
Department of Electrical and Computer Engineering • University of Texas, Austin, TX 78712
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Education

- Ph.D., Electrical Engineering and Computer Sciences, U.C. Berkeley, June 1993.
- M.S., Electrical Engineering and Computer Sciences, U.C. Berkeley, December 1990.
- B.S., Electrical Engineering and Computer Sciences, U.C. Berkeley, December 1987.

Current Academic Position

- Cullen Trust Professor, Department of Electrical and Computer Engineering, The University of Texas at Austin, September 2014–Present.
- Center Director, Wireless Networking and Communications Group (WNCG), The University of Texas at Austin, This group includes 14 faculty from various departments, 70 undergraduate and graduate students, and worked with 12 companies which were part of an industrial affiliates program. January 2006–2008.
- Associate Professor, Department of Electrical and Computer Engineering, The University of Texas at Austin, September 1998–2003.
- Assistant Professor, Department of Electrical and Computer Engineering, The University of Texas at Austin, September 1993–1998.

Other Professional Experience

- Member, Board of Trustees IMDEA Networks, Madrid, December 2014- present.
- Member, Scientific Council of IMDEA Networks, Madrid, October 2010- present.
- Visiting Professor, IMDEA Networks, Universidad Carlos III, Madrid, June 2008 – December 2008.
- DARPA UNMAN/CBMANET projects. Consulting work developing test and evaluation specification for research program addressing reconfiguration/adaptation objectives in mobile ad hoc networking infrastructure. August 2004 – December 2007.
- AT&T. Consulting and expert witness work in telecommunications industry. April 2005– December 2007.
- General Bandwidth, Austin Texas. Various consulting services provided concerning resource and traffic management requirements for multi-service gateway. November 2000–January 2002.
- Cabletron-ZeitNet Inc, Short course on “Traffic Management for Broadband Integrated Services Networks,” Santa Clara, CA, May 28, 1997.
- Research Assistant, University of California at Berkeley, Project on Advanced Technology for the Highway, August 1992–June 1993.
- Research Assistant, University of California at Berkeley, Electronics Research Laboratory, May–July 1992.
- Graduate Student Instructor, University of California at Berkeley, Department of Electrical and Computer Engineering, August–December 1991.
- Teaching Assistant, University of California at Berkeley, Department of Electrical and Computer Engineering, August–December 1988.
- Associate Engineer, Teknekron Communication Systems, Berkeley, May–July 1987.

Honors & Awards

- Gordon T. Lepley IV Endowed Memorial Teaching Award 2019-2020.
- Ph.D. Student awarded Best student paper award, *International Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks (WiOpt)*, June 2019.
- Award for Best Collaboration with Huawei Wireless, 2015
- Cullen Trust for Higher Education Endowed Professorship in Engineering #2 September 2014- present.
- Best Paper Award, *IEEE INFOCOM*, April-May 2014.
- Professor of the Month, Senate of College Councils, U.T. Austin, November 2012.
- Joe J. King Professor, September 2012- August 2014.
- Best Tech Talk Award 2011. Intel/Cisco Video-Aware Wireless Networks Workshop, Santa Clara, November 2011.
- Best paper award, *ACM International Conference on Modeling, Analysis and Simulation of Wireless and Mobile Systems*, October 2010.
- Best paper award, *22nd International Teletraffic Congress*, September 2010.
- IEEE Fellow, for contributions to the analysis and design of communication networks, 2009.
- Temple Foundation Faculty Fellowship, 2005- August 2012.
- Dean's Research Fellowship, The University of Texas at Austin, Fall 2004.
- Best Paper appearing in *ACM Transactions on Design Automation of Electronic Systems*, Jan 2002-2004.
- El Paso Corporate Foundation Faculty Achievement Award, 2003. For meritorious achievement in teaching.
- Paper included in "The Best of ICCAD - 20 Years of Excellence in Computer Aided Design," edited by A. Kuehlmann, 2003.
- Best paper award, *IEEE/ACM International Conference on Computer-aided Design*, (IEEE/CAS William J. McCalla ICCAD Best Paper Award), November 2000.
- Dean's Research Fellowship, The University of Texas at Austin, Spring 2001.
- Graduate Engineering Council, Faculty Service Award, 1999–2000.
- General Motors Foundation Centennial Fellowship in Electrical Engineering, since 1998-2005.
- Editor for *IEEE/ACM Transactions on Networking*, 1997–2001.
- CAREER Award, National Science Foundation, 1996.
- Joe J. King Professional and Engineering Leadership Awards: Faculty Leadership Award in the Department of Electrical and Computer Engineering, U.T. Austin, 1996.
- Research Initiation Award, National Science Foundation, 1994.
- University Research Institute Award, U.T. Austin, 1994.
- Faculty award from students in appreciation of "Open door policy," U.T. Austin, 1994.
- Graduate Student Fellowship, National Science Foundation, 1988.

Patents & Invention Disclosures

- US # 800802 "A method and apparatus for adaptive mode switching and rate selection for energy efficient MIMO systems," Hongseok Kim, Chan-Byoung Chae, Robert W. Heath Jr. and Gustavo de Veciana, Filed: December 2009. Issued July 24 2014. Assignee: Intellectual Ventures.
- US #7266122 "System and method for allocating bandwidth in a communications environment," R. L. Hogg, G. de Veciana, R.H. Whitcher and A.H. Anconetani. Filed: November 27, 2002. Issued September 4, 2007. Assignee: GenBand Inc.

Memberships in Professional Societies

- Institute of Electrical and Electronic Engineers (IEEE), (Communications and Information Theory Societies). Student member 1988-1993. Member 1994-2001. Senior member 2001-2009. Fellow 2009-present.
- Association for Computing Machinery (ACM) , Member 2008-present.

University Committee Assignments

Departmental Committees

- ECE Junior Faculty Recruiting Committee, chair Fall 2015-Spring 2016.
- Ad hoc Committee on Teaching , member Summer 2015.
- Dept of ECE COMPASS, advisory board member Summer 2015.
- CommNetS Qualifying Exam Committee, member Spring 2015.
- ECE Faculty Recruiting Committee for Dula Chair, member Fall 2014 - 2015.
- Ad hoc Committee on Teaching , chair Summer 2014.
- Petroleum and Geosystems Engineering Dept., Faculty Recruiting Committee, member 2012-2013.
- CommNetS Qualifying Exam Committee, chair Fall 2012.
- ECE Faculty Recruiting Committee, member 2010-2011, chair 2011-2012,
- ECE Faculty Awards Committee, member 2009-2011.
- CommNetS Qualifying Exam Committee, chair Fall 2011.
- CommNetS Area Student Admissions Committee, 2002-present.
- CommNetS Recruiting Committee, chairman,, 2005–2007, member 2009.
- Director Wireless Networking and Communications Group (WNCG), January 2006–December 2007.
- Cockrell Chair Recruiting Committee, member, 2005- 2007.
- CommNetS Area Graduate Advisor, 1998–2006.
- Associate Director Wireless Networking and Communications Group (WNCG), Spring 2004–December 2005.
- ECE Research Committee, member, Summer 2004–2005.
- Curriculum and Quality Committee, member, Spring 2001–2005.
- Communications and Systems Curriculum Committee, member, Fall 2001–present.
- CommNetS Recruiting Committee, member, 2002-2003.
- The Century Committee, member, 2002–2003.

College Committees

- ECE Department Chair Search Committee, chair Fall 2018-Spring 2019.
- Cockrell School Dean Search Committee, member 2014.
- Cockrell School Promotions and Tenure Committee, member 2012-2014.
- FRA Engineering for 2012 - 2013, chair, Fall 2011
- Academic Support Committee, member 2004-2011

University Committees

- University Faculty Grievance Pool, 2019-2021.
- Faculty Development Program-Committee C, 2009-2011.
- University Faculty Council, 2006-2008.
- University Faculty Grievance Committee, 2007-2008.

- University Research Policy Committee, 2006-2008.
- University Responsibilities, Rights and Welfare of Graduate Student Academic Employees Committee, 2005-2007.

Professional Society and Major Governmental Committees

Editor and Reviewer for Journal Publications

- Reviewer, IEEE Transactions on Network and Service Management, 2018-present.
- Associate Editor-at-Large, *IEEE/ACM Transactions on Networking*, 2013-present.
- Associate Editor *IEEE/ACM Transactions on Networking*, 1997–2001.
- IEEE/ACM Transactions on Networking, reviewer, 1993–present.
- IEEE/ACM Transactions on Parallel and Distributed Systems, 2009-present.
- Performance Evaluation, 2000 –present.
- Annals of Applied Probability, reviewer, 1996–present.
- Computer Networks and ISDN Systems, reviewer, 1996–present.
- IEEE Transactions on Communications, reviewer, 1995–present.
- IEEE Transactions on Information Theory, reviewer, 1994–present.
- Operations Research, reviewer, 1996–present.
- Queueing Systems, reviewer, 1994–present.
- Telecommunications Systems, reviewer, 1995–present.

Committee Member and Reviewer of Conference Publications

- Technical Program Committee, distinguished member, ACM Sigmetrics 2019.
- Co General Chair, Workshop on The Next Wave of Networking Research, Simons Institute, Berkeley September 2018.
- Technical Program Committee, distinguished member, ACM MobiHoc 2018.
- Technical Program Committee, member, IEEE WIOPT, 2018.
- Best Paper Award Committee member, INFOCOM 2017.
- Technical Program Committee, distinguished member, ACM MobiHoc 2017.
- Technical Program Committee, member, IEEE WIOPT, Paris 2017.
- Technical Program Committee, distinguished member, ACM MobiHoc 2016.
- Co-chair, *Simons Conference on Networks and Stochastic Geometry*, Austin, May 2015.
- Technical Program Committee, member *International Teletraffic Congress (ITC 27)*, Ghent Belgium, September 2015.
- Technical Program Committee, member *12th IEEE International Conference on Mobile Ad hoc and Sensor Systems (IEEE MASS 2015)* Dallas, USA, October, 2015.
- Technical Program Committee, member *International Symposium on Modeling and Optimization of Mobile, Ad Hoc and Wireless Networks(WIOPT)*, Mumbai India, May, 2015.
- Technical Program Committee, member *International Teletraffic Congress (ITC25)*, Shanghai 2013.
- Committee for Sigmetrics Rising Star Researcher Award, member *ACM Sigmetrics*, London 2012.
- Technical Program Committee, member *International Teletraffic Congress (ITC24)*, Poland 2012.
- Technical Program Committee Co-chair *International Teletraffic Congress (ITC23)*, San Francisco 2011.
- Technical Program Committee *3rd International Conference on COMMunication Systems and NETWORKS (COMSNETS 2011)*, 2011.

- Technical Program Committee *8th Annual Conference on Wireless On demand Network Systems and Services (WONS)* , 2011.
- Technical Program Committee *22nd International Teletraffic Congress*, 2010.
- Technical Program Committee *The Second International Conference on Communication Systems and NETWORKS*, 2009.
- Technical Program Committee *International Workshop on Network Control and Optimization* , 2009
- Technical Program Committee *7th International Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks (WiOpt)* 2009.
- Conference Co-chair *ACM CoNEXT*, Madrid, Spain 2008.
- Technical Program Committee *IEEE INFOCOM Conference*, 1997–2007,
- Technical Program Committee *SpaSWiN, Second workshop on Spatial Stochastic Modeling of Wireless Networks*, 2005–2007.
- Technical Program Committee *The 2nd Annual International Wireless Internet Conference (WICON)*, 2006–2007.
- Technical Program Committee *Workshop on interdisciplinary systems approach in performance evaluation and design of computer & communications systems*, October 2006.

Reviewer for Grants and Programs

- NSF Proposal Review Panel 2019.
- NSF Proposal Review Panel July 2015.
- Army Workshop on Information Theory and Social Networks, September 2012, invited participant.
- Panelist for the National Science Foundation, May 2010.
- NSF Workshop on the Future of Wireless Networks in 2009.
- Panelist for the National Science Foundation, May 2006.
- Panelist for the National Science Foundation, Nov 2004.
- Reviewer of a National Research Center, for Science Foundation Ireland, June 2003
- Proposal reviewer for Israel Science Foundation, May 2003
- Panelist for the National Science Foundation’s ECS-Advanced Networking Research Program , May 1–2, 2003.
- Workshop on Fundamental Research in Networking, organized by the National Science Foundation , April 24–25, 2003.
- Panelist for the National Science Foundation’s ECS-Integrative Systems Program , February 26–27, 2003.

Publications

Refereed Archival Journal Publications

1. P. Caballero, A. Banchs, G. de Veciana, and X. Costa Pérez. Network slicing games: Enabling customization in multi-tenant mobile networks. *IEEE/ACM Transactions on Networking*, 27(2):662–75, April 2019.
2. W.-C. Lau, H. Xu, G. de Veciana and K. Zhou. Online job scheduling with redundancy and opportunistic opportunistic checkpointing: A speedup-function-based analysis. *IEEE Transactions on Parallel and Distributed Systems*, 30(4):897–909, April 2019.
3. Z. Lu and G. de Veciana. Optimizing stored video delivery for mobile networks: The value of knowing the future. *IEEE Transactions on Multimedia*, 21(1):197–210, January 2019.
4. J. Zheng, P. Caballero Garcés, G. de Veciana, S.J. Baek, and A. Banchs. Statistical multiplexing and traffic shaping games for network slicing. *IEEE/ACM Transactions on Networking*, 26(6):1–14, December 2018.

5. A. Anand, , and G. de Veciana. Resource allocation and HARQ optimization for URLLC traffic in 5G wireless networks. *IEEE Journal of Selected Areas of Communications*, 36(11):2411–21, November 2018.
6. P. Caballero, A. Banchs, G. de Veciana, and X. Costa Pérez. Network slicing for guaranteed rates services: Admission control and resource allocation games. *IEEE Transactions on Wireless Communications*, 17:6419–32, October 2018.
7. Y. Du and G. de Veciana. Efficiency and optimality of largest deficit first prioritization: Resource allocation for real-time applications. *ACM Transactions on Modeling and Performance Evaluation of Computing Systems (TOMPECS)*, 3(3):1–29, June 2018.
8. P. Madadi, F. Baccelli, and G. de Veciana. Shared rate process for mobile users in poisson networks and applications. *IEEE Transactions on Information Theory*, 64(3):2121–41, March 2018.
9. H. Xu, G. de Veciana W.C. Lau, Z. Yang, and H. Hou. Mitigating service variability in mapreduce clusters via task cloning: A competitive analysis. *IEEE Transactions on Parallel and Distributed Systems*, 28:2866–80, October 2017.
10. P. Caballero, A. Banchs, G. de Veciana, and X. Costa Pérez. Multi-tenant radio access network slicing: Statistical multiplexing of spatial loads. *IEEE/ACM Transactions on Networking*, 25(5):1–14, October 2017.
11. Y. Du and G. de Veciana. Scheduling compute systems with heterogenous resources for soft real-time applications. *ACM Transactions on Modeling and Performance Evaluation of Computing Systems (TOMPECS)*, 2:1–30, September 2017.
12. T. Bonald, C. Comte, V. Shah, and G. de Veciana. Poly-symmetry in processor sharing networks. *Queueing Systems*, 86:327–359, August 2017.
13. M.F. Iqbal, J. Holt, J.H. Ryoo, G. de Veciana, and L.K. John. Dynamic core allocation and packet scheduling in multicore network processors. *IEEE Transactions on Computers*, 65:3646–60, December 2016.
14. V. Shah, G. de Veciana, and G. Kesidis. A stable approach to routing queries in unstructured P2P networks. *IEEE/ACM Transactions on Networking*, 24:3136–3147, October 2016.
15. C. Chen, S.J. Baek, and G. de Veciana. Opportunistic scheduling of randomly coded multicast transmissions at half-duplex relay stations. *IEEE Transactions on Information Theory*, 62(10):5538–55, October 2016.
16. E. O’Reilly, F. Baccelli, G. de Veciana, and H. Vikalo. End-to-end optimization of high throughput DNA sequencing. *Journal of Computational Biology*, 23(10):789–800, October 2016.
17. S.A. Hosseini, Z. Lu, G. de Veciana, and Shivendra Panwar. SVC-based multi-user streamloading for wireless networks. *IEEE JSAC Special Issue on Video Distribution over Future Internet*, 34:1–12, August 2016.
18. V. Shah and G. de Veciana. Asymptotic independence of servers’ activity in queueing systems with limited resource pooling. *Queueing Systems*, 83:13–28, June 2016.
19. V. Shah and G. de Veciana. Impact of fairness and heterogeneity on delays in large-scale content delivery networks. *Queueing Systems*, 83:361–397, August 2016.
20. V. Shah and G. de Veciana. High performance centralized content delivery infrastructure: Models and asymptotics. *IEEE/ACM Transactions on Networking*, 23(5):1674–87, October 2015.
21. R. Heath, A. Bovik, G. de Veciana, C. Caramanis, J. Andrews, C. Chen, M. Saad, Z. Lu, A. Khalek, and S. Singh. Perceptual optimization of large scale wireless video networks. *Intel Technical Journal*, Volume 19, Issue 1, pages 26–69, April 2015.
22. C. Chen, X. Zhu, G. de Veciana, A. Bovik, and R. Heath. Rate adaptation and admission control for video transmission with subjective quality constraints. *IEEE Journal of Selected Topics in Signal Processing*, 9(1):22–36, February 2015.
23. V. Joseph and G. de Veciana and A. Arapostathis. Resource Allocation: Realizing Mean-Variability-Fairness Tradeoffs. *IEEE/ACM Transactions on Automatic Control*, 60(1):19–33, January 2015.

24. Y. Kim, F. Baccelli, and G. de Veciana. Spatial reuse and fairness of mobile ad-hoc networks with channel-aware CSMA protocols. *IEEE Trans. on Information Theory*, 60(7):4139–4157, July 2014.
25. C. Chen, L.K. Choi, G. de Veciana, C. Caramanis, R. Heath, and A. Bovik. A model for time-varying subjective quality of HTTP video streams. *IEEE Transactions on Image Processing*, 23(5):2206–2221, May 2014.
26. A. Cuevas, M. Uruena, G. de Veciana, and A. Yadav. STARR-DCS: Spatio-temporal adaptation of random replication for data centric storage. *ACM Transactions on Sensor Networks*, 10(1):1–37, November 2013.
27. C. Chen, Jr. R.W. Heath, A.C. Bovik, and G. de Veciana. A Markov decision model for adaptive scheduling of stored scalable videos. *IEEE Transactions on Circuits and Systems for Video Technology*, 23(6):1081–95, June 2013.
28. G. de Veciana R. Cuevas A. Cuevas, M. Uruena and N. Crespi. Dynamic data-centric storage for long-term storage in wireless sensor and actor networks. *Wireless Networks*, pages 1–13, May 2013.
29. A.K. Moorthy, L.K. Choi, A.C. Bovik, and G. de Veciana. Video quality assessment on mobile devices: Subjective, behavioral and objective studies. *IEEE Journal of Selected Topics in Signal Processing, Special Issue on New Subjective and Objective Methodologies for Audio and Video Signal Processing*, pages 652–671, October 2012.
30. S.J. Baek, , and G. de Veciana. Opportunistic feedback and scheduling to reduce packet delays in heterogeneous wireless systems. *IEEE Transactions on Vehicular Technology*, 51(7):3282–3289, September 2012.
31. S. Singh, J. Andrews, and G. de Veciana. Interference shaping for improved quality of experience for real-time video streaming. *IEEE JSAC, Special Issue on QOE-Aware Wireless Multimedia Systems*, 30(7):1259–1269, August. 2012.
32. H. Kim, G. de Veciana, X. Yang, and M. Venkatachalam. Distributed α -optimal user association and cell load balancing in wireless networks. *IEEE/ACM Transactions on Networking*, 20(1):177–190, February 2012.
33. B. Rengarajan and G. de Veciana. Practical adaptive user association policies for wireless systems with dynamic interference. *IEEE Transactions on Networking*, 19(6):1690–1703, December 2011.
34. B. Rengarajan and G. de Veciana. Architecture and abstractions for environment- and traffic- aware system-level coordination of wireless systems. *IEEE Trans. on Networking*, 19(3):721–734, June 2011.
35. B. Sadiq, S.-J. Baek, and G. de Veciana. Delay-optimal opportunistic scheduling and approximations: The log rule. *IEEE/ACM Trans. on Networking*, 19(2):405–418, April 2011.
36. Y. Kim and G. de Veciana. Joint capacity region for cognitive networks: Heterogenous environments and context awareness. *IEEE JSAC Special Issue on Cognitive Radio Networking and Communications*, 29(2):407–420, February 2011.
37. Y. Yi, G. de Veciana, and S. Shakkottai. MAC scheduling with low overheads by neighborhood contention patterns. *IEEE/ACM Trans. on Networking*, 18(5):1637–1650, October 2010.
38. H. Kim and G. de Veciana. Leveraging dynamic spare capacity in a wireless system to conserve mobile terminals’ energy. *IEEE/ACM Trans. on Networking*, 18(3):802–815, June 2010.
39. B. Sadiq and G. de Veciana. Large deviation sum-queue optimality of a radial sum-rate monotone opportunistic scheduler. *IEEE Trans. on Information Theory*, 56(7):3395–3412, July 2010.
40. S. Patil and G. de Veciana. Measurement-based opportunistic scheduling for heterogeneous wireless systems. *IEEE Trans. on Communications*, 57(9):2745–53, September 2009.
41. H. Kim, C.-B. Chae, G. de Veciana, and R. Heath. A cross-layer approach to energy efficiency for adaptive MIMO systems exploiting spare capacity. *IEEE Trans. on Wireless Communications*, 8(8):4264–4275, August 2009.
42. Y. Kim and G. de Veciana. Is rate adaptation beneficial for inter-session network coding? *IEEE JSAC: Special issue on network coding for wireless networks.*, 27(5):635–646, June 2009.
43. K. Song, S. Chong and G. de Veciana. Dynamic association for load balancing and interference avoidance in multi-cell networks. *IEEE Trans. on Wireless*, 8(7):3566–76, July 2009.

44. J. K. Chen, G. de Veciana, and T. Rappaport. Site specific knowledge and interference measurement for improving frequency allocations in wireless networks. *IEEE Trans. on Vehicular Technology*, 58(5):2366–77, June 2009.
45. N. Shanbhag, S. Mitra, G. de Veciana, M. Orshansky, R. Marculescu, J. Roychowdhury, D. Jones, and J. Rabaey. The search for alternative computational paradigms. *IEEE Design & Test of Computers: Special Issue on Design in the Late- and Post-Silicon Eras*, 25(4):334–343, July-August 2008.
46. S. Patil and G. de Veciana. Feedback and opportunistic scheduling in wireless networks. *IEEE Trans. on Wireless*, 7(1):1–6, January 2008.
47. X. Yang and G. de Veciana. Inducing multi-scale spatial clustering using multistage MAC contention in spread spectrum ad hoc networks. *IEEE/ACM Trans. on Networking*, 15(6):1387–1400, December 2007.
48. S. J. Baek and G. de Veciana. Spatial Model for Energy Burden Balancing and Data Fusion in Sensor Networks Detecting Bursty Events *IEEE Trans. on Information Theory*, 53(10):3615–29, October 2007.
49. J. Lee and G. de Veciana. On Application-level Load Balancing in FastReplica. *Computer Communications*, 30(17):3218–3231, November 2007.
50. S. Patil and G. de Veciana. Managing resources and quality of service in wireless systems exploiting opportunism. *IEEE/ACM Trans. on Networking*, 15(5):1046–58, October 2007.
51. S. Weber, J. Andrews, X. Yang, and G. de Veciana. Transmission capacity of wireless ad hoc networks with successive interference cancellation. *IEEE Trans. on Information Theory*, 53(8):2799–2814, August 2007.
52. S. Weber and G. de Veciana. Flow-level QoS for a Dynamic Load of Rate Adaptive Sessions Sharing a Bottleneck Link. *Computer Networks*, 51(8):1981–97, June 2007.
53. S.-J. Baek and G. de Veciana. Spatial energy balancing through proactive multipath routing in wireless multihop networks. *IEEE/ACM Trans. on Networking*, 15(1):93–104, February 2007.
54. D. Arifler, G. de Veciana, and B. L. Evans. Network tomography based on flow level measurements. *IEEE/ACM Trans. on Networking*, 15(1):67–79, February 2007.
55. J. Lee and G. de Veciana. Overlay subgroup communication in large-scale multicast communications. *Computer Communications*, 29(8):1201–1212, May 2006.
56. X. Yang and G. de Veciana. Performance of peer-to-peer networks: Service capacity and role of resource sharing policies. *Performance Evaluation, Special Issue on Performance Modeling and Evaluation of Peer-to-Peer Computing Systems*, 63(3):175–194, March 2006.
57. S. Weber and G. de Veciana. Rate adaptive multimedia streams: optimization and admission control. *IEEE/ACM Trans. on Networking*, 13:1275–88, December 2005.
58. S. Weber, X. Yang, G. de Veciana, and J. Andrews. Transmission capacity of wireless ad hoc networks with outage constraints. *IEEE Trans. on Information Theory*, 51(12):4091–4102, December 2005.
59. H. R. Sheikh, A. C. Bovik, and G. de Veciana. An information fidelity criterion for image quality assessment using natural scene statistics. *IEEE Trans. on Image Processing*, 14(12):2117–28, December 2005.
60. A. Zemlianov and G. de Veciana. Capacity of ad hoc networks with infrastructure support. *IEEE Journal on Selected Areas in Communications*, 23(3):657–667, March 2005.
61. J. Lee and G. de Veciana. Scalable multicast-based filtering and tracing framework for defeating distributed dos attacks. *International Journal of Network Management*, 15(1):43–60, January 2005.
62. C. He, M. Jacome, and G. de Veciana. A reconfiguration-based defect tolerant design paradigm for nanotechnologies. *IEEE Design & Test of Computers - Special Issue on Advanced Technology and Reliable Design of Nanotechnology Systems*, 22(4):316–326, July-August 2005.
63. T.-J. Lee and G. de Veciana. An asynchronous and distributed rate control mechanism for elastic services with session priorities. *IEICE Trans. Communications*, E87-B(12):3611–3620, December 2004.
64. J. Stine and G. de Veciana. A paradigm for quality of service in wireless ad hoc networks using synchronous signaling and node states. *IEEE JSAC, Special Issue on Quality of Service Delivery in Variable Topology Networks* 22(7):1301–1321, September 2004.

65. S. J. Baek, G. de Veciana, and X. Su. Minimizing energy consumption in large-scale sensor networks through distributed data compression and hierarchical aggregation. *IEEE JSAC, Special Issue on Sensor Networks*, 22(6):1130–1140, August 2004.
66. S.C. Yang and G. de Veciana. Enhancing both network and user performance for networks supporting best effort traffic. *IEEE/ACM Trans. on Networking*, 12(2):349–360, April 2004.
67. M. Stafford, X. Yang, and G. de Veciana. Connection caching to reduce signaling loads with applications to softswitch telephony. *Computer Networks*, 42:211–229, May 2003.
68. S. Xu and G. de Veciana. Predictive routing to enhance QoS for stream-based flows sharing excess bandwidth. *Computer Networks*, 42:65–82, May 2003.
69. J. A. Stine, G. de Veciana, K.H. Grace, and R.D. Durst. Orchestrating spatial reuse in wireless ad hoc networks using synchronous collision resolution. *Journal of Interconnection networks*, 3(3–4):167–198, September–December 2002.
70. J. Stine and G. de Veciana. Improving energy efficiency of centrally controlled wireless data networks. *Wireless Networks*, 8(6):681–700, November 2002.
71. V. Lapinskii, M. Jacome, and G. de Veciana. Application-specific clustered VLIW datapaths: Early exploration on a parameterized design space. *IEEE Trans. on Computer Aided Design*, 21(8):889–903, August 2002.
72. V. Lapinskii, M. Jacome, and G. de Veciana. Cluster assignment for high-performance embedded VLIW processors. *ACM Trans. on Design Automation of Electronic Systems*, 7(3):430–454, July 2002. **Received the best paper appearing in ACM Transactions on Design Automation of Electronic Systems Jan. 2002-2004 Award.**
73. J. Lee and G. de Veciana. IP multicast resource and topology discovery using a fan-out decrement mechanism. *Computer Networks*, 39:405–422, July 2002.
74. M. Montgomery and G. de Veciana. Aggregating multicast demands on virtual path trees. *Telecommunication Systems*, 16:483–501, March 2001.
75. G. de Veciana, T.-J. Lee, and T. Konstantopoulos. Stability and performance analysis of networks supporting elastic services. *IEEE/ACM Trans. on Networking*, 9(1):2–14, February 2001.
76. M. Montgomery and G. de Veciana. Hierarchical source routing using implied costs. *Computer Networks*, 34:379–397, September 2000.
77. T.-J. Lee and G. de Veciana. Model and performance evaluation for multi-service network link supporting ABR and CBR services. *IEEE Communications Letters*, 4(11):375–377, November 2000.
78. M. Jacome and G. de Veciana. Design challenges for new application specific processors. *IEEE Design & Test of Computers*, 12(2):40–50, April-June 2000.
79. C.-F. Su, G. de Veciana, and J. Walrand. Explicit rate flow control for ABR services in ATM networks. *IEEE/ACM Trans. on Networking*, 8(3):350–361, June 2000.
80. G. de Veciana, M. Jacome, and J.-H. Guo. Assessing probabilistic timing constraints on system performance. *Design Automation for Embedded Systems*, 5(1):61–81, February 2000.
81. C.-F. Su and G. de Veciana. Statistical multiplexing and mix-dependent alternate routing in multiservice networks. *IEEE/ACM Trans. on Networking*, 8(1):99–108, February 2000.
82. G. de Veciana and R. Baldick. Resource allocation in multi-service networks: Statistical multiplexing. *Computer Networks and ISDN Systems*, 30(9-10):951–962, 1998.
83. T. Konstantopoulos, M. Zazanis, and G. de Veciana. Conservation laws and reflection mappings with an application to multi-class mean value analysis for stochastic fluid queues. *Stochastic Processes and their Applications*, 65:139–146, 1996.
84. G. de Veciana and G. Kesidis. Bandwidth allocation for multiple qualities of service using generalized processor sharing. *IEEE Trans. on Information Theory*, 42(1):268–272, January 1996.
85. G. de Veciana, G. Kesidis, and J. Walrand. Resource management in ATM networks using effective bandwidths. *IEEE Journal on Selected Areas of Communications*, 13(6):1081–1090, August 1995.

86. G. de Veciana and J. Walrand. Effective bandwidths: Call admission, traffic policing and filtering for ATM networks. *Queueing Systems*, 20:37–59, 1995.
87. G. de Veciana, C. Olivier, and J. Walrand. Large deviations of birth death Markov fluids. *Probability in the Engineering and Informational Sciences*, 7:237–255, 1993.
88. G. de Veciana and A. Zakhor. Neural net based continuous phase modulation receiver. *IEEE Trans.on Communications*, 40(8):1396–1408, August 1992.

Refereed Archival Journal Publications - Accepted or Submitted

1. C.-S. Choi, F. Baccelli, and G. de Veciana. Analysis of data harvesting by unmanned aerial vehicles. *IEEE Transactions on Wireless Communications*, pages 1–15, Feb 2019. Accepted.
2. A. Anand, G. de Veciana, and S. Shakkottai. Joint scheduling of URLLC and eMBB traffic in 5G wireless networks. *IEEE/ACM Transactions on Networking*, pages 1–15, 2019. Accepted.

Book Chapters

1. S. Weber and G. de Veciana. Multiple service classes for rate adaptive streams. In R. Anandalignam and S. Raghaven, editors, *Telecommunications Planning: Innovations in Pricing, Network Design and Management*, pages 361–380. Springer, 2005.
2. A. Zemlianov and G. de Veciana. Modeling competition among wireless service providers. In R. Anandalignam and S. Raghaven, editors, *Telecommunications Planning: Innovations in Pricing, Network Design and Management*, pages –. Springer, 2005.
3. M. Jacome, G. de Veciana, and V. Lapinskii. Exploring performance tradeoffs for clustered VLIW ASIPs. In *The Best of ICCAD - 20 Years of Excellence in Computer Aided Design*, pages 159–177, Kluwer Academic Publishers, 2003.
4. S. Weber and G. de Veciana. Asymptotic analysis of rate adaptive multimedia streams. In *Telecommunications Network Design*, pages 167–192, Kluwer Academic Publisher, 2002.
5. M. Jacome and G. de Veciana. Lower bound on latency for VLIW ASIP datapaths. In G. de Micheli, R. Ernst, and W. Wolf, editors, *Readings in Hardware /Software co-design*, The Morgan Kaufmann series in Systems on Silicon, chapter 5, pages 477–484. Morgan Kaufman, 2001.

Refereed Conference Proceedings

1. C.-S. Choi, F. Baccelli, and G. de Veciana. Analysis of data harvesting by unmanned aerial vehicles. In *Proc. ISIT*, pages 1–5, July 2019.
2. J.A. Rahal, G. de Veciana, T. Shimzu, and H. Lu. Optimizing networked situational awareness. In *Proc. IEEE WIOPT RAWNET Workshop*, pages 1–8, June 2019.
3. P. Caballero, A. Banchs, G. de Veciana, and X. Costa Pérez. Optimizing network slicing via virtual resource pool partitioning. In *Proc. IEEE WIOPT RAWNET Workshop*, pages 1–8, June 2019.
4. J. Zheng and G. de Veciana. Elastic multi-resource network slicing: Can protection lead to improved performance. In *Proc. IEEE WIOPT*, pages 1–8, June 2019.
5. I. Tariq, R. Sen, G. de Veciana, and S. Shakkottai. Online channel-state clustering and multiuser capacity learning for wireless scheduling. In *Proc. IEEE INFOCOM*, pages 1–9, April 2019.
6. S. Kassir, G. de Veciana, N. Wang, X. Wang, and P. Palacharla. Enhancing cellular performance via vehicular-based opportunistic relaying and load balancing. In *Proc. IEEE INFOCOM*, pages 1–9, April 2019.
7. J. Kibilda and G. de Veciana. Dynamic network densification: Overcoming the challenge of spatio-temporal variability in wireless traffic. In *Proc. IEEE GLOBECOM*, pages 1–6, December 2018.
8. C.-S. Choi, F. Baccelli, and G. de Veciana. Densification leveraging mobility: An IoT architecture based on vehicular gateways. In *Proc. ACM MOBIHOC*, pages 1–10, June 2018.

9. A. Anand and G. de Veciana. A Whittle's index based approach for QoE optimization in wireless networks. In *Proc. ACM SIGMETRICS*, pages 1–10, June 2018.
10. Y. Wang, G. de Veciana, T. Shimizu, and H. Lu. Deployment and performance of infrastructure to assist collaborative sensing. In *Proc. IEEE VTC*, pages 1–5, June 2018.
11. Y. Wang, G. de Veciana, T. Shimizu, and H. Lu. Performance and scaling of collaborative sensing and networking for automated driving applications. In *Proc. IEEE ICC Workshop 5G and Cooperative Autonomous Driving*, pages 1–6, May 2018.
12. A. Anand, G. de Veciana, and S. Shakkottai. Joint scheduling of URLLC and eMBB traffic in 5G wireless networks. In *Proc. IEEE INFOCOM*, pages 1–9, April 2018.
13. P. Mahdadi, F. Baccelli, and G. de Veciana. On spatial and temporal variations in ultra dense wireless networks. In *Proc. IEEE INFOCOM*, pages 1–9, April 2018.
14. C.-S. Choi, F. Baccelli, and G. de Veciana. A dense IoT architecture based on mobile gateways. In *ITA Workshop*, pages 1–6, February 2018.
15. H. Xu, G. de Veciana, and W.C.Lau. Addressing job processing variability through redundant execution and opportunistic checkpointing: A competitive analysis. In *Proc. IEEE INFOCOM*, pages 1–24, May 2017.
16. A. Anand and G. de Veciana. Measurement-based delay optimal scheduler for multiclass traffic in wireless networks. In *Proc. IEEE INFOCOM*, pages 1–9, May 2017.
17. P. Caballero Garcés, A. Banchs, G. de Veciana, and X. Costa Pérez. Network slicing games: Enabling customization in multi-tenant networks. In *Proc. IEEE INFOCOM*, pages 1–9, May 2017.
18. P. J. Zheng and Caballero Garcés, G. de Veciana, S.J. Baek, and A. Banchs. Statistical multiplexing and traffic shaping games for network slicing. In *Proc. IEEE WIOPT*, pages 1–8, May 2017.
19. Y. Wang and G. de Veciana. Temporal dynamics of mobile blocking in millimeter wave based wearable networks. In *Proc. IEEE WIOPT*, pages 1–8, May 2017.
20. T. Bonald, C. Comte, V. Shah, and G. de Veciana. Mean service performance in queueing systems under balanced fair, In *Proc. European Conference on Queueing Systems*, 1–15, July 2016
21. A. Anand and G. de Veciana. Invited paper: Context-aware schedulers: Realizing quality of service/experience trade-offs for heterogeneous traffic mixes. In *Proc. International Symposium on Modeling and Optimization in Mobile, Ad Hoc and Wireless Networks (WIOPT)*, pages 1–8, May 2016. Invited Paper.
22. P. Mahdadi, F. Baccelli, and G. de Veciana. On temporal variations in a mobile user's SNR with applications to perceived QoS. In *Proc. International Symposium on Modeling and Optimization in Mobile, Ad Hoc and Wireless Networks (WIOPT)*, pages 1–8, May 2016.
23. Y. Wang and G. de Veciana. Improving user perceived QoS in D2D networks with binary quantile opportunistic scheduling. In *Proc. International Symposium on Modeling and Optimization in Mobile, Ad Hoc and Wireless Networks (WIOPT)*, pages 1–8, May 2016.
24. Y. Wang and G. de Veciana. Dense indoor mmwave wearable networks: Managing interference and scalable MAC. In *Proc. International Symposium on Modeling and Optimization in Mobile, Ad Hoc and Wireless Networks (WIOPT)*, pages 1–8, May 2016.
25. Y. Du and G. de Veciana. Efficiency and optimality of largest deficit first prioritization: Resource allocation for real-time applications. In *Proc. IEEE INFOCOM*, pages 1–9, April 2016.
26. Y. Du and G. de Veciana. Scheduling compute systems with heterogeneous resources for soft real-time applications. In *Proc. IEEE INFOCOM*, pages 1–9, April 2016.
27. V. Shah and G. de Veciana. On the impact of fairness and heterogeneity on delays in large-scale content delivery networks. In *Proc. ACM SIGMETRICS*, pages 1–9, June 2015.
28. V. Shah and G. de Veciana. Performance evaluation and asymptotic for content delivery networks. In *Proc. IEEE INFOCOM*, pages 1–9, April 2014. **Best paper award.**
29. V. Joseph and G. de Veciana. NOVA: QoE-driven optimization of DASH-based video delivery networks. In *Proc. IEEE INFOCOM*, pages 1–9, April 2014.

30. Y. Du and G. de Veciana. Wireless networks without edges: Dynamic radio resource clustering and user scheduling. In *Proc. IEEE INFOCOM*, pages 1–9, April 2014.
31. M.F. Iqbal, J. Holt, J.H. Ryoo, G. de Veciana, and L.K. John. Flow migration on multicore network processors: Load balancing while minimizing packet reordering. In *Proc. International Conference on Parallel Processing*, October 2013.
32. C. Chen, L.-K. Choi, G. de Veciana, C. Caramanis, R. Heath, and A. Bovik. A dynamic system model of time-varying subjective quality of video streams over http. In *Proc. International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pages 1–9, May 2013.
33. Z. Lu and G. de Veciana. Optimizing stored video delivery for mobile networks: The value of knowing the future. In *Proc. IEEE INFOCOM*, pages 1–9, April 2013.
34. V. Joseph, G. de Veciana, and A. Arapostathis. Resource allocation: Realizing mean-variability-fairness tradeoffs. In *Proc. 50th Allerton Conference*, pages 1–8, October 2012.
35. Y. Du and G. de Veciana. Information technology to address range anxiety for electric vehicles in early deployment. In *Proc. IEEE*, pages 1–9, August 2012.
36. A.K. Moorthy, L.K. Choi, G. de Veciana, and A.C. Bovik. Mobile video quality assessment database. In *Proc. ICC Workshop on Realizing Advanced Video Optimized Wireless Networks*, pages 1–5, June 2012.
37. A. Ziotopoulos and G. de Veciana. Addressing non-homogeneities in a ubiquitous P2P platform for context exchange. In *Proc. 6th IEEE WoWMoM Workshop on Autonomic and Opportunistic Communications*, pages 1–6, June 2012.
38. A. Kurve, G. Pang, G. Kesidis, and G. de Veciana. Decentralized capacity reallocation for a loss network. In *Proc. 46th Conference on Information Sciences and Systems*, pages 1–5, March 2012.
39. V. Shah, G. de Veciana, and G. Kesidis. Learning to route queries in unstructured P2P networks: Achieving throughput optimality subject to query resolution constraints. In *Proc. IEEE INFOCOM*, pages 1–9, March 2012.
40. V. Joseph and G. de Veciana. Jointly optimizing multi-user rate adaptation for video transport over wireless systems: Mean-fairness-variability tradeoffs. In *Proc. IEEE INFOCOM*, pages 1–9, March 2012.
41. A.K. Moorthy, L.K. Choi, G. de Veciana, and A.C. Bovik. Subjective analysis of video quality on mobile devices. In *Proc. 6th International Workshop on Video Processing and Quality Metrics*, pages 1–5, January 2012.
42. C. Chen, Jr. R.W. Heath, A.C. Bovik, and G. de Veciana. Adaptive policies for real-time video transmission: A Markov decision process framework. In *Proc. International Conference on Image Processing*, pages 1–4, September. 2011.
43. Z. Lu and G. de Veciana. Opportunistic transport for stored video delivery over wireless networks: Optimal anticipative and causal approximations. In *Proc. 48th Allerton Conference*, pages 1–8, Sept. 2011.
44. V. Joseph and G. de Veciana. Stochastic networks with multipath flow control: Impact of resource pools on flow-level performance and network congestion. In *ACM SIGMETRICS*, pages 1–14, June 2011.
45. Y. Kim, F. Baccelli, and G. de Veciana. Spatial reuse and fairness of mobile ad-hoc networks with channel aware CSMA protocols. In *Proc. of 7th Workshop on Spatial Stochastic Models for Wireless Networks (SPASWIN)*, pages 1–7, May 2011.
46. A. Ziotopoulos and G. de Veciana. P2P network for storage and query of a spatio-temporal flow of events. In *International Workshop on Mobile Peer-to-Peer Computing in conjunction with the IEEE PERCOM*, pages 1–7, March 2011.
47. M. Uruena A. Cuevas and G. de Veciana. Dynamic random replication for data centric storage. In *Proc. ACM International Conference on Modeling, Analysis and Simulation of Wireless and Mobile Systems (MSWIM)*, October 2010. **Best paper award.**
48. B. Sadiq and G. de Veciana. Balancing SRPT prioritization vs opportunistic gain in wireless systems with flow dynamics. In *Proc. 22nd International Teletraffic Congress (ITC 22)*, pages 1–8, September 2010. **Best paper award.**

49. H. Kim, G. de Veciana, X. Yang, and M. Venkatachalam. α -optimal user association and cell load balancing in wireless networks. In *Proc. IEEE INFOCOM Mini Conference*, pages 1–9, March 2010.
50. Y. Kim and G. de Veciana. Understanding the design space of cognitive networks. In *Proc. 6th Workshop on Spatial Stochastic Models for Wireless Networks (SpaSWIN) 2010*, pages 1–9, June 2010.
51. B. Rengarajan and G. de Veciana. User association to optimize flow level performance in wireless systems with dynamic interference. In *LNCS volume 5894, Proc. 3rd International Workshop on Network Control and Optimization (NET-COOP)*. Springer, November 2009.
52. B. Sadiq and G. de Veciana. Throughput optimality of delay-driven maxweight scheduler for a dynamic flow system. In *Proc. 47th Annual Allerton Conference on Communication, Control and Computing*, pages 1–6, September 2009.
53. B. Sadiq, S.-J. Baek, and G. de Veciana. Delay-optimal opportunistic scheduling and approximations: The log rule. In *Proc. IEEE INFOCOM*, pages 1–9, April 2009.
54. Y. Kim and G. de Veciana. Is rate adaptation beneficial for inter-session network coding? In *Proc. IEEE MILCOM*, November 2008.
55. B. Rengarajan, C. Caramanis, and G. de Veciana. Analyzing queuing systems with coupled processors through semidefinite programming. In *INFORMS: Applied Probability Session*, October 2008.
56. A. Zykov and G. de Veciana. Exploring density-reliability tradeoffs on nanoscale substrates: When do smaller less reliable devices makes sense? In *Proc. 23rd IEEE International Symposium on Defect and Fault Tolerance in VLSI Systems (DFT'08)*, pages 1–9, October 2008.
57. B. Sadiq and G. de Veciana. Optimality and large deviations for multi-user wireless systems under pseudo-log opportunistic scheduling. In *Proc. 46th Annual Allerton Conference on Communication, Control and Computing*, pages 1–8, September 2008.
58. A. Ziotopoulos and G. de Veciana. Design and optimization of spatial organizations for context transfer. In *Proc. IEEE International Conference on Pervasive Computing and Communications*, pages 1–10, September 2008.
59. A. Zykov and G. de Veciana. Using randomly assembled networks for computation. In *Proc. Third International Conference on Nano-Networks (Nano-Net '08)*, pages 1–5, September 2008.
60. G. Kesidis, G. de Veciana, and A. Das. On flat-rate and usage-based pricing for tiered commodity Internet services. In *Proc. 42nd Conference on Information Sciences and Systems (CISS)*, pages 1–6, March 2008.
61. H. Kim, C.-B. Chae, G. de Veciana, and R. Heath. Energy-efficient adaptive MIMO systems leveraging dynamic spare capacity. In *Proc. 42nd Conference on Information Sciences and Systems (CISS)*, pages 1–6, March 2008.
62. B. Rengarajan and G. de Veciana. Optimizing wireless networks for heterogenous spatial loads. In *Proc. 42nd Conference on Information Sciences and Systems (CISS)*, pages 1–6, March 2008.
63. B. Rengarajan and G. de Veciana. Network architecture and abstractions for environment and traffic aware system-level coordination of wireless networks: The downlink case. In *Proc. IEEE INFOCOM*, pages 1–12 April 2008.
64. J. K. Chen, G. de Veciana, and T. S. Rappaport. Improved measurement-based frequency allocation algorithms for wireless networks. In *Proc. IEEE 50th Global Communications Conference (Globecom)*, pages 1–6, November 2007.
65. J. K. Chen, T. S. Rappaport, and G. de Veciana. Site specific knowledge for improving frequency allocations in wireless lan and cellular networks. In *Proc IEEE 66th Vehicular Technology Conference (VTC)*, pages 1431–1435, October 2007.
66. Y. Yi, G. de Veciana, and S. Shakkottai. On optimal MAC scheduling with physical interference. In *Proc. IEEE INFOCOM*, pages 1–9, May 2007.
67. A. Ziotopoulos, M. Jacome and G. de Veciana. An RFID-based platform supporting context-aware computing in complex spaces. In *Proc. Second International Workshop on Managing Context Information and Semantics in Mobile Environments (MCISME)*, pages 294–298, May 2007.

68. H. Kim and G. de Veciana. Losing opportunism: Evaluating service integration in an opportunistic wireless system. In *Proc. IEEE INFOCOM*, pages 1–9, May 2007.
69. S. Chong K. Song and G. de Veciana. Dynamic association for load balancing and interference avoidance in multi-cell networks. In *Proc. WIOPT*, pages 1–10, April 2007.
70. S.-J. Baek and G. de Veciana. A scalable model for energy load balancing in large-scale sensor networks. In *Proc. Spaswin 2006*, pages 1–10, April 2006.
71. J. Chen, T. Rappaport, and G. de Veciana. Iterative water-filling for load-balancing in wireless LANs or microcellular networks. In *Proc. IEEE Vehicular Technology Conference, Control and Computing*, pages 1–6, May 2006.
72. C. He, M. Jacome, and G. de Veciana. Scalable defect mapping and configuration of memory-based nanofabrics. In *IEEE International High-Level Design Validation and Test Workshop (HLDVT)*, November-December 2005.
73. S. Weber, J. Andrews, X. Yang, and G. de Veciana. Wireless ad hoc networks with successive interference cancellation. In *Proc. of the 43rd Annual Allerton Conference on Communication, Control and Computing*, pages 1–10, September 2005.
74. S. Patil and G. de Veciana. Measurement-based opportunistic feedback and scheduling for wireless systems. In *Proc. of the 43rd Annual Allerton Conference on Communication, Control and Computing*, pages 1–10, September 2005.
75. A. Zemlianov and G. de Veciana. Cooperation and decision-making in a wireless multiprovider setting. In *Proc. IEEE INFOCOM*, pages 1–12, March 2005.
76. S.-J. Baek and G. de Veciana. Spatial energy balancing in large scale wireless multihop networks. In *Proc. IEEE INFOCOM*, pages 1–12, March 2005.
77. X. Yang, A. Hassan, G. de Veciana, and J. G. Andrews. MAC protocols for spread spectrum ad hoc networks: Spatial thinning versus spatial packing. In *Proc. Conference on Information Sciences and Systems (CISS)*, pages 1–6, March 2005.
78. A. Zemlianov and G. de Veciana. Load balancing in wireless systems supporting nodes with dual mode capabilities. In *Proc. Conference on Information Sciences and Systems (CISS)*, pages 1–6, March 2005.
79. S. Patil and G. de Veciana. Throughput optimality of maximum quantile scheduling under greedy user behavior. In *Proc. Conference on Information Sciences and Systems (CISS)*, page 1, March 2005.
80. A. Zykov, E. Mizan, M. Jacome, G. de Veciana, and A. Subramanian. High-performance computing on fault-prone nanotechnologies: Novel microarchitecture techniques exploiting reliability-delay trade-offs. In *Proc. 42nd ACM/IEEE Design Automation Conference (DAC)*, pages 270–273, June 2005.
81. X. Yang and G. de Veciana. Inducing spatial clustering in spread spectrum ad hoc networks for efficient usage of capacity. In *Proc. ACM MobiHoc*, pages 121–132, May 2005.
82. S. Weber, X. Yang, G. de Veciana, and J. G. Andrews. Transmission capacity of CDMA ad hoc networks. In *Proc., IEEE Intl. Symp. Spread Spectrum Techniques and Applications*, September 2004.
83. S. Weber, J. G. Andrews, X. Yang, and G. de Veciana. Transmission capacity of CDMA ad hoc networks employing successive interference cancellation. In *Proc. IEEE GLOBECOM*, November 2004.
84. D. Arifler, G. de Veciana, and B. L. Evans. Network tomography based on flow level measurements. In *Proc. IEEE Int. Conf. on Acoustics, Speech, and Signal Proc.*, May 2004.
85. D. Arifler, G. de Veciana, and B. L. Evans. Inferring path sharing based on flow level TCP measurements. In *Proc. IEEE Conf. on Communications*, June 2004.
86. M. Jacome, C. He, G. de Veciana, and S. Bijansky. Defect tolerant probabilistic design paradigm for nanotechnologies. In *Proc. IEEE/ACM Design Automation Conference (DAC)*, pages 1–6, 2004.
87. X. Yang and G. de Veciana. Service capacity in peer-to-peer networks. In *Proc. IEEE INFOCOM*, pages 1–11, March 2004.
88. G. de Veciana, X. Yang. Fairness, incentives and performance in peer-to-peer networks. In *Proc. 41th Annual Allerton Conference on Communication, Control and Computing*, pages 1–10, October 2003.

89. S. Weber and G. de Veciana. Network design for rate adaptive multimedia streams. In *Proc. IEEE INFOCOM*, pages 1–11, April 2003.
90. G. de Veciana, S. Park, A. Sang, and S. Weber. Routing and provisioning VPNs based on hose traffic models and/or constraints. In *Proc. 40th Annual Allerton Conference on Communication, Control and Computing*, pages 77–86, October 2002.
91. J. Lee and G. de Veciana. An evaluation of topology-sensitive subgroup communication mechanism in large-scale multicast applications. In *Proc. Fourth International Workshop on Networked Group Communication*, pages 1–8, October 2002.
92. S.-C. Yang and G. de Veciana. Size-based adaptive bandwidth allocation: Optimizing the average QoS for elastic flows. In *Proc. IEEE INFOCOM*, volume 2, pages 1–10, June 2002.
93. J. Stine and G. de Veciana. A comprehensive energy conservation solution for mobile ad hoc networks. In *Proc. IEEE International Conference on Communications*, pages 3341–3345, April 2002.
94. X. Yang and G. de Veciana. On Zipf’s law and the effectiveness of hierarchical caching. In *Proc. Communication Networks and Distributed Systems Modeling and Simulation Conference*, pages 229–237, 2001.
95. S.-C. Yang and G. de Veciana. Bandwidth sharing: The role of user impatience. In *Proc. IEEE GLOBECOM*, pages 2258–2262, November 2001.
96. N. Li, G. de Veciana, S. Park, M. Borrego, and S.-Q. Li. Minimizing queue variance using randomized deterministic marking. In *Proc. IEEE GLOBECOM*, pages 2368–2372, November 2001.
97. M. Borrego, N. Li, G. de Veciana, and S.-Q. Li. Congestion avoidance using adaptive random marking. In *IEEE Workshop on High Performance Switching and Routing*, pages 63–67, May 2001.
98. S.-C. Yang, X. Su, and G. de Veciana. Heterogeneity-aware shortest path routing: Flow holding time, user demand and network state. In *IEEE Workshop on High Performance Switching and Routing*, pages 287–291, May 2001.
99. V. Lapinskii, M. Jacome, and G. de Veciana. High quality operation binding for clustered VLIW datapaths. In *Proc. IEEE/ACM DAC*, pages 702–707, June 2001.
100. M. Jacome, G. de Veciana, and S. Pillai. Clustered VLIW architectures with predicated switching. In *Proc. IEEE/ACM DAC*, pages 696–701, June 2001.
101. S. Xu and G. de Veciana. Dynamic multi-path routing: Asymptotic approximations and simulations. In *Proc. ACM SIGMETRICS*, pages 25–36, June 2001.
102. J. Lee and G. de Veciana. Resource and topology discovery for IP multicast using a fan-out decrement mechanism. In *Proc. IEEE INFOCOM*, pages 1627–1635, April 2001.
103. X. Su and G. de Veciana. Source routing in networks with uncertainty: inference, sensitivity and path caching. In *Proc. IEEE GLOBECOM*, pages 1–5, November 2000.
104. M. Jacome, G. de Veciana, and V. Lapinskii. Exploring performance tradeoffs for clustered VLIW ASIPs. In *Proc. of ACM/IEEE International Conference on Computer Aided Design (ICCAD)*, pages 504–510, November 2000. **Received the IEEE/CAS William J. McCalla ICCAD Best Paper Award.**
105. J. Stine and G. de Veciana. Energy efficiency of centrally controlled transmission of fixed size packets. In *Proc. Wireless Communications and Networking Conference 2000*, pages 1–6, September 2000.
106. R. Anand, M. Jacome, and G. de Veciana. Heuristic tradeoffs between latency and energy consumption in register assignment. In *Proc. of IEEE/ACM 8th International Workshop on Hardware/Software Codesign*, pages 115–119, May 2000.
107. M. Jacome and G. de Veciana. Lower bound on latency for VLIW ASIP datapaths. In *Proc. of ACM/IEEE International Conference on Computer Aided Design (ICCAD)*, pages 261–269, November 1999.
108. M. Jacome, G. de Veciana, and C. Akturan. Resource constrained dataflow retiming heuristics for VLIW ASIPs. In *7th International Workshop on Hardware/Software Codesign*, pages 12–16, May 1999.
109. G. de Veciana, T.-J. Lee, and T. Konstantopoulos. Stability and performance analysis of networks supporting services with rate control – Could the Internet be unstable? In *Proc. INFOCOM*, volume 2, pages 802–810, 1999.

110. J. Stine and G. de Veciana. Tactical communications using the IEEE 802.11 MAC protocol. In *Proc. MILCOM*, pages 575–582, October 1998.
111. T.-J. Lee and G. de Veciana. A decentralized framework to achieve max-min fair bandwidth allocation for ATM networks. In *Proc. GLOBECOM*, pages 1515–1520, November 1998.
112. G. de Veciana, M. Jacome, and J.-H. Guo. Hierarchical algorithms for assessing probabilistic constraints on system performance. In *Proc. IEEE DAC*, pages 251–256, June 1998.
113. M. Montgomery and G. de Veciana. Source routing through clouds for connection oriented networks. In *Proc. IEEE INFOCOM*, volume 2, pages 685–692, March 1998.
114. C.-F. Su and G. de Veciana. On statistical multiplexing, traffic mixes and VP management. In *Proc. IEEE INFOCOM*, volume 2, pages 642–650, March 1998.
115. C.-F. Su and G. de Veciana. On the overflow probability of deterministically constrained traffic. In *Proc. IEEE International Conference on Communications*, pages 1704–1708, 1997.
116. J.-Y. Le Boudec, G. de Veciana, and J. Walrand. QoS in ATM: theory and practice. In *Proc. 35th IEEE Conference on Decision and Control*, pages 773–778, 1996.
117. M. Montgomery and G. de Veciana. On the relevance of time scales in performance oriented traffic modeling. In *Proc. IEEE INFOCOM*, volume 2, pages 513–520, 1996.
118. G. de Veciana and G. Kesidis. An approach to provisioning for real-time VBR video teleconferencing via end-to-end virtual path connections. In *Proc. IEEE International Conference on Communications*, pages 632–636, 1996.
119. C.-F. Su and G. de Veciana. On the capacity of multi-service networks. In *Proc. IEEE International Conference on Communications*, volume 1, pages 226–230, 1995.
120. G. de Veciana and G. Kesidis. Bandwidth allocation for multiple qualities of service using generalized processor sharing. In *Proc. IEEE GLOBECOM*, pages 1550–1554, 1994.
121. G. de Veciana. Leaky buckets and optimal self-tuning rate control. In *Proc. IEEE GLOBECOM*, pages 1207–1211, 1994.
122. G. de Veciana, C. Courcoubetis, and J. Walrand. Decoupling bandwidths for networks: A decomposition approach to resource management for networks. In *Proc. IEEE INFOCOM*, volume 2, pages 466–474, 1994.
123. G. de Veciana and A. Zakhor. Neural net based continuous phase modulation receiver. In *Proc. IEEE International Conference on Communications*, pages 419–423, 1990.

Grants and Contracts

1. Principle Investigator, (Co-PI S. Shakkottai and Lili Qiu) Network Slicing Scheduling and Change Detection, Army Futures Command, \$720K 10/01/2019-09/30/2021.
2. Co-Principle Investigator, (PI. Z. Shamsi (Applied Research Labs:UT) Co-PIs A. Liu (ARL-UT) and H. Vikalo and UT-ARL) RF-based Wireless Network Tomography / Deceptive Tactical Networks Army Futures Command ARL, Total \$1,440K (UT share \$540K) 9/3/19-9/2/22.
3. Principle Investigator, (Co-PI S. Shakkottai) Safe-Reinforcement Learning for Wireless Resource Allocation, National Science Foundation, (CNS-1910112) \$499K, 10/01/2019–09/30/2022.
4. Principle Investigator, (Co-PI H. Vikalo) Visibility and Interactive Information Sharing in Collaborative Sensing Systems, National Science Foundation, (ECC-1809327) \$450K, 08/01/2018–07/31/2021.
5. Co-Principle Investigator, (Co PIs: S. Shakkottai and R. Heath (UT)) Energy-efficient spectrum and infrastructure co-use for sensing and communications in dense networks National Science Foundation (CNS-1731658), UT share(Total)\$649K 09/01/2017–08/31/2020.
6. Principle Investigator, (Co PIs: S. Shakkottai and L. Qiu (UT); R. Johari (Stanford)) Extreme Densification of Wireless Networks National Science Foundation (CNS-1343383), UT share(Total)\$733.5K (\$978K), 09/01/2013–08/31/2017.
7. Principle Investigator, Dynamic Coupling and Flow-Level Performance in Data Networks From Theory to Practice National Science Foundation (CNS-0917067), \$399,971. 08/01/2009–07/31/2013.
8. Co-Principle Investigator, (Co PI: G. Kesidis) Supporting unstructured peer-to-peer social networking National Science Foundation,(CNS-0915928), \$150,000. 09/01/2009–08/31/2013.
9. Principle Investigator, (Co PI: C. Caramanis) Network architecture and abstractions for environment and traffic aware system level optimization of wireless systems National Science Foundation (CNS-0721532), \$200,000. 09/01/2007–08/31/2010.
10. Principle Investigator, Distributed embedded memory systems for Pervasive Computing Applications, AFOSR (FA9550-07-1-0428), \$383,642. 05/01/2007-4/30/2010.
11. Principle Investigator, (Co-PI: M. Jacome) Perturbation based computing for the next generation real-time embedded systems, GSRC/MARCO, \$275,000. 08/01/2006–07/31/2009
12. Co-Principle Investigator, (PI: D. Chiu; other Co-PI: M. Jacome), Computational Memory: The Computing Fabric of the Future National Science Foundation, (CPA-0541416) \$200,000, 07/01/05–06/30/09.
13. Principle Investigator, (Co-PI: M. Jacome), Novel Mobile and Distributed Embedded Systems for Pervasive Computing Applications CSR-EHS, National Science Foundation (CNS-0509355), \$340,000, 07/01/05–7/31/2011.
14. Co-Principle Investigator, (PI: S. Nettles; other co-PIs: J. Andrews, S. Shakkottai, R. Heath), Exploiting Flexible PHY's in Networks: Prototype and Algorithms NeTS ProWIN, National Science Foundation (CNS-0435307), \$500,000, 10/01/04–9/30/06.
15. Co-Principle Investigator, (PI: M. Jacome), High-performance Computer Architecture in the Nanoelectronics Era: Overcoming the Reliability Challenge, Computer Systems Architecture, National Science Foundation, \$150,000, 08/01/03–07/31/06.
16. Co-Principle Investigator, (PI: M. Jacome), A novel probabilistic design paradigm for unreliable nanotechnologies, Cross-disciplinary Semiconductor Research Program Semiconductor Research Corporation, \$40,000, 12/01/03–11/30/04.
17. Principle Investigator, (other co-PIs: A. Arapostathis and M. Jacome), Network support for Distributed Sensing Applications Division of Electrical and Communication Systems, National Science Foundation, \$150,000, 09/01/02–08/31/04.
18. Principle Investigator, Traffic and Network Aggregation, Performance and Scaling Invariants, Tivoli, Austin, TX, \$30,000, 11/28/00–11/27/03.
19. Co-Principle Investigator, (PI: S. Nettles; other co-PI: J. Smith), Resource Allocation and Denial of Service Prevention in Active Networks, Information Technology Research, National Science Foundation, \$417,746, 09/01/00–08/31/03.

20. Co-Principle Investigator, (PI: M. Jacome), VLIW ASIPs for Embedded Multimedia and Signal Processing Applications, Texas Higher Education Coordinating Board, \$170,240, 01/01/00–12/31/01.
21. Co-Principle Investigator, (PI: M. Jacome), Datapath Design and Code Generation for VLIW ASIPs, National Science Foundation Award, \$300,000, 09/01/99–08/31/02.
22. Co-Principle Investigator, (PI: M. Jacome), Early Performance Predictions to Support Design for Interconnectivity, Texas Higher Education Coordinating Board, \$141,895, 01/01/98–12/31/99.
23. Co-Principle Investigator, (PI: S.-Q. Li), ATM Traffic Control and Management, Southwestern Bell Corp. - Technology Resources Inc., Austin, TX, \$25,000, 01/01/97–12/31/97.
24. Principle Investigator, Analysis and Design of Hierarchical Source Routing and Embedded ATM Networks, National Science Foundation Career Award, \$210,000, 07/01/96–06/30/00.
25. Co-Principle Investigator, (PI: S.-Q. Li), Traffic Modeling and Network Control in High-Speed Communication Networks, Southwestern Bell Corp. - Technology Resources Inc., Austin TX, \$100,000, 01/01/96–03/31/97. (My Share 25,000)
26. Principle Investigator, Resource Management for Networks: Service Provisioning Flow Control and Robustness, National Science Foundation Research Initiation Award, \$99,122, 06/01/94–05/31/97.
27. Principle Investigator, Analysis and Design of Mobile Communication Systems, The University of Texas at Austin, University Research Institute Summer Research Award, \$11,555, 06/01/94–08/01/94.
28. Principle Investigator, Research Initiation Award in Engineering. The University of Texas at Austin, Bureau of Engineering Research, \$5,000, 09/01/93–08/31/95.
29. Principle Investigator, Special Equipment Award in Engineering. The University of Texas at Austin, College of Engineering, \$40,000, 09/01/93–08/31/95.

Gifts

1. Principle Investigator, Network Slicing for Context-aware Collaborative Sensing and Vehicular, Fujitsu Gift through WNCG Industrial Affiliates Program, PI : G. de Veciana, \$50K, 03/01/19-02/29/2020
2. Co-principle Investigator, Visibility and Collaborative Sensing, Qualcomm Gift through WNCG Industrial Affiliates Program, coPIs : G. de Veciana and H. Vikalo, \$50K (my share \$25K), 08/01/2018-07/31/2019
3. Co-Principle Investigator, Full Stack Machine Learning, Huawei Gift through WNCG/UTMINDS Industrial Affiliates Program, my share \$50K. 08/01/18 - 07/31/2019.
4. Principle Investigator, Vehicular Real-time Situational Awareness :Networking with Directional 5G-V2X:, Toyota gift through WNCG/SAVES Industrial Affiliates Program PI : G. de Veciana, \$60K, 04/01/2018-03/30/2019.
5. Principle Investigator, Network Slicing for Context-aware Collaborative Sensing and Vehicular:, Fujitsu Gift through WNCG Industrial Affiliates Program PI : G. de Veciana, \$50K, 03/01/18-02/28/19
6. Principle Investigator, Joint Scheduling of URLLC and EMBB Traffic in 5G Wireless Networks, Huawei Gift through WNCG Industrial Affiliates Program, \$50K. 8/01/2017 - 7/31/2018.
7. Principle Investigator Network slicing: Exploring virtualization, sharing and performance management, CISCO Gift, \$81,673.00, 10/01/2017-09/31/2018
8. Principle Investigator Network Slicing for Context-aware Collaborative Sensing and Vehicular Networking, Fujitsu Gift through WNCG Industrial Affiliates Program, \$50,000, 06/01/2017-07/31/2018
9. Principle Investigator Modeling and analysis of cross-layer optimization of 5G-V2X networks for collaborative sensing, Toyota. \$60,000, 05/01/2017-03/31/2018.
10. Principle Investigator, Scalability of Communication Requirements for Collaborative Sensing: Automated Driving Applications, Toyota \$45,000. 12/01/2016 - 7/31/2017.
11. Principle Investigator, Next Generation Wireless Base station Scheduling Algorithms, Huawei gift through WNCG, \$50,000. 8/01/2016 - 7/31/2017.
12. Principle Investigator, (coPI: J. Andrews), Optimizing LTE A & B Cellular Networks for MBB Services, Huawei, \$100K, 1/00/2015 - 12/31/2015.

13. Principle Investigator, (coPI: M. Erez), Distributed Cloud Radio Access Networks, Huawei, \$120K, 10/01/2014 - 09/31/2015.
14. Co-Principle Investigator, (PI: A. Tewfik, Co-PIs: S. Shakkottai, G. de Veciana, E. Van Oort, R. Hastie U Chicago Booth)) Human Factors, Decision Making and Safety to Inform Concept Selection British Petroleum \$490K 05/01/13 - 04/31/2015.
15. Principle Investigator, Fundamental Limits, Self-organization and Context-Awareness for Integrated Cellular and D2D Architectures: Addressing Quality of Experience Challenges Through Resource Allocation, Intel \$25,000. 05/01/2013 - 04/31/2014.
16. Principle Investigator, (co-PIs: R. Heath and A. Lozano from Universitat Pompeu Fabra Barcelona), Fundamental Limits, Self-organization and Context-Awareness for Integrated Cellular and D2D Architectures, Intel \$482,112. 05/01/2013 - 04/31/2016.
17. Co-Principle Investigator, (PI: R. Heath, Co-PIs: B. Evans, M. Erez), Architecting the Cloud Radio Access Network: A cross-disciplinary approach, Huawei,\$230,00. 10/01/2012 - 09/31/2013.
18. Co-Principle Investigator, (PI: R. Heath, Co-PIs: J. Andrews, A. Bovik, C. Caramanis), Perceptual Optimization of Large Scale Wireless Video Networks, Intel(2/3) and CISCO (1/3), \$900,000, 1/15/2011 - 1/14/2014.
19. Co Principle Investigator, (PI: J. Andrews) Network Coding for Mesh and Ad hoc networks CISCO, \$92,000. 07/21/06-07/20/09.
20. Principle Investigator, Adaptive Traffic-Aware Power Control and Scheduling Techniques for Interference Avoidance in Broadband Wireless Systems, Intel Research Council, \$150,000. 07/01/2006-07/20/2009.
21. Principle Investigator, Opportunistic Scheduling and Resource Management for Wireless Access Points Freescale, Austin, TX, \$40,000, 02/01/05–01/31/08.
22. Co-Principle Investigator, (PI: S.-Q. Li), Southwestern Bell Corp. - Technology Resources Inc., Austin, TX, \$100,000, 01/01/97–12/31/97. (My Share: 34,298)

Teaching

Sem.	Course	Unique #	Students #	Overall Instr. Rating (5 max)
F 19	EE 381J Probability and Stochastic Processes	16635	48	
Sp 19	EE 381K Communication Networks: Analysis & Design	16715	27	4.9
F 18	EE 351K Probability, Statistics, & Random Processes	16565	109	4.3
F 17	EE 381J Probability and Stochastic Processes	16745	63	4.8
Sp 17	EE 381K Communication Networks: Analysis & Design	16770	7	5.0
F 16	EE 351K Probability, Statistics, & Random Processes	16655	73	4.6
Sp 16	EE 351K Probability, Statistics, & Random Processes	16415	50	4.6
F 15	EE 381J Probability and Stochastic Processes	16795	34	4.7
Sp 15	EE 381K Communication Networks: Analysis & Design	16523	10	4.9
F 14	EE 351K Probability, Statistics, & Random Processes	17040	70	4.2
Sp 14	EE 381K Communication Networks: Analysis & Design	17240	11	5.0
F 13	EE 381J Probability and Stochastic Processes	17165	33	4.7
Sp 13	EE 351K Probability, Statistics, & Random Processes	16470	50	4.0
F 12	EE 381J Probability and Stochastic Processes	16950	33	4.9
Sp 12	EE 381K Communication Networks: Analysis & Design	16845	10	4.9
F 11	EE 351K Probability, Statistics, & Random Processes	16825	52	4.5
Sp 11	EE 351K Probability, Statistics, & Random Processes	16675	33	4.6
Sp 11	EE 381K Communication Networks: Analysis & Design	16985	20	4.8
F 10	EE 381K Advanced Telecommunication Networks	16900	14	4.9
Sp 10	EE 351K Probability, Statistics, & Random Processes	16775	42	4.1
Sp 10	EE 381K Communication Networks: Analysis & Design	16775	13	4.6
Sp 09	EE 381K Communication Networks: Analysis & Design	16500	17	4.7
Sp 08	EE 351K Probability, Statistics, & Random Processes	16200	40	4.0
F 07	EE 381K Advanced Telecommunication Networks	17170	10	4.6
Sp 07	EE 381K Communication Networks: Analysis & Design	163950	17	4.9
F 06	EE 351K Probability, Statistics, & Random Processes	16025	38	4.0
Sp 05	EE 351K Probability, Statistics, & Random Processes	14250	48	4.1
F 05	EE 381J Probability and Stochastic Processes	16275	40	4.1
F 05	EE 351K Probability, Statistics, & Random Processes	16025	46	3.6
Sp 04	EE 381K Communication Networks: Analysis & Design	14250	18	4.9
F 03	EE 381J Probability and Stochastic Processes	15465	61	4.5
F 03	EE 351K Probability, Statistics, & Random Processes	15220	39	4.0
Sp 03	EE 381K Advanced Telecommunication Networks	15420	16	4.9
F 02	EE 381K Information Theory	15890	34	4.5
F 02	EE 351K Probability, Statistics, & Random Processes	15590	72	4.0
Sp 02	EE 381K Communication Networks: Analysis & Design	15025	9	4.9
Sp 02	EE 351K Probability, Statistics, & Random Processes	14765	66	3.9
F 01	EE 351K Probability, Statistics, & Random Processes	15300	79	3.9
F 00	EE 379K Telecommunication Networks	15380	70	4.1
F 00	EE 381K Advanced Telecommunication Networks	15420	14	4.5
Sp 00	EE 381K Communication Networks: Analysis & Design	14865	33	4.6
F 99	EE 381K Advanced Telecommunication Networks	15167	10	5.0
F 99	EE 379K Telecommunication Networks	15105	73	4.4

Ph.D. Dissertations Supervised: (30 PhDs supervised, 6 of which are university professors)

- Ching-Fong Su** Efficient Traffic Management Based on Deterministically Constrained Traffic Flows, May 1998. Currently at Quora.
- Michael Montgomery** Managing Complexity in Large-Scale Networks via Flow and Network Aggregation, August 1998.
- Tae-jin Lee** Traffic Management and Design of Multi-service Networks, May 1999. Currently Professor at Sungkyunkwan University, Korea.
- John Stine** Energy Conserving Protocols for Wireless Data Networks, August 2001. Currently at Mitre, VA.
- Shan-Chieh Yang** Size-based Differentiation to Enhance System and User Perceived Performance for Networks Supporting Best Effort Traffic, December 2001. Professor and Department Head of Computer Engineering, Rochester Institute of Technology, New Jersey.
- Sun Xu** Flow-based Dynamic Routing In Uncertain Network Environments, December 2002. Currently at Fulcrum Microsystems, CA.
- Sangkyu Park** Traffic Engineering in Multi-service Networks: Routing, Flow Control and Provisioning Perspectives, December 2002. Currently at Samsung Korea.
- Steven Weber** Supporting Adaptive and Non-adaptive Multimedia Streams on the Internet Spring 2003. Professor and Department Head, Electrical and Computer Engineering, Drexel University.
- Jangwon Lee** Cooperative Resource Discovery and Sharing in Group Communications August 2003. Currently at Apple CA.
- Dogu Arifler** (co-supervisor with B. Evans), Network Tomography Based on Flow Level Measurements, May 2004. Professor Dept. Computer Engineering, Eastern Mediterranean University, Cyprus.
- Xiangying Yang** CDMA Ad Hoc Networks: Design and Performance Tradeoffs, August 2005. Currently at Apple , CA.
- Alex Zemlianov** Analysis and Design of Wireless Systems with Interface and Provider Diversity: Competition and Cooperation, August 2005. Currently at Barclays NY.
- Shailesh Patil** Opportunistic Scheduling and Resource Allocation Among Heterogenous Users in Wireless Networks, May 2006. Currently Qualcomm, San Diego.
- Seung Jun Baek** Spatial Modeling and Analysis of Wireless Ad hoc and Sensor Networks: An Energy Perspective, December 2006. Professor at Korea University.
- Jeremy Chen** (co-supervisor with T. Rappaport), Frequency Allocation, Transmit Power Control, and Load Balancing with Site Specific Knowledge for Optimizing Wireless Network Performance, May 2007. Currently at Google, N.Y.
- Balaji Rengarajan** Self Organizing Networks: Building Traffic and Environment Aware Wireless Systems, August 2009. Currently at Stitch-Fix Ca.
- Hongseok Kim** Exploring Tradeoffs in Wireless Networks under Flow-Level Traffic: Energy, Capacity and QoS, December 2009. Professor, Sogang University.
- Andrey Zykov** Exploring Scaling Limits and Computational Paradigms for Next Generation Embedded Systems, December 2009. Currently at Cadence CA.
- Bilal Sadiq** Optimality and Robustness in Opportunistic Scheduler Design for Wireless Networks , August 2010. Currently at Qualcomm, New Jersey.
- Ayis Ziotopoulos** Design of Platforms for Computing Context with Spatio-temporal Locality May 2011. Currently at Google Zurich.
- Yuchul Kim** Spatial Spectrum Reuse in Wireless Networks: Design and Performance May 2011. Currently at Apple CA.
- Vinay Joseph** Mean-Variability-Fairness Tradeoffs in Resource Allocation with Applications to Video Delivery August 2013. Currently at Qualcomm, San Diego.

Virag Shah Centralized Content Delivery Infrastructure Exploiting Resource Pools: Performance Models and Asymptotics, August 2015. Currently at Uber CA.

Zheng Lu Scheduling Wireless Transmissions Exploiting Application Awareness and Knowledge of the Future August 2015. Currently at Netflix CA.

Yuhuan Du Analysis and Design of Resource Allocation Policies for Cloud-based Computing Systems Supporting Soft Real-Time Applications December 2015. Currently at Dropbox CA.

Yicong Wang Impact of Blockage and Mobility on Collaborative Sensing and Millimeter Wave Based Communications December 2017. Currently at Google CA.

Arjun Anand Schedulers for Next Generation Wireless Networks: Realizing QoE Tradeoffs for Heterogeneous Traffic Mixes Ph.D. May 2018. Currently at Intel CA..

Pablo Caballero Garces Design and Performance of Resource Allocation Mechanisms for Network Slicing Ph.D. August 2018. Currently at Apple, CA .

Jiuxiao Zheng Resource Sharing in Network Slicing and Human-Machine Interactions Ph.D. May 2018. Currently at Google, Seattle.

Pranav Madadi (co-supervisor F. Baccelli) Performance Analysis of Mobile Users in Poisson Wireless Networks, Ph.D. August 2019. Currently at Samsung, CA.

Ph.D. in Progress

Students admitted to candidacy:

Post M.S. students preparing to take Ph.D. qualifying exam:

- Jean Abou Rahal
- Sadallah Kassir
- Jianhan Song (co Supervised Shakkottai)
- Geetha Chandresakan

M.S. Thesis/Reports Supervised

- Carlos Caicedo (Report, Spring 2003) Currently Associate Professor, Syracuse University.
- Weilin Yang (Report, Fall 1997)
- Trevor Sosebee (Report, Fall 1997)
- Shan-Chieh Yang (Report, Spring 1998)
- Srinivas Pratapa (Co-supervisor, Report, Spring 1998)
- Sadasivan Venkatesan (Co-supervisor, Report, Spring 1998)
- Jian-Huei Guo (Report, Fall 1998)
- Vikram Rao (Co-supervisor, Report, Spring 1999)
- Steven Weber (Report, Spring 1999)
- Robert Johnson (Report, Spring 2000)
- Phillipe Girolami (Thesis, Spring 2000)
- Ram Rajagopal (Thesis, Summer 2002) Currently Professor Stanford University.

M.S. in Progress

- Michael Stecklein

Undergraduate Student Supervision

- EE 364 Honors Senior design, “You BeeLong: An Augmented reality art project,” Silas Strawn, Conner Fritz, Quincy King, Adriana Pedroza, Brandon Pham and Wenran Lu, Fall 2019 - Spring 2020.
- EE 364 Honors Senior design, “Magnetic pixels,” Shirley Liu, Tyler Ta, Susan Tan, John Ballock, Brandon Shang and Phyllis Ang, Fall 2018 - Spring 2019.

- EE 364 Honors Senior design, “Human-machine interactions game,” Steve Rusnak, Rony Ballouz, Grant Uy, Anthony Bauer and Jih Choe, Spring 2016 - Fall 2016.
- EE 364 Senior design, “Alfred: autonomous robotic home and office assistance system,” Brandon Boesch, Curtis Martin, Mitch Hinrichs, Kyle Cousino, Rachel Smith and Anthony Weems. Spring 2015 - Fall 2015. **First place.**
- EE 364 Senior design, “Omnisound: 3D audio with head tracking,” Rounok Jardar, Dalton Alstaetter, Marc Hernandez, Jeffery Mao, Brian Russell, and Jason Weaver. Spring 2014 - Fall 2014.
- EE 364 Senior design, “Mist: A networked, environmentally aware sprinkler controller,” Matt Halpern, Michael Akilian, Michael Graczyk, Nathan Thai, Tim Gao. Fall 2012-Spring 2013.
- EE 364 Senior design, “Miniature Semi-Autonomous Unmanned Aerial Vehicle,” P. Butler, I. Campbell, C. McKinney, W. Powell, J. Smith, Fall 2011- Spring 2012
- Chiu Keung Tang, research supervision and 464H faculty sponsor, Spring 2005- Fall 2006.
- Kuogu Sandy Kao, 464H faculty sponsor, Fall 2001.
- James Yeung, 464H faculty sponsor, Fall 2001.
- Richard Yang, undergraduate researcher, Fall 2001.

VITA

Gustavo de Veciana (S'88-M'94-SM'01-F'09) received his B.S., M.S., and Ph.D. in electrical engineering from the University of California at Berkeley in 1987, 1990, and 1993 respectively, and joined the Department of Electrical and Computer Engineering where he is currently a Cullen Trust Professor of Engineering. He served as the Director and Associate Director of the Wireless Networking and Communications Group (WNCG) at the University of Texas at Austin, from 2003-2007. His research focuses on the analysis and design of communication and computing networks; data-driven decision-making in man-machine systems, and applied probability and queueing theory. Dr. de Veciana served as editor and is currently serving as editor-at-large for the IEEE/ACM Transactions on Networking. He was the recipient of a National Science Foundation CAREER Award 1996 and a co-recipient of five best paper awards including: IEEE William McCalla Best ICCAD Paper Award for 2000, Best Paper in ACM TODAES Jan 2002-2004, Best Paper in ITC 2010, Best Paper in ACM MSWIM 2010, and Best Paper IEEE INFOCOM 2014. In 2009 he was designated IEEE Fellow for his contributions to the analysis and design of communication networks. He currently serves on the board of trustees of IMDEA Networks Madrid.