

CURRICULUM VITAE

Nitin H. Vaidya
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Employment

July 2018 – present	Robert L. McDevitt, K.S.G., K.C.H.S. and Catherine H. McDevitt L.C.H.S. Chair, Department of Computer Science <i>Georgetown University</i>
2016 – June 2018	Associate Head for Graduate Affairs, Dept. of Electrical and Computer Eng. <i>University of Illinois at Urbana-Champaign</i>
2006 – June 2018	Professor, Department of Electrical and Computer Engineering Affiliate Professor, Department of Computer Science <i>University of Illinois at Urbana-Champaign</i>
2006 – 2009	Director or Co-Director, Illinois Center for Wireless Systems (ICWS) <i>University of Illinois at Urbana-Champaign</i>
2001 – 2006	Associate Professor, Department of Electrical and Computer Engineering <i>University of Illinois at Urbana-Champaign</i>
1998 – 2001	Associate Professor, Department of Computer Science, <i>Texas A&M University</i>
1993 – 1998	Assistant Professor, Department of Computer Science, <i>Texas A&M University</i>
1988	Engineer, <i>Wipro Information Technology Limited, India</i>

Visiting Positions

July – August 2014	Argonne National Laboratory
May – June 2009	Thomson Paris Research Lab, Paris
June 2008	Technische Universität (TU), Berlin
Sept. 1999 – Jan. 2000	Indian Institute of Technology-Bombay
June – August 1999	Microsoft Research, Redmond
July – August 1998	Sun Microsystems, Menlo Park
1992 – 1993	Visiting Assistant Professor, Texas A&M University

Education

- Ph.D., Electrical and Computer Engineering, University of Massachusetts, Amherst, 1993
- M.S., Electrical and Computer Engineering, University of Massachusetts, Amherst, 1991
- M.E., Computer Science and Engineering, Indian Institute of Science, Bangalore, 1988
- B.E., Electrical and Electronics Engineering, Birla Institute of Technology and Science, Pilani, India, 1986

Honors and Awards

- IEEE Fellow
- Distinguished Lecturer, IEEE Communications Society, 2005-2007
- Distinguished Visitor, IEEE Computer Society, 1998-2001
- CAREER award from the National Science Foundation, 1995
- Honors for teaching:
 - *List of Teachers Ranked as Excellent by Their Students*, University of Illinois at Urbana-Champaign:
 - * Spring 2018 (Distributed Systems undergraduate course)
 - * Fall 2016 (Distributed Algorithms graduate course)
 - * Fall 2015 (Distributed Algorithms graduate course)
 - * Spring 2013 (Distributed Algorithms graduate course)
 - * Spring 2006 (Wireless Networks undergraduate course)
 - *Graduate Faculty Teaching Excellence Award*, presented by Computer Science students at Texas A&M University, April 1999
- Honors for papers:
 1. **(2016) Finalist for Best Student Paper Award (1 of 3 finalists):** Lili Su and Nitin H. Vaidya, “Non-Bayesian Learning in the Presence of Byzantine Adversaries,” *International Symposium on Distributed Computing (DISC)*, September 2016.
 2. **(2015) Best Student Paper Award:** For the paper *Reaching Approximate Byzantine Consensus with Multi-hop Communication*, by L. Su and N. H. Vaidya, at the 17th International Symposium on Stabilization, Safety, and Security of Distributed Systems (SSS), Edmonton, Canada, August 2015.
 3. **(2012) Runner-up Award:** For the paper *Exploiting Opportunistic Overhearing to Improve Performance of Mutual Exclusion in Wireless Ad Hoc Networks*, by G. Hoseinabadi and N. H. Vaidya, at the 10th International Conference on Wired/Wireless Internet Communications (WWIC), Santorini, Greece, 2012.
 4. **(2010) Best Paper Award (Networking Track):** For the paper *Scheduling in Multi-Channel Wireless Networks*, by Vartika Bhandari and N. H. Vaidya, at the *11th International Conference on Distributed Computing and Networking (ICDCN)*, Kolkata, India, January 2010.
 5. **(2010) Best Paper Award:** For the paper *SHORT: A Static-Hybrid Approach for Routing Real Time Applications over Multichannel, Multi-Radio Wireless Networks*, by V. Raman and N. H. Vaidya, at the International Conference on Wired/Wireless Internet Communications (WWIC), Sweden, June 2010.
 6. **(2007) Best Student Paper Award:** For the paper *Capacity of Multi-channel Wireless Networks with Random (c, f) Assignment*, by V. Bhandari and N. H. Vaidya, at the ACM International Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc), September 2007.

7. **(2003) Best Paper Award:** For the paper *Impact of Directional Antennas on Ad Hoc Routing*, by R. Roy Choudhury and N. H. Vaidya, at the Eighth International Conference on Personal Wireless Communication (PWC), Venice, September 2003.
8. **(1998) Best Student Paper Award:** For the paper *Location-Aided Routing (LAR) in Mobile Ad Hoc Networks*, by Y.-B. Ko and N. H. Vaidya, at the ACM International Conference on Mobile Computing and Networking (MobiCom), Dallas, October 1998.
9. **“Best of Conference”** special issues of journals:
 - **(2013)** *Distributed Computing* journal’s special issue on selected papers from ACM Symposium on Principles of Distributed Computing (PODC), 2013, an extended version of the paper *Byzantine Vector Consensus in Complete Graphs*, N. H. Vaidya and V. Garg (to be published).
 - **(2002)** *Wireless Networks* journal’s special issue on best papers from 2002 ACM MobiCom conference includes the paper *A Power Control MAC Protocol for Ad Hoc Networks*, E-S. Jung and N. H. Vaidya (appears in the January 2004 issue).
 - **(1999)** *Wireless Networks* journal’s special issue on selected papers from 1999 ACM MobiCom conference includes the paper *Analysis of TCP Performance over Mobile Ad Hoc Networks*, G. Holland and N. H. Vaidya (appears in the March-May 2002 issue).
 - **(1998)** *Wireless Networks* journal’s special issue on best papers from 1998 ACM MobiCom conference includes the paper *Location-Aided Routing (LAR) in Mobile Ad Hoc Networks*, Y.-B. Ko and N. H. Vaidya (appears in the September 2000 issue).
- *3M Faculty Fellow*, College of Engineering, Texas A&M University, 2000-2001
- *Faculty Research Excellence Award*, presented by Computer Science students at Texas A&M University, April 1999
- *TEES Select Young Investigator Award*, Texas A&M University, 1996
- University of Massachusetts Graduate Fellowship, 1988

Selected Professional Activities

- Chair of the Steering Committee, ACM Symposium on Principles of Distributed Computing (PODC), July 2015 – 2018.
- Organizing Chair, ACM Symposium on Principles of Distributed Computing (PODC), Chicago, 2016.
- Recent Program Committee Memberships
 - 2020 and 2015 International Symposium on Stabilization, Safety, and Security of Distributed Systems (SSS)
 - 2017, 2015 and 2014 ACM Symposium on Principles of Distributed Computing (PODC)
 - 2018 and 2017 International Symposium on Distributed Computing (DISC)

- 2014 ACM Conference on Mobile Computing and Networking (MobiCom)
- Editorial Responsibilities
 - Editor-in-Chief, IEEE Transactions on Mobile Computing, Jan. 2005 – Dec. 2007
 - Editor-in-Chief, ACM SIGMOBILE Mobile Computing and Communications Review (MC2R), October 2003 – December 2004
 - Editorial board member for:
 - * Frontiers of Computer Science journal (Springer), 2019 – present
 - * IEEE Journal on Selected Areas in Communication (JSAC), 2011 – December 2013
 - * IEEE/ACM Transactions on Networking, March 2001 – March 2003
 - * Foundations and Trends in Networking, February 2005 – October 2018
 - * IEEE Transactions on Mobile Computing, December 2001 – December 2007
 - * ACM/Kluwer Wireless Networks journal, September 2000 – May 2002
 - * Computer Networks, Elsevier Science Publisher, July 2000 – August 2002
 - Guest editor of special issues:
 - * Co-Guest Editor, Special Issue on Advances in Mobile Ad Hoc Networking, IEEE Personal Communications magazine, February 2001
 - * Co-Guest Editor, *Wireless Networks* special issue on selected papers from ACM MobiCom 2003.
 - * Co-Guest Editor, *IEEE Computer* magazine, theme issue on Fault-Tolerant and Reliable Computing, April 1997
- Past Steering Committee Membership
 - Member of Steering Committee, ACM Symposium on Principles of Distributed Computing (PODC), June 2012 – July 2015.
 - Chair of the Steering Committee, ACM Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc), July 2003-December 2006
 - Member of Steering Committee, ACM Conference on Wireless Network Security (WiSec) (renamed in 2012 as ACM Conference on Security and Privacy in Wireless and Mobile Networks), 2008-2012
 - Member of Steering Committee, ACM Workshop on Wireless Security (WiSe), 2002-2006
 - Member of Steering Committee, International Conference on Wired/Wireless Internet Communication (WWIC), 2005-2009
- Other Leadership Roles in Conference Organization
 - Track Chair, Fault-tolerance and Dependability track, 17th International Symposium on Stabilization, Safety, and Security of Distributed Systems (SSS), 2015.
 - Chair, the NSF Workshop on “Beyond Cognitive Radios”, June 2011, Urbana, Illinois.
 - Co-founder, ACM Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc), started in 2000.

- Program Co-Chair, ACM International Conference on Mobile Computing and Networking (MobiCom), September 2003.
- General Chair, 2010 ACM MobiCom - ACM MobiHoc joint conference, Chicago, September 2010.
- Program Co-Chair, 12th International Conference on Distributed Computing and Networking, Bangalore, January 2011.
- Program Co-Chair, IEEE Conference on Sensor, Mesh and Ad Hoc Communications and Networks (SECON), Rome, June 2009
- General Chair, ACM Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc), October 2001
- Area Co-Vice Chair for Wireless and Mobile Computing, 28th International Conference on Distributed Computing Systems (ICDCS), June 2008
- Co-Chair, ACM Workshop on Wireless Security (WiSe), September 2002
- Co-Chair, ACM Workshop on Principles of Mobile Computing (POMC), 2001
- Program Co-Chair, ACM Workshop on Mobile Ad Hoc Networking and Computing, August 2000, Boston (this workshop became the MobiHoc conference from 2001).
- Area Vice Chair for Mobile Computing and Communication, 21st International Conference on Distributed Computing Systems (ICDCS), April 2001
- Co-program chair, International Workshop on Discrete Algorithms and Methods for Mobile Computing and Communication (DIAL M), August 1999
- Vice Program Chair, IEEE Workshop on Fault-Tolerant Parallel and Distributed Systems, College Station, June 1994

Tutorial Presentations

Slides for the tutorials are available from <http://disc.ece.illinois.edu>.

- Tutorial on *Resilient Distributed Consensus*: Presented at the 14th International Conference on Distributed Computing and Networking (ICDCN), 2013 (Mumbai, India).
- Tutorial on *Security and Misbehavior Handling in Wireless Ad Hoc Networks*, Presented at 2005 IEEE INFOCOM (Miami).
- Tutorial on *Mobile Ad Hoc Networks: Protocols and Security Issues* presented at the 2005 International Conference on Dependable Systems and Networks (Yokohama).
- Tutorials on *Mobile Ad Hoc Networks*: Presented at
 - 2006 IEEE Infocom (Barcelona)
 - 2004 IEEE Infocom (Hong Kong)
 - 2002 Hot Interconnects 10 Symposium (Stanford University)
 - 2001 ACM MobiCom (Rome)

- 2000 ACM MobiCom (Boston)
- 2000 International Vehicular Technology Conference (Fall VTC) (Boston)
- Tutorials on *TCP for Wireless and Mobile Hosts*: Presented at
 - 1999 International Vehicular Technology Conference (VTC) (Houston).
 - 1999 ACM MobiCom (Seattle)
 - 1998 ACM MobiCom (Dallas)
- Tutorial on *MAC and routing with Directional Antennas*: Presented at 2003 ACM MobiHoc (Annapolis), co-presenters Ram Ramanathan and Mineo Takai.
- Tutorial on *Design and Modelling of Medium Access Control Protocols for Wireless Ad Hoc Networks*: 2002 ACM MobiHoc (Lausanne), co-presenters Rajive Bagrodia and Mineo Takai.

Summer School Lectures

- International Summer School on Trends in Computing, Tarragona, Spain, July 2014
- Summer school, Advanced Institute of Information Technology, Seoul, July 2006
- Lipari Summer School, Italy, July 2004
- Illinois Wireless Summer School, August 2009

Selected Invited Talks

- Invited talk, Eighth International Conference on Networked Systems (NETYS), June 2020 (online due to COVID-19).
- Distinguished Lecture, Computer Science Department, Iowa State University, November 2019.
- Invited talk, Advanced tools, programming languages, and PLatforms for Implementing and Evaluating algorithms for Distributed systems (ApPLIED), held at DISC 2019, October 2019.
- Invited Seminar, CS Department, Virginia Commonwealth University, October 2019.
- Invited Seminar, ECE Department, New York University (NYU), September 2019.
- Distinguished Speaker, Computer Science and Engineering, Pennsylvania State University, September 2019.
- Invited talk, Workshop on Security of Permissionless Systems (at PODC 2019-Toronto), August 2019.
- Invited talk, NSF Aspiring CSR PIs Workshop, Alexandria, VA, June 2019.

- Seminar at ECE department, IIT-Mumbai, India, May 2019.
- Invited talk, 2nd Workshop on Storage, Control, Networking in Dynamic Systems (at DISC 2018), October 2018.
- Seminar at Army Research Laboratory, Adelphi, Maryland, September 2018.
- Invited talk, DIMACS Workshop on Distributed Optimization, Information Processing, and Learning, August 2017.
- Invited talk, 67th Midwest Theory Day, Indiana University, April 2017.
- Keynote talk, 9th International Symposium on Resilient Communication Systems, Chicago, August 2016.
- Keynote talk, IEEE International Conference on Computing, Networking and Communications (ICNC), Kauai, Hawaii, February 2016.
- Keynote talk, A workshop at Shanghai Jiao Tong University, Shanghai, China, November 2014
- Keynote talk, Scottish Informatics and Computer Science Alliance (SICSA) Ph.D. Conference, St. Andrews, Scotland, June 2014
- Keynote Talk, 14th International Symposium on Stabilization, Safety, and Security of Distributed Systems (SSS), October 2012.
- Keynote Talk, ACM Workshop on Foundations of Mobile Computing (FOMC), July 2012.
- Keynote Talk, Joint ERCIM eMobility and MobiSense workshop, held at WWIC conference, Santorini, June 2012.
- Keynote Talk, ACM 13th International Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc), June 2012.
- Keynote Talk, The Fourth IEEE International Workshop on Hot Topics in Mesh Networking (HotMesh), June 2012.
- Distinguished seminar, Department of Computer Science, SUNY at Stony Brook, February 2012
- SICSA Distinguished Visiting Fellow, University of Edinburgh, Scotland, August 2011
- Invited Lecture, 24th International Symposium on Distributed Computing (DISC), September 2010
- Keynote Talk, IEEE International Symposium on a World of Wireless, Mobile and Multimedia Networks (WoWMoM), Montreal, June 2010.
- Distinguished Lecture, Linnaeus Center ACCESS, KTH-Stockholm, May 2010.
- Keynote Talk, Workshop on Reliability and Security in Wireless Networks, Spain (co-located with DISC conference), September 2009

- Distinguished lecture, College of Computing and Informatics, University of North Carolina-Charlotte, April 2009
- Keynote Talk, ACM Workshop on Challenged Networks (CHANTS), September 2008
- Keynote Talk, ACM Workshop on Wireless Network Testbeds, Experimental Evaluation and Characterization (WiNTECH), September 2008
- Keynote Talk, International Conference on Communication System Software and Middleware (COMSWARE), Bangalore, India, January 2008
- Keynote Talk, IEEE Conference on Sensor, Mesh and Ad Hoc Communications and Network (SECON), June 2007
- Keynote Talk, 5th International Conference on Wireless/Wired Internet Communications (WWIC), Coimbra, Portugal, May 2007
- Distinguished speaker, Arizona State University, March 2007
- Keynote Talk, WINLAB Research Review, Rutgers University, November 2006
- Keynote Talk, International Conference on Algorithms, Systems, and Applications of Wireless Networks (WASA), Xi'an, China, August 2006.
- Keynote Talk, ACM Workshop on Multi-Hop Ad Hoc Networks: from Theory to Reality (REALMAN), Florence, May 2006
- Plenary Talk, Microsoft Research's Wireless Networking Summit (WiNS), Goa, India, April 2006
- Keynote Talk, Qualnet World, Atlantic City, October 2005
- Keynote speaker, International Workshop on Theoretical and Algorithmic Aspects of Wireless Ad Hoc, Sensor, and Peer to Peer Networks (TAWN), Chicago, June 2004.
- Keynote Talk, Workshop on Wireless Local Networks, Tampa, November 2001

Funding

- * denotes single investigator grants with Vaidya as sole investigator
- + denotes multi-investigator grants with Vaidya as the lead investigator
- denotes multi-investigator grants led by other investigators

- + **Mozilla Foundation**, Responsible Computer Science Challenge, 2019-20.
- **National Science Foundation**, Improving Latency in Geo-Replicated Storage by Relaxing Consistency Requirements, 2018-2021.
- **Army Research Laboratory**, Alliance for IoBT Research on Evolving Intelligent Goal-driven Networks (IoBT REIGN), 2017-2022. Total award: Approximately \$25 Million over 5 years, for multiple institutions, Lead PI: Tarek Abdelzaher (UIUC).

- * **Google Faculty Research Award**, 2017.
- * **National Science Foundation**, *Algorithms for Smartphone Peer-to-Peer Networks*, 2017-2020, \$318,735. (Collaborative award with Georgetown University, which received a separate grant from NSF.)
- * **National Science Foundation**, *Networked Multi-Agent Systems: Coping with Adversarial Agents and Links*, 2016-2019, \$358,650.
- **National Science Foundation**, *CyPhyHouse: A Laboratory for Evolving Distributed and Mobile Cyber-Physical Systems Research*, 2016-2019, \$610,000 + supplement \$16,000, PIs: Sayan Mitra, Sibin Mohan, Nitin Vaidya, Geir Dellerud.
- * **Toyota InfoTechnology Center USA**, Unrestricted funding for research on distributed algorithms, 2015-2017, \$160,000.
- + **Futurewei Technologies**, Unrestricted grants for research on wireless networks, 2014-2017 (multiple yearly grants in this period).
- * **National Science Foundation**, *NeTS: Small: Impact of Wireless Network Characteristics on Distributed Computation*, 2014-2018, \$474,680
- **National Science Foundation**, *CSR: Medium: Availability-Consistency Tradeoffs in Key-Value and NoSQL Storage Systems*, 2014-2018, PIs: Indranil Gupta, Jose, Meseguer, Nitin Vaidya, \$584,508.
- **ABB Corporate Research Center**, *Collaborative Defense of Transmission and Distribution Protection and Control Devices Against Cyber Attacks*, 2014-17, \$1,273,000, PI: Alfonso Valdes, with multiple researchers, including Nitin Vaidya.
- **National Science Foundation**, *Distributed Asynchronous Algorithms and Software Systems for Wide-Area Monitoring of Power Systems*, 2013-18, \$400,000, PIs: Rakesh Bobba, Nitin Vaidya.
- * **National Science Foundation**, *Efficient CSMA in Wireless Networks: Theory, Protocol Design, and Implementation*, 2011-2014, \$385,921.
- * **National Science Foundation**, *EAGER: Network-Constrained Distributed Primitives*, 2010-2013. \$181,785 + supplement \$16,000.
- **Multidisciplinary University Research Initiative (MURI) program**, *Designing Reliable and Secure MANETs*, 2007-2012 (extended to 2013), PI - Virgil Gligor, with multiple co-PIs.
- **Boeing Corporation** through Information Trust Institute, 2010-2011 (extended to 2012).
- * **National Science Foundation**, *Workshop on Networking Research*, 2010-2011, \$49,340.
- * **National Science Foundation**, *Wireless Summer School Workshop*, 2009-2010, \$49,000.
- + **National Science Foundation**, *MIMO Links in Wireless Edge Networks: Cross-Layer Protocol Design*, PIs: Nitin Vaidya, V. Veeravalli, 2008-2011, \$410,000.

- **National Science Foundation**, *CRI: Towards Cyber-Physical Computing at Scale: A Life-Size Experimental Facility for Applied Sensor Networks Research*, 2007-2009. PIs: Tarek Abdelzaher, Panganamala Kumar, Nitin Vaidya, Scott Johnson, William Sullivan, \$100,000.
- **Multidisciplinary University Research Initiative (MURI) program**, *Dynamic Ad-Hoc Wireless Networks*, 2005-2010, PI - J. J. Garcia-Luna-Aceves, with multiple co-PIs.
- * **National Science Foundation**, *Multi-Channel Wireless Mesh Networks: Capacity, Protocols, and Experimental Evaluation*, 2006-2009, \$320,000.
- * **Boeing Corporation** through Information Trust Institute, *Dependability Through Diversity in Wireless Networks*, 2005-2009.
- **Boeing Corporation** through Information Trust Institute, *Trust Management in MANETs*, 2006-2010.
- **Lockheed Martin** (sub-contract on a DARPA CBMANET project), *Mobility Aware Resource Coordination for Optimization of Network Infrastructure (MARCONI)*, 2006-2007.
- + **National Science Foundation**, *RFID-Based Sensor Networks Exploiting Diversity and Redundancy*, 2005-2008 \$278,557. (Collaborative grant with Stony Brook University, which received a separate award from NSF).
- + **UIUC Critical Research Initiative Program**, *Next Generation RFID Systems: People and Object Tracking for Homeland Security Applications*, 2005-2007.
- Auburn University (sub-contract on a **National Science Foundation** funded project), *CRCD/EI: 4G Wireless Engineering Sandbox*, 2004-2006.
- + **National Science Foundation**, *Wireless Wind Tunnel: A Testbed for Experimental Evaluation of Wireless Networks*, 2004-2007 PIs - Nitin Vaidya, Jennifer Bernhard, V. Veeravalli, R. Iyer, P. R. Kumar, \$300,000.
- * **Motorola Center for Communications**, *Design and Evaluation of Hybrid Wireless Networks*, 2002-2005.
- * **National Science Foundation**, *Ad Hoc Wireless Networks Utilizing Multi-Rate and Power-Save Capabilities*, 2002-2006, \$ 273,999.
- **BBN Technologies** (sub-contract on a DARPA Future Combat Systems project), *Utilizing Directional Antennas for Ad Hoc Networking (UDAAN)*, 2001-2002, \$108,000.
- + **Aerospace Vehicle Systems Institute**, *Wireless Communication for Aircraft Systems*, 2001.
- * **Microsoft Research**, gift to support research in *Wireless Technologies*, September 2000, \$15,000.
- **Defense Advanced Research Projects Agency (DARPA)**, *Providing Survivable Real-Time Communication Service for Distributed Mission Critical Systems*, PIs - Wei Zhao, Riccardo Bettati, Nitin Vaidya, 1999-2002, \$889,836.

- * **National Science Foundation**, *TCP-Unaware Approaches to Improve Performance of TCP Over Wireless Links*, 1999-2002, \$103,183.
- + **National Science Foundation**, *Collaborative Proposal: Protocols for Mobile Ad Hoc Networks*, 1999-2002, \$146,416. (Collaborative award with University of Cincinnati, which received a separate grant from NSF.)
- **National Science Foundation**, *Distributed Algorithms for Mobile Ad Hoc Networks*, PIs: Jennifer Welch, Nitin Vaidya, 1999-2001, \$100,000.
- * **National Science Foundation**, *CONACyT: Geocasting in Mobile Ad Hoc Networks Using Location Information*, 1999-2001, \$51,996.
- + **National Science Foundation**, *CISE Research Instrumentation: Wireless Networking and Collaborative Knowledge Building Research*, PIs - Nitin Vaidya, Wei Zhao, Frank Shipman, and Riccardo Bettati, 1999-2002, \$50,000.
- * **Sun Microsystems**, gift to support research on *Performance of TCP in Mobile/Wireless Environments*, November 1998, \$20,000 + \$5,000 workstation.
- * **MCI Telecommunications Corporation**, *Evaluation of Broadcast Scheduling and Cache Replacement Policies*, 1998, \$28,894.
- + **Texas Advanced Technology Program**, *Design and Performance Evaluation of Wireless Networking Protocols*, 1998-99, \$85,833. (Collaborative project with University of Texas-San Antonio, which received a separate grant.)
- * **CAREER award from National Science Foundation**, *Two-Level Failure Recovery Schemes for Multicomputers and Distributed systems*, 1995-98, \$85,978.
- + **Texas Advanced Technology Program**, *A Framework for Design and Development of Wireless Networks and Mobile Computing Systems*, \$71,360, 1996-98. (Collaborative project with University of Texas-Dallas, which received a separate grant.)
- * **National Science Foundation**, *Bit/Byte Bounded Error Control Codes for Byte-Organized Systems*, 1995-98, \$149,899.
- + **National Science Foundation**, CISE Research Instrumentation: *Distributed Computing and Real-Time Networking Research*, PIs - Nitin Vaidya, Wei Zhao, Nancy Amato, Jennifer Welch, 1996-97 \$72,240.
- **Texas Advanced Technology Program**, *Tool Development for Fault-Tolerant Computing System Evaluation*, 1994-96, \$189,422.

Journal Publications

- L. Su and N. H. Vaidya, “(Technical Note) Byzantine-Resilient Multi-Agent Optimization,” accepted for publication in *IEEE Transactions on Automatic Control*.
- N. Gupta, S. Gade, N. Chopra, N. H. Vaidya, “Preserving Statistical Privacy in Distributed Optimization,” accepted for publication in *IEEE Control Systems Letters* (L-CSS).

- L. Su and N. H. Vaidya, “Defending non-Bayesian learning against adversarial attacks”, *Distributed Computing*, 2019.
- T F. Abdelzaher, et al., “Toward an Internet of Battlefield Things: A Resilience Perspective”, *IEEE Computer*, 2018.
- F. Wu, T. Meng, A. Li, G. Chen, N. H. Vaidya, “Have You Recorded My Voice: Toward Robust Neighbor Discovery in Mobile Wireless Networks,” *IEEE/ACM Transactions on Networking*, 2018.
- L. Su and N. H. Vaidya, “Reaching approximate Byzantine consensus with multi-hop communication,” *Information and Computation*, August 2017.
- M. R. Rahman, L. Tseng, S. Nguyen, I. Gupta and N. H. Vaidya, “Characterizing and Adapting the Consistency-Latency Tradeoff in Distributed Key-Value Stores,” *ACM Transactions on Autonomous and Adaptive Systems (TAAS)*, February 2017.
- C. Hadjicostis, N. H. Vaidya and A. Dominguez-Garcia, “Robust Distributed Average Consensus via Exchange of Running Sums,” *IEEE Transactions on Automatic Control*, June 2016.
- H. Mendes, M. Herlihy, N. H. Vaidya and V. Garg, “Multidimensional Agreement in Byzantine Systems,” *Distributed Computing*, 2015.
- L. Tseng, N. H. Vaidya and V. Bhandari, “Broadcast Using Certified Propagation Algorithm in Presence of Byzantine Faults,” *Information Processing Letters*, 2014.
- F. Wu and N. H. Vaidya, “A Strategy-Proof Radio Spectrum Auction Mechanism in Non-cooperative Wireless Networks,” *IEEE Transactions on Mobile Computing*, May 2013.
- A. D. Dominguez-Garcia, C. N. Hadjicostis, and N. H. Vaidya, Resilient Networked Control of Distributed Energy Resources, *IEEE Journal on Selected Areas in Communications: Smart Grid Communications Series*, July 2012.
- W. Yoon and N. H. Vaidya, “RFID Reader Collision Problem: Performance Analysis and Medium Access,” *Wireless Communications and Mobile Computing*, John Wiley & Sons, April 2012.
- W. Yoon and N. H. Vaidya, “A Link Layer Protocol and Link-State Routing Protocol Suite for Multi-channel Ad Hoc Networks,” *Wireless Communications and Mobile Computing*, John Wiley & Sons, January 2012.
- W. Yoon and N. H. Vaidya, “Routing Exploiting Multiple Heterogeneous Wireless Interfaces: A TCP Performance Study,” *Computer Communications* (Elsevier), January 2010.
- P. Kyasanur and N. H. Vaidya, “Capacity of Multichannel Wireless Networks Under the Protocol Model,” *IEEE/ACM Transactions on Networking*, pp. 515-527, April 2009.
- Y.-B. Ko, J.-M. Choi and N. H. Vaidya, “MAC Protocols Using Directional Antennas in IEEE 802.11 based ad hoc networks,” *Wireless Communications and Mobile Computing*, August 2008.

- N. H. Vaidya and S. R. Das, “RFID-Based Networks - Exploiting Diversity and redundancy,” *ACM Mobile Computing and Communications Review (MC2R)*, pp. 2-14, January 2008.
- M. J. Miller and N. H. Vaidya, “Ad Hoc Routing for Multilevel Power Save Protocols,” *Ad Hoc Networks (Elsevier)*, pp. 210-225, April 2008.
- R. Roy Choudhury, X. Yang, Ram Ramanathan and N. H. Vaidya, “On designing MAC protocols for wireless networks using directional antennas,” *IEEE Transactions on Mobile Computing*, May 2006.
- J. So and N. H. Vaidya, “Load-Balancing Routing in Multichannel Hybrid Wireless Networks with Single Network Interface,” *IEEE Transactions on Vehicular Technology*, May 2006.
- X. Yang, N. H. Vaidya and P. Ravichandran, “Split-Channel Pipelined Packet Scheduling for Wireless Networks,” *IEEE Transactions on Mobile Computing*, March 2006.
- X. Yang and N. H. Vaidya, “A Wireless MAC Protocol Using Implicit Pipelining,” *IEEE Transactions on Mobile Computing*, March 2006.
- P. Kyasanur and N. H. Vaidya, “Routing and Link-layer Protocols for Multi-Channel Multi-Interface Ad Hoc Wireless Networks,” *ACM SIGMOBILE Mobile Computing and Communications Review (MC2R)*, January 2006.
- N. H. Vaidya, A. Dugar, S. Gupta, P. Bahl, “Distributed fair scheduling in a wireless LAN,” *IEEE Transactions on Mobile Computing*, November/December 2005.
- P. Kyasanur and N. H. Vaidya, “Selfish MAC layer misbehavior in wireless networks,” *IEEE Transactions on Mobile Computing*, September/October 2005.
- S. Biaz and N. H. Vaidya, “De-Randomizing Congestion Losses to Improve TCP Performance Over Wired-Wireless Networks,” *IEEE/ACM Transactions on Networking*, June 2005.
- M. J. Miller and N. H. Vaidya, “A MAC Protocol to Reduce Sensor Network Energy Consumption Using a Wakeup Radio,” *IEEE Transactions on Mobile Computing*, May-June 2005.
- E.-S. Jung and N. H. Vaidya, “A Power Control MAC Protocol for Ad Hoc Networks,” *ACM/Kluwer Wireless Networks*, January 2005.
- R. Roy Choudhury and N. H. Vaidya “Performance of Ad Hoc Routing Using directional antennas,” *Ad Hoc Networks (Elsevier)*, March 2005.
- X. Yang and N. H. Vaidya, “Priority Scheduling in Wireless Ad Hoc Networks,” *Wireless Networks*, May 2006.
- N. Malpani, Y. Chen, N. H. Vaidya and J. Welch, “Distributed Token Circulation on Mobile Ad Hoc Networks,” *IEEE Transactions on Mobile Computing*, March/April 2005.
- S. Bhandarkar, N. Sadry, A. L. N. Reddy and N. H. Vaidya, “TCP-DCR: A Novel Protocol for Tolerating Wireless Channel Errors,” *IEEE Transactions on Mobile Computing*, September/October 2005.

- H. Lee and J. L. Welch and N. H. Vaidya, “Location Tracking Using Quorums in Mobile Ad Hoc Networks,” *Ad Hoc Networks* journal (Elsevier Science). November 2003.
- Y.-B. Ko and N. H. Vaidya, “Anycasting-Based Protocols for Geocast Service in Mobile Ad Hoc Networks,” *Computer Networks*, April 2003.
- N. H. Vaidya, M. Mehta, C. Perkins and G. Montenegro, “Delayed Duplicate Acknowledgement: A TCP-Unaware Approach to Improve Performance of TCP Over Wireless,” *Journal of Wireless Communications and Mobile Computing*, special issue on Reliable Transport Protocols for Mobile Computing, pp. 59-70, February 2002.
- S. Jiang, N. H. Vaidya and W. Zhao, “Energy Consumption of Traffic Padding Schemes in Wireless Ad Hoc Networks,” *Parallel and Distributed Computing Practices* (special issue on Security for Mission Critical Real-Time Systems), June 2001.
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- D. Sakavalas, L. Tseng and N. H. Vaidya, “Asynchronous Byzantine Approximate Consensus in Directed Networks,” to appear at *ACM Symposium on Principles of Distributed Computing (PODC)*, August 2020.
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- Z. Xiang and N. H. Vaidya, "Relaxed Byzantine Vector Consensus," *20th International Conference on Principles of Distributed Systems (OPODIS)*, December 2016.
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- V. Bhandari and N. H. Vaidya, “On Providing Non-uniform Scheduling Guarantees in a Wireless Network,” *Mini-Conference at IEEE INFOCOM*, March 2010.
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- S. Lim, C. Kim, Y. Ko and N. H. Vaidya, “An Efficient Multicasting for Multi-Channel Multi-Interface Wireless Mesh Networks,” *IEEE MILCOM*, October 2009.
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- X. Yang and N. H. Vaidya, “On Physical Carrier Sensing in Wireless Ad Hoc Networks,” *IEEE INFOCOM*, Miami, March 2005.
- M. J. Miller and N. H. Vaidya, “Improving Power Save Protocols Using Carrier Sensing for Dynamic Advertisement Window,” *IEEE International Conference on Mobile Ad-hoc and Sensor Systems (MASS)*, November 2005.
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- R. Roy Choudhury and N. H. Vaidya, “Deafness: A MAC Layer Problem in Ad Hoc Networks When Using Directional Antennas”, *12th IEEE International Conference on Network Protocols (ICNP)*, October 2004.
- (Invited Paper) M. J. Miller and N. H. Vaidya, “Power Save Mechanisms for Multi-Hop Wireless Networks,” *International Conference on Broadband Networks (BroadNets)*, October 2004.
- M. J. Miller and N. H. Vaidya, ”Minimizing Energy Consumption in Sensor Networks Using A Wakeup Radio,” *IEEE Wireless Communications and Networking Conference (WCNC)*, March 2004.
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- (Invited Paper) X. Yang and N. H. Vaidya, “Explicit and Implicit Pipelining for Wireless Medium Access Control,” *Vehicular Technology Conference*, 2003
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