007, Networking 2007, 2008, ChinaCom 2008, GC 2008 (CCNS Track), ICCCN 2008.
- *Session Chair* for MILCOM 2004.
- *Session Chair* for BroadWISE 2004.
- *Peer-reviewers of:*
 - Conferences and workshops:
 - 2004 – BroadWISE, INFOCOM, MOBIHOC, IFIP/NPC, LANMAN, MASS.
 - 2005 - ICC, SIGMOD/PODS.
 - 2006 – INFOCOM, ISLPED, MASS, PE-WASUN.
 - 2007 – INFOCOM, ICC, CHINACOM, WASA, WCNC.
 - 2008 – IFIP Networking, GLOBECOM.
 - Journals:
 - IEEE Journal on Selected Areas in Communications (JSAC): Special Issue on Wireless Ad Hoc Networks, 2004.
 - IEEE Transactions on Parallel and Distributed Systems, 2004.
 - IEEE Transactions on Mobile Computing, 2004, 2005, 2006.
 - IEEE Transactions on Wireless Communications, 2004.
 - IEEE Wireless Communication Magazine, special issue on Inter-Vehicle Communications, 2006.
 - Ad Hoc Networks Journal, Elsevier, 2004,2005.
 - Wireless Networks (WINET), Kluwer, 2004, 2005, 2006, 2007.
 - Mobile Computing and Communications Review (MC²R), 2003, 2005.
 - Computer Networks,
 - The Computer Journal, Oxford Journals, 2005.
 - European Transactions on Telecommunications, Special Issue on Self-Organization in Mobile Networking, Wiley, 2004.
 - International Journal of Communications and Networks, Korean Institute of Communications Sciences (KICS), 2004.
 - Journal of Scheduling, Springer, 2006.