

Jared Saia

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Research Interests

Theory and algorithms, including distributed computing, security and game theory. A strong current interest is determining how large networks of unreliable components can function reliably.

Education

Ph.D., Computer Science and Engineering, University of Washington, June 2002.
Thesis: “Algorithms for Managing Data in Distributed Systems,” advised by Prof. Anna Karlin.

B.S., Computer Science, Stanford University, June 1993.

Employment

2002-present. Department of Computer Science, The University of New Mexico. Associate Chair, 2011-present; Full Professor, 2013-present; Associate Professor, 2008-2013; Assistant Professor, 2002-2008.

August 2008 - December 2008. Department of Information Systems, Polytechnic University of Catalonia, Barcelona, Spain. Visiting Associate Professor (sabbatical leave).

December 2008 - May 2009. Department of Computer Science, Sapienza University of Rome, Rome Italy. Visiting Associate Professor (sabbatical leave).

1993-1994. Advanced Telephony Research Labs, Nara, Japan. Visiting Researcher.

Awards and Honors

Senior Faculty Research Excellence Award, School of Engineering, University of New Mexico, 2011

Best Paper Award, PODC 2010.

NSF Faculty Early Career Award, 2006.

Junior Faculty Research Excellence Award, School of Engineering, University of New Mexico, 2007

Japanese Society for Artificial Intelligence(JSAI) Best Paper Award, 1995.

Publications

Note: Former and current students are indicated in boldface in the author lists. Total citations to these publications number over 1,600, with an h-index of 19. Note: In theory conferences and journals, author names are in alphabetical order.

Journals

1. Amos Fiat, Stefano Leonardi, Jared Saia and Piotr Sankowski, "Single Valued Combinatorial Auctions with Budgets," *ACM Transactions on Economics and Computation* (in press).
2. Tom Hayes, Jared Saia, **Amitabh Trehan**, "The Forgiving Graph: A distributed data structure for low stretch under adversarial attack," *Journal of Distributed Computing* 25(4): 261-72 (2012).
3. Valerie King and Jared Saia, "Breaking the $O(n^2)$ Bit Barrier: Scalable Byzantine agreement with an Adaptive Adversary," *Journal of the ACM* 58(4): 1-18 (2011).
4. Valerie King, Cynthia Phillips, Jared Saia and **Maxwell Young**, "Sleeping on the Job: Energy-Efficient Broadcast for Radio Networks," *Algorithmica* 61(3): 518-554 (2011).
5. Therese Biedl, Shuang Luan, Stephane Durocher, Jared Saia, Holger H. Hoos, **Maxwell Young**, "A Note on Improving the Performance of Approximation Algorithms for Radiation Therapy," *Information Processing Letters (IPL)* 111(7): 326-333 (2011).
6. Habiba, **Yintao Yu**, Tanya Berger-Wolf and Jared Saia, "Finding Spread Blockers in Dynamic Networks," *Advances in Social Network Mining and Analysis, Springer Lecture Notes in Computer Science* 5498: 55-76 (2010).
7. Bruce Kapron, David Kempe, Valerie King, Jared Saia and **Vishal Sanwalani**, "Fast asynchronous Byzantine agreement and leader election with full information," *ACM Transactions on Algorithms (TALG)* 6(4): 1-28 (2010). (**Invited issue of best papers from SODA 2008**)
8. Eric Anderson, Joe Hall, Jason Hartline, Michael Hobbes, Anna Karlin, Jared Saia, Ram Swaminathan and John Wilkes, "Algorithms for Data Migration," *Algorithmica* 57(2): 349-380 (2010).
9. Jared Saia and **Maxwell Young**, "Reducing Communication Costs in Robust Peer-to-Peer Networks," *Information Processing Letters (IPL)*, 106(4): 152-158 (2008).
10. Valerie King, **Scott Lewis**, Jared Saia, and **Maxwell Young**, "Choosing a Random Peer in Chord," *Algorithmica* 49(2): 147-169 (2007).
11. Amos Fiat and Jared Saia, "Censorship Resistant Peer-to-peer Networks," *Theory of Computing (TOC)* 3(1): 1-23 (2007). (**Invited issue of best papers from SODA 2002**)
12. Shuang Luan, Jared Saia, and **Maxwell Young**, "Approximation Algorithms for Minimizing Segments in Radiation Therapy," *Information Processing Letters (IPL)* 101(6): 239-244 (2007).
13. Michael Collins, David Kempe, Jared Saia and **Maxwell Young**, "Nonnegative Integral Subset Representations of Integer Sets," *Information Processing Letters (IPL)* 101(3): 129-133 (2007).
14. Tanya Berger-Wolf, Cris Moore and Jared Saia, "A Computational Approach to Animal Breeding," *Journal of Theoretical Biology* 244(3): 433-439 (2007).
15. Tanya Berger-Wolf, William Hart and Jared Saia, "Discrete Sensor Placement Problems in Distribution Networks," *Journal of Mathematical and Computer Modeling* 42(13): 1385-1396 (2005).
16. Tracy Kimbrel and Jared Saia, "Online and Offline Preemptive Two-Machine Job Shop Scheduling," *Journal of Scheduling* 3(6): 355-364 (2000).
17. Ezra Black, Stephen Eubank, Hideki Kashioka, Jared Saia "Reinventing Part-of-Speech Tagging," *Journal of Natural Language Processing (Japan)*, 5(1): 3-24 (1998).

Conferences and Workshops

18. Valerie King and Jared Saia, “Byzantine Agreement in Polynomial Expected Time” *Symposium on Theory of Computing (STOC)*, 2013.
19. Joud Houry, **Mahnush Movahedi**, Jared Saia and **Mahdi Zamani**, “Towards Provably-Secure Scalable Anonymous Broadcast”, *3rd USENIX Workshop on Free and Open Communications on the Internet (FOCI'13)*, 2013.
20. Varsha Dani, Valerie King, **Mahnush Mohavedi** and Jared Saia, “Brief Announcement: Breaking the $O(nm)$ Bit Barrier: Secure Multiparty Computation with a Static Adversary,” *Principles of Distributed Computing (PODC)*, 2012.
21. Seth Gilbert, Valerie King, Jared Saia, **Maxwell Young**, “Resource-Competitive Analysis: A New Perspective on Attack-Resistant Distributed Computing,” *International Workshop on Foundations of Mobile Computing (FOMC)*, 2012.
22. **Olumuyiwa Oluwasanmi** and Jared Saia, “Scalable Byzantine agreement with a Random Beacon,” *International Symposium on Stabilization, Safety, and Security of Distributed Systems (SSS)*, 2012.
23. Nicholas Aase, Jedidiah R. Crandall, Alvaro Diaz, **Jeffrey Knockel**, Jorge Ocana Molinero, Jared Saia, Dan Wallach, Tao Zhu, “Whiskey, Weed and Wukan on the World Wide Web: On Measuring Censors’ Resources and Motivations,” *USENIX Workshop on Free and Open Communications on the Internet (FOCI)*, 2012.
24. **Jeffrey Knockel**, Jedidiah R. Crandall and Jared Saia, “Three Researchers, Five Conjectures: An Empirical Analysis of TOM-Skype Censorship and Surveillance,” *USENIX Workshop on Free and Open Communications on the Internet (FOCI)*, 2011.
25. Valerie King, Jared Saia and **Maxwell Young**, “Conflict on a Communication Channel,” *Principles of Distributed Computing (PODC)*, 2011.
26. Varsha Dani, **Mahnush Movahedi**, **Yamel Rodriguez** and Jared Saia, “Scalable Mechanisms for Rational Secret Sharing,” *Principles of Distributed Computing (PODC)*, 2011.
27. Amos Fiat, Stefano Leonardi, Jared Saia and Piotr Sankowski, “Single Valued Combinatorial Auctions with Budgets,” *ACM Conference on Electronic Commerce*, 2011.
28. Valerie King, Steve Lonergan, Jared Saia, **Amitabh Trehan**, “Load balanced Scalable Byzantine Agreement through Quorum Building, with Full Information,” *International Conference on Distributed Computing and Networking (ICDCN)* 2011
29. Valerie King and Jared Saia, “Breaking the $O(n^2)$ Bit Barrier: Scalable Byzantine agreement with an Adaptive Adversary,” *Principles of Distributed Computing (PODC)*, 2010. **Best Paper Award.**
30. **Bo Wu**, Valerie King and Jared Saia, “Attack-Resistant Frequency Counting,” *IEEE International Parallel and Distributed Processing Symposium (IPDPS)*, 2010.
31. **Olumuyiwa Oluwasanmi**, Valerie King and Jared Saia, “An Empirical Study of a Scalable Byzantine Agreement Algorithm,” *Heterogeneity in Computing Workshop (HWC)*, 2010.
32. Josep Diaz, Dieter Mitsche, **Navin Rustagi** and Jared Saia, “On the Power of Mediators,” *Workshop on Internet and Network Economies (WINE)*, 2009.
33. Valerie King and Jared Saia, “Fast, scalable Byzantine agreement in the full information model with a nonadaptive adversary,” *International Symposium on Distributed Computing (DISC)*, 2009.
34. Tom Hayes, Jared Saia and **Amitabh Trehan**, “The Forgiving Graph: A Self-Healing Distributed Data Structure,” *Principles of Distributed Computing (PODC)*, 2009.

35. Valerie King and Jared Saia, “Brief Announcement: Fast Scalable Byzantine Agreement,” *Principles of Distributed Computing (PODC)*, 2009.
36. Tom Hayes, **Navin Rustagi**, Jared Saia and **Amitabh Trehan**, “The Forgiving Tree: A Self-Healing Distributed Data Structure,” *Principles of Distributed Computing (PODC)*, 2008.
37. Valerie King, Cynthia Phillips, Jared Saia and **Maxwell Young**, “Sleeping on the Job: Energy-Efficient Broadcast for Radio Networks,” *Principles of Distributed Computing (PODC)*, 2008.
38. Bruce Kapron, David Kempe, Valerie King, Jared Saia and **Vishal Sanwalani**, “Fast Asynchronous Byzantine Agreement and Leader Election with Full Information,” *Symposium on Discrete Algorithms (SODA)*, 2008.
39. Jared Saia and **Amitabh Trehan**, “Picking up the Pieces: Self-Healing in Reconfigurable Networks,” in *IEEE International Parallel and Distributed Processing Symposium (IPDPS)*, 2008.
40. Habiba, Tanya Berger-Wolf, **Yintao Yu**, Jared Saia, “Finding Spread Blockers in Dynamic Networks,” *Proceedings of the 2nd ACM SIGKDD Workshop on Social Network Mining and Analysis (SNA-KDD)*, 2008.
41. James Aspnes, **Navin Rustagi** and Jared Saia, “Worm versus alert: Who wins in a battle for control of a large-scale network?,” *International Conference of Principles of Distributed Systems (OPODIS)*, 2007. Lecture Notes in Computer Science volume 4878. Springer-Verlag, December 2007, pp. 443456.
42. Valerie King, Jared Saia, **Vishal Sanwalani** and Erik Vee, “Towards Secure and Scalable Computation in Peer-to-peer Networks,” *Foundations of Computer Science (FOCS)*, 2006.
43. **Iching Boman**, Chaouki Abdallah, Edl Schamiloglu and Jared Saia., “Self-Healing Algorithms for Reconfigurable Networks,” *International Symposium on Stabilization, Safety and Security of Distributed Systems (SSS)*, 2006.
44. Tanya Berger-Wolf and Jared Saia, “A Framework for the Analysis of Dynamic Social Networks,” *Knowledge Discovery and Datamining (KDD)*, 2006.
45. Valerie King, Jared Saia, **Vishal Sanwalani** and Erik Vee, “Scalable Leader Election,” *Symposium on Discrete Algorithms (SODA)*, 2006.
46. Amos Fiat, Jared Saia and **Maxwell Young**, “Making Chord Robust to Byzantine Faults,” *European Symposium on Algorithms (ESA)*, 2005.
47. Valerie King and Jared Saia, “Choosing a Random Peer,” *Principles of Distributed Computing (PODC)*, 2004.
48. **Scott Lewis** and Jared Saia, “Scalable Byzantine Agreement,” *NIPS Workshop on Robust Communication Dynamics in Complex Networks*, 2003.
49. Amos Fiat and Jared Saia, “Censorship Resistant Peer-To-Peer Content Addressable Networks,” *Proceedings of the 13th Annual Symposium on Discrete Algorithms*, San Francisco, California, 2002. **In the top 200 most cited computer science papers published in 2002 according to citeseer.**
50. Jared Saia, Stefan Saroiu, Amos Fiat, Steve Gribble, and Anna R. Karlin, “Dynamically Fault-Tolerant Content Addressable Networks,” *First International Workshop on Peer-to-Peer Systems*, 2002.
51. Joe Hall, Jason Hartline, Anna R. Karlin, Jared Saia and John Wilkes, “On Algorithms for Efficient Data Migration,” *Proceedings of the 12th Annual Symposium on Discrete Algorithms (SODA)*, 2001.
52. Yosi Azar, Amos Fiat, Anna Karlin, Frank McSherry and Jared Saia, “Spectral Analysis of Data,” *Thirty-Third Annual ACM Symposium on Theory of Computing (STOC)*, 2001.

53. Eric Anderson, Joe Hall, Jason Hartline, Michael Hobbes, Anna Karlin, Jared Saia, Ram Swaminathan and John Wilkes, “An Experimental Study of Data Migration Algorithms,” *Proceedings of the 5th Workshop on Algorithm Engineering*, 2001.
54. Bernard M.E. Moret, Michael Collins, Jared Saia and Ling Yu, “The Ice Rink Problem,” *Proceedings of the 1st Workshop on Algorithm Engineering*, 1997.
55. Zhiqiang Chen, Andrew Holle, Bernard M.E. Moret, Jared Saia and Ali Boroujerdi, “Network Routing Models Applied to Aircraft Routing Problems,” *Proceedings of the Winter Simulation Conference*, 1995.
56. Osamu Furuse, Hitoshi Iida, Kozo Oi, Jared Saia and Eiichiro Sumita. “A Massively Parallel Association Approach For Real Time Spoken Language Translation Systems,” *Proceedings of the Japanese Parallel Processing Conference*, 1994. **Winner of Japanese Society for Artificial Intelligence “Excellence in Research” Award**

Chapters of Books

57. “Randomization in Distributed Computing” in *Encyclopedia of Algorithms*, Springer Publishing, 2007.
58. “Statistical Natural Language Processing” (pp. 543-550) in “Artificial Intelligence, Structures and Strategies for Complex Problem Solving - Third Edition” by George Luger and William Stubblefield, Addison Wesley Longman Inc., 1998.

Articles in Newsletters

59. Valerie King and Jared Saia, “Scalable Byzantine Agreement,” *ACM SIGACT News*: 41(3): 89-107 (2010).

In Preparation or Under Review

- Navin Rustagi and Jared Saia, “Beating Omniscient Worms with Faulty Detectors”.
- Jeffrey Knockel, George Saad and Jared Saia, ”Self-Healing of Byzantine Faults”.

Funding

The dollar amount listed with each grant is the UNM share for that grant.

1. Sandia Labs Contract (\$76,000) “Cyber Graph Queries for Geographically Distributed Data Centers,” UNM Contractor: J. Saia, 2012-2013.
2. NSF REU Supplement (\$17,069) “Computing without a Leader: Building Blocks for Internet-Scale, Robust Computing,” PI: J. Saia, 2012.
3. NSF CISE (\$365,710) “Computing without a Leader: Building Blocks for Internet-Scale, Robust Computing,” PI: J. Saia, 2011-2014.
4. IARPA (\$202,500) “Analysis and Mitigation of Internet Censorship,” PI: J. Saia; co PIs: J. Crandall, J. Karlin, 2011-2012.
5. Air Force Office of Scientific Research, DURIP-10-054 (\$58,189) “Helix Project Testbed: Towards the Self-Regenerative Incorruptible Enterprise,” PI: J. Knight; co-PIs: J. Davidson, D. Evans, W. Weimer, A. Nguyen-Tuong, H. Chen, K. Levitt, J. Rowe, Z. Su, F. Wu, F. Chong, S. Forrest, J. Saia, 2010.
6. Army Research Lab (ARL), “Developing a Science of Cybersecurity,” PI: J. Katz; co-PIs: W. Arbaugh, J. Saia, \$100,000, 2011-2012.

7. NSF CNS (\$299,732), “Beyond Tit-for-Tat: New Techniques for Collaboration in Network Security Games,” PI: J. Saia, 2010-2013.
8. NSF CNS (\$400,000), “CAREER: Foundations for Attack-Resistant, Collaborative Peer-to-peer Systems,” PI: J. Saia, 2007-2012.
9. NSF IIS (\$294,863) “Collaborative Research: Computational Methods for Understanding Social Interactions in Animal Populations,” PI: T. Berger-Wolfe; co-PIs: D. Rubenstein, J. Saia, 2007-2010.
10. Air Force Office of Scientific Research MURI (\$750,000) “Helix: A Self Regenerative Architecture for Incorruptible Enterprise,” PI: J. Knight; co-PIs: J. Davidson, D. Evans, W. Weimer, A. Nguyen-Tuong, H. Chen, K. Levitt, J. Rowe, Z. Su, F. Wu, F. Chong, S. Forrest, J. Saia, 2007-2012.
11. NSF CCF (\$340,000), “ITR: Attack-Resistant Peer-to-peer Networks,” PI: J. Saia, 2003-2006.
12. Sandia Labs (\$80,000), “Scalable, Attack-Resistant Peer-to-peer Networks”, PI: J. Saia, 2002-2004.

Workshops Organized

SIAM International Conference on Data Mining (SDM): Workshop on Analysis of Dynamic Networks(ADN), 2009.

International Conference on Data Mining (ICDM): Workshop on Analysis of Dynamic Networks (ADN), 2008.

Invited Presentations

Institute for Computing in Science (ICiS) workshop on Future of the Field of High Performance Computing, 2012.

Banff International Research Station (BIRS) Workshop on Probabilistic versus Deterministic Approaches to Shared Memory Computation, 2012.

Fourth Bertinoro Workshop on Algorithms and Data Structures, Bertinoro Italy, “Scalable, Rational Secret Sharing,” 2011.

University of Iowa Invited Lecture Series, “Scalable Byzantine Agreement,” 2011.

Santa Fe Institute Summer School, “Distributed Computing,” 2011.

Santa Fe Institute, “Conflict in Communication Games,” 2010.

Information Theory and Applications (ITA) Workshop, San Diego “Fear in Mediation: Exploiting the Windfall of Malice,” 2010.

Third Bertinoro Workshop on Algorithms and Data Structures, Bertinoro Italy, “Fear in Mediation: Exploiting the Windfall of Malice,” 2010.

Yahoo Research, Barcelona, Spain, “Conflict in Networks,” 2008.

Dynamic Communication Networks Foundations and Algorithms (DYNAMO) Workshop, Arcachon, France, “Worm vs Alert,” 2008.

Santa Fe Institute Workshop on Scaling in Biological and Social Networks, “Worm vs Alert,” 2007.

University of California, Davis, “Building a Computer out of the Internet: Foundations for Collaborative Computation,” 2007.

University of Maryland, “Conflict on Large Networks,” 2007.

Microsoft Research Labs Networking Group, Redmond, WA, “Asynchronous Byzantine Agreement in Polynomial Time,” 2006.

University of Illinois in Chicago, “Secure Algorithms and Data Structures for Massive Networks,” 2005.

University of Barcelona, Spain, 2005.

CSRI Group, Sandia Labs, 2005.

Los Alamos Labs, 2005.

Santa Fe Institute Workshop on New Perspectives on Complex Systems, 2005.

Center for Discrete Mathematics and Theoretical Computer Science (DIMACS), Rutgers NJ, “Choosing a Random Peer,” 2004.

University of Maryland, 2004.

University of Southern California, 2004.

University of Tel Aviv, Tel Aviv, Israel, 2004.

NIPS Workshop on Robust Communication Dynamics in Complex Networks, Vancouver, “Scalable Byzantine Agreement,” 2004.

Dartmouth College, University of Minnesota, Emory University, University of Florida, University of Victoria, and University of Georgia, “Censorship-Resistant Peer-to-peer Networks,” 2002.

Press Coverage

“Research Scientist Delves into Problem of Persuading Millions of People to Cooperate for a Secure Internet” in *ACM Technical News*, *UNM Today*, Sept. 2010.

“Social Networking Software Tracks Zebras and Consumers”, in *Washingtonpost.com*, *ACM Technical News*, *Newswise Website*, *FOREX Trading*, *Healthcare Industry Today*, and *Ecademy Daily News*, 9/6/07 - 9/10/07

“Professor Fights a Mathematical Battle to Keep the Virtual World Running Smoothly”, *ACM Technical News*, 2/26/07 and *UNM Today*, 2/27/07

“Professor goes to war,” *Front page lead article in University of New Mexico Daily Lobo*, 3/2/07

Graduate Students

For each student, the first position after graduation from UNM CS is listed (when known) after their graduation date.

PhD - Graduated

1. Olumuyiwa O. Oluwasanmi, Dissertation Title: “Practical, Scalable Algorithms for Byzantine Agreement,” 2011. Process Engineer at Intel Corporation.
2. Navin Rustagi, Dissertation Title: “Security in Network Games,” 2010. Postdoc at Rice University.
3. Amitabh Trehan, Dissertation Title: “Algorithms for Self-Healing Networks,” **Winner of the UNM Dean’s Dissertation Award**, 2010. Postdoc at Technion University.
4. Vishal Sanwalani (co-advised with Cris Moore), Dissertation Title: “Applications of the Probabilistic Method to Random Graphs,” 2005. Postdoc at the University of Waterloo.

PhD - Current

1. Mahnush Movahedi, expected graduation Fall 2014.
2. Jeffrey Knockel (co-advised with Jed Crandall), expected graduation Fall 2014.
3. George Helmy, expected graduation Fall 2015.
4. Mahdi Zamani, expected graduation Fall 2015.
5. Aaron Kearns
6. Jenny Chen
7. Nathan Hjelm

MS - Graduated

1. Yamel Rodriguez, 2010. Financial technology company in Mexico City.
2. Bo Wu, 2009. Microsoft Corporation.
3. Vikrant Gaur, 2007. Rockwell Collins.
4. IChing Chang Boman (with distinction), 2006. Gigablast.
5. Maxwell Young (with distinction), 2006. PhD student at University of Waterloo.
6. Jake Proctor (with distinction), 2005. Sandia Labs.
7. John Alphonse, 2005. Microsoft Corporation.
8. Florina Cazaku, 2004. Waters Software.

Undergraduate

1. Joe Collard, 2011-present.
2. Charlie Clauss, 2012-present.
3. David De Francisco, 2007-2008. MS student at Stanford University.
4. Yintao Yu, 2007-2008. PhD student at University of Illinois, Urbana-Champaign.

Professional Activities

Program Committee, International Conference on International Conference on Distributed Computing Systems (ICDCS), 2012.

Program Committee, International Symposium on Stabilization, Safety, and Security of Distributed Systems (SSS), 2012.

Program Committee, Symposium on Discrete Algorithms (SODA), 2012.

Program Committee, Principles of Distributed Computing (PODC), 2011, 2006, 2005.

Program Committee, International Conference on International Conference on Distributed Computing Systems (ICDCS), 2011.

Program Committee, International Conference on Algorithms and Complexity (CIAC), 2010.

Program Committee, Symposium on Parallel Algorithms and Architecture (SPAA), 2010.

Program Committee, IEEE International Parallel and Distributed Processing Symposium (IPDPS) - Algorithms Track, 2010, 2009, 2008.

Program Committee, ACM/SIGMOBILE Annual International Joint Workshop on Foundations of Mobile Computing (DIALM-POMC), 2004.

Panelist for National Science Foundation proposal review panel, 2004, 2005, 2006, 2007.

I have reviewed manuscripts for the following journals and conferences: *Symposium on the Theory of Computation (STOC)*, *Foundations of Computer Science (FOCS)*, *Principles of Distributed Computing(PODC)*, *Symposium on Discrete Algorithms(SODA)*, *Internation Colloquium on Automata, Languages and Programming (ICALP)*, *Symposium on Parallel Algorithms (SPAA)*, *Symposium on Distributed Computing(DISC)*, *Joint Conference of the IEEE Computer and Communications Societies (InfoComm)*, *Journal of Experimental Algorithms(JEA)*, *Journal of Algorithms(JOA)*, *Journal of Computing(JOC)*, *Journal of Distributed Computing (JODC)*, *Journal of Networking (JON)*, and *IEEE Transactions on Computing*.

Courses Taught

CS 591, “Game Theory and Social Computing”, S’ 2011.

CS 591, “Algorithms in the Real World”, F’ 2002

CS 561, “Data Structures and Algorithms”, F’2006, F’2007, F’2009, F’2010, F’ 2011, F’ 2012.

CS 511, “Cybersecurity: A Theoretical Approach”, S’ 2006, F’ 2007

CS 510, “Randomized Algorithms”, F’ 2004, S’2007

CS 362, “Data Structures and Algorithms II”, S’2007, S’2006, S’2005, F’2004, F’2003

CS 361, “Data Structures and Algorithms”, F’2005, S’2004, S’2003

CS 261, “Mathematical Foundations of Computer Science”, S’ 2010.

Courses Taught Elsewhere

“Conflict in Networks,” at Universitat Politècnica de Catalunya, 10 lecture course taught in the fall of 2008.

“Conflict in Networks,” at Università di Roma Sapienza, 5 lecture course taught in the spring of 2009.

Departmental Service

Associate Chair of UNM Computer Science Department, 2011-present.

Co-organizer of department colloquia, and organizer of joint UNM/Sandia distinguished lecturer series, 2007-2008 and 2010-2011.

Headed graduate student recruiting committee; created a one page flyer: “CS@UNM, Our Alumni Speak for Themselves,” featuring quotes from several of our successful alumni; disseminated flyer to over 100 CS programs, 2010-2011.

Head graduate admissions committee, 2011-2012; Member graduate admissions committee 2003-2007.

Headed committee to change comprehensive exam for UNM CS Masters students; revamped course requirements and added new oral exam requirements, 2008.

Member Promotion and Tenure Committee, 2009-2010 and 2012-2013.

Primary organizer and creator of CS Recruitment Day for over 100 local high school students; event included research demos, videos, short talks, and a goody bag, 2006-2007.

Founded and ran orientation day for new PhD and Masters students, 2003-2007.

Headed graduate recruiting efforts for UNM CS; personally contacted top applicants to department, set up peer recruiting program, and organized visits, 2003-2006; Organized first official prospective grad student visit event, 2006.

Edited, designed and arranged publication of the first brochure for UNM CS department, 2005.

Created first department recruiting video for UNM CS department; video included interviews with current faculty, graduate and undergraduate students, 2006.

Headed PhD written comprehensive exam committee, 2012. Member PhD written Comprehensive Examination Committee, 2002-present.