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Roch Guérin's Curriculum Vitae

Address: Washington University in Saint Louis, Dept. Comp. Sci. & Eng.
1 Brookings Dr., St. Louis, MO 63130, U.S.A.
Phone: +1-314-935-6132
Fax: +1-314-935-7302
Email: guerin@wustl.edu
URL: <http://www.cse.wustl.edu/~guerin>

Academic Background

- Ph.D. Electrical Engineering, California Institute of Technology, Pasadena 1986
- M.S. Electrical Engineering, California Institute of Technology, Pasadena 1984
- Diplôme d'Ingénieur, École Natle. Sup. des Télécomm., Paris, France 1983

Current Research Interests

- Network economy and its impact on technology adoption
- Network robustness and scalability
- Networked applications and peer-to-peer systems
- Routing and traffic engineering in IP networks

Professional Appointments

- Harold B. and Adelaide G. Welge Professor 2013–
Department of Computer Science and Engineering
Washington University in Saint Louis
- Department Chair 2013–
Department of Computer Science and Engineering
Washington University in Saint Louis
- Alfred Fitler Moore Professor of Telecommunications Networks 1998–2013
Department of Electrical and Systems Engineering
University of Pennsylvania
- Founder and CEO and then Chief Scientist 2001–2004
Ipsum Networks (on leave from U. Pennsylvania)
Ipsum Networks pioneered the concept of Route Analytics and its use in the next generation of performance and service management software for IP networks.
- Director, Telecommunications and Networking 1999–2001
Professional Master's Program, University of Pennsylvania

- Manager, Network Control and Services 1997–1998
 Security and Networking Systems Department
 IBM T. J. Watson Research Center
 Responsible for a department working on networking and distributed applications. This included topics such as advanced reservations, policy support for RSVP, QoS routing algorithms and protocols, integrated switch and scheduling designs, etc. Many of the department’s contributions were incorporated in commercial IBM routers, i.e., N Ways 2210, 2212, and 2216.
- Manager, Broadband Networking 1994–1997
 Security and Networking Systems Department
 IBM T. J. Watson Research Center
 Led a group of 10+ people carrying out research in the area of design, architecture, and analysis of broadband networks. The group designed and built a QoS capable Router in collaboration with other IBM divisions.
- Manager, Network System Design 1992–1993
 IBM High Performance Computing and Communications Department
 (On assignment from IBM Research)
 Supervising a group of researchers investigating new network algorithms and architectures. Technology developed by the group was deployed in the AURORA testbed, and incorporated in IBM’s N Ways switches.
- Research Staff Member 1990–1991
 IBM High Performance Computing and Communications Department
 (On assignment from IBM Research)
 Engaged in an architecture and development effort to deploy a leading-edge, integrated, broadband network. The effort involved modeling, design and implementation of network components, and participation in a number of field trials.
- Research Staff Member 1986–1990
 Communications Dpt., IBM T.J. Watson Research Center
 Involved in the design, architecture, and performance evaluation of high-speed switches and networks. Key contributions included the development traffic management capabilities for IBM’s new networking architecture. This work was recognized by an IBM Outstanding Innovation Award.
- System Engineer 1983
 Société AERO, Paris, France
 Worked on the design and modeling of a jamming resistant satellite communication system. This involved comparing various modulation and coding schemes for different types of power budgets and jamming strategies.

Awards and Honors

- 2010 IEEE INFOCOM Achievement Award for “Pioneering Contributions to the Theory and Practice of QoS in Networks.”

- IEEE INFOCOM 2010 Best Paper Award for the paper entitled “On the Feasibility and Efficacy of Protection Routing in IP Networks,” co-authored with K.-W. Kwong, L. Gao and Z.-L. Zhang.
- IEEE Technical Committee on Computer Communications (TCCC) Distinguished Service Award 2009
- ACM Fellow 2006
- IEEE Fellow 2001
- INFOCOM’2000, Distinguished Program Committee Member 2000
- IBM Seventh Invention Achievement Award 1997
- IBM Research Division Technical Group Award 1997
For design and development of Integrated Switch Router - Early Vehicle
- IBM Research Division Outstanding Innovation Award 1994
For major contributions to the traffic management and congestion control capabilities of the Networking BroadBand Services architecture.
- IBM AS Division Award 1993
For contributions to the architecture of interactive CATV systems.
- IBM AS Division Award 1993
For comparison of shared buffer switch architectures.
- Philip Merlin Memorial Guest Lecturer 1992
Technion, I.I.T., Haifa, Israel
- IBM Research Division Award 1990
For comparison of switching platforms for communications systems.

Advisory Boards, Consulting, and Related Activities

- Member Scientific Advisory Board - SITI, University Lusofona (2012–)
- Member Scientific Advisory Board - Simula Research (2010–)
- Board member, Iptivia Inc. (2006–2009)
- Member Technical Advisory Board - Samsung Electronics (2003–2004)
- Member Scientific Advisory Board - France Telecom (2001–2006)
- Technical consultant for AT&T (1999-2000), Growth Networks (acquired by Cisco Systems, 2000), IBM (1998-1999), Lucent Technologies (1999), ReefEdge (2001), Moses & Singer (2007), Iptivia (2005–2008), Thomson Research (2007).
- Expert witness working with Kirkland & Ellis, New York, NY (1999); Fish & Richardson, Washington, D.C. (2005–2006, 2008, 2011–2013); Orrick, Menlo Park, CA (2006), Crowell & Moring (2007); Sterne, Kessler, Goldstein & Fox (2010); Holland & Knight (2011).

Professional Activities

- TPC member, ACM SIGMETRICS (2014)
- Guest editor, ACM Transactions on Internet Technology - Special Issue on Pricing and Incentives in Networks and Systems (2013-2014)
- TPC member W-PIN/NetEcon (2013, 2014)

- Member ACM MobiHoc Best Paper Award selection panel (2012)
- TPC member ACM EC, IEEE ICNP, W-PIN, (2012)
- Member IEEE INFOCOM Life Time Achievement Award selection committee (2011–2012)
- Member IEEE TCCC Outstanding Service Award selection committee (2011–2012)
- Team lead “Network” category, ACM Computing Classification System (CCS) revision project (2011)
- Chair ACM SIGCOMM Test-of-Time Award (2010)
- Chair ACM CoNEXT Steering Committee (2010–2012)
- Editor-in-Chief, IEEE/ACM Transactions on Networking (2009–2013)
- Senior TPC Member ACM SIGCOMM’09
- Area TPC chair IEEE INFOCOM’09
- TPC Member ACM Electronic Commerce’09
- Panelist and external expert for: National Science Foundation – multiple times since 1990; Agence Nationale de la Recherche (ANR - French NSF) – 2009–2011; Institut Telecom (Paris, France) – 2009
- TPC member ACM HotMetrics’08 and IMC’08
- Member ACM CoNEXT Steering Committee (2008–2009)
- Technical Program co-Chair, ACM CoNEXT 2007.
- General Chair, ACM SIGCOMM’2005.
- TPC member, ANCS 2005.
- Member, Editorial Board of Foundations and Trends in Networking (2005–).
- Area Editor, ACM Computer Communications Review (2005–2006).
- Member ACM SIGCOMM Technical Advisory Board (2001–2005).
- Technical Program co-Chair, ACM SIGCOMM’2001.
- Participant, NSF ANIR Committee of Visitors, June 2000.
- Guest-Editor for Dec. 2000 IEEE JSAC issue on *Internet QoS*.
- Editor, Journal of Computer Networks (2000–2001).
- Technical Co-Chair, 1st joint conference of IEEE Com. Soc. and Russian POPOV Society on Internet Technologies and Services (ITS’99).
- Elected Member-at-Large of the Board-of-Governors of the IEEE Communications Society (1999-2002).
- General Co-Chair IWS’99.
- Editor, ACM Computer Communications Review (1998–2001).
- General Chair, IEEE INFOCOM’98.
- Area Editor, IEEE Communications Surveys (1998–2000).
- Chair, IEEE Technical Committee on Computer Communications (1997-1999).
- Technical Editor, IEEE/ACM Trans. Networking (1994–2000).
- SIGCOMM conference PC member, 1996–2000, 2006.
- TPC member, Global Internet 1996 and 1999.
- TPC member, High Speed Networks 1999.
- INFOCOM conference TPC and Area TPC member, 1995–1997, 2000, 2001.
- Technical Editor, Journal of High-Speed Networks (1994–1996).
- Technical Editor, the IEEE Trans. Commun. (1992–1993).
- Member of the CNRI AURORA Testbed management team (1993–1994).

- Member of Sigma Xi

Courses Taught

- Modeling and Performance Evaluation of Interconnected Computer Systems (CSE 538) - Spring 2014
Dept. Comp. Sci. & Eng., Washington University in St. Louis
Graduate entry level course
- Advanced Networking Protocols (TCOM 502) - Spring and Fall 1999, Fall 2000, Fall 2003-2004, Spring 2006-2012
Dept. Elec. & Sys. Eng., University of Pennsylvania
Graduate entry level course.
- Introduction to Networking and Protocols (ESE 404/TCOM 500) - Fall 2005-2011
Dept. Elec. Eng., University of Pennsylvania
Senior level undergraduate and entry level graduate course.
- Networking Fundamentals (TCOM 501) - Spring 2000-2001, Spring 2003-2005
Dept. Elec. & Sys. Eng., University of Pennsylvania
Graduate entry level course.
- Computer Communication Networks - Fall 1993
Dept. Elec. Eng., Columbia University
Graduate entry level course.

List of Publications [h-index = 50 - Google Scholar]

Theses

- T.2 Doctoral Thesis (1986): Queueing and Traffic in Cellular Radio. (Caltech)
T.1 Diplôme d'Ingénieur Thesis (1983): Study and Modelling of an Antijam Satellite System. (ENST, Paris)

Book Contributions

- B.3 "Network Quality-of Service" Book chapter (with H. Schulzrinne) in *The Grid: A Blueprint for the New Computing Infrastructure*, edited by Ian Foster and Carl Kesselman, published by Morgan-Kaufman, August 1998.
B.2 "plaNET Routing:" Book chapter (with I. Cidon) in *Routing in Communications Networks*, edited by Martha Steenstrup and co-published in 1994 by Manning Publication and Prentice-Hall.
B.1 "Performance Model of a Shared Medium Packet Switch:" Case Study for *Computer Networks and Systems: Queueing Theory and Performance Evaluation, 2nd Ed.*, by T. G. Robertazzi, Springer Verlag, 1993, pp. 13–18.

Journal Publications

- J.50 K. W. Kwong, L. Gao, R. Guérin, and Z.-L. Zhang, “*On the Feasibility and Efficacy of Protection Routing in IP Networks.*” IEEE/ACM Trans. Netw, Vol. 19, No. 5, pp. 1543–1556, October 2011.
- J.49 Y. Liao, L. Gao, R. Guérin, and Z.-L. Zhang, “*Safe Inter-domain Routing under Diverse Commercial Agreements.*” IEEE/ACM Trans. Netw., Vol. 18, No. 6, pp. 1829–1840, December 2010 (DOI: 10.1109/TNET.2010.2049858).
- J.48 S. Sen, Y. Jin, R. Guérin, and K. Hosanagar, “*Modeling the Dynamics of Network Technology Adoption and the Role of Converters.*” IEEE/ACM Trans. Netw., Vol. 18, No. 6, pp. 1793–1805, December 2010 (DOI: 10.1109/TNET.2010.2048923).
- J.47 K.-W. Kwong, R. Guérin, A. Shaikh, and S. Tao, “*Balancing Performance, Robustness and Flexibility in Routing Systems.*” IEEE Trans. Netw. & Svc. Mgt., Vol. 7, No. 3, pp. 186–199, September 2010 (DOI: 10.1109/TNSM.2010.1009.I9P0355).
- J.46 R. Guérin and K. Hosanagar, “*Fostering IPv6 Migration Through Network Quality Differentials.*” ACM SIGCOMM Computer Communication Review, Vol. 40, No. 3, pp. 18–25, July 2010.
- J.45 S. Ray, R. Guérin, K.-W. Kwong, and R. Sofia, “*Always Acyclic Distributed Path Computation.*” IEEE/ACM Trans. Netw., Vol. 18, No. 1, February 2010, pp. 307–319 (DOI: 10.1109/TNET.2009.2025374).
- J.44 S. Tao, J. Apostolopoulos, and R. Guérin, “*Real-Time Monitoring of Video Quality in IP Networks.*” IEEE/ACM Trans. Netw. Vol. 16, No. 5, October 2008.
- J.43 H. Peterson, S. Sen, J. Chandrashekar, L. Gao, R. Guérin, and Z.-L. Zhang, “*Message-Efficient Dissemination for Loop-Free Centralized Routing.*” ACM Computer Communication Review, Vol. 38, No. 3, July 2008.
- J.42 Y. Huang and R. Guérin, “*A Simple FIFO-Based Scheme for Differentiated Loss Guarantees.*” Computer Networks, Vol. 51, No. 4, March 2007, pp. 1133–1150.
- J.41 Y. Huang, R. Guérin and P. Gupta, “*Supporting Excess Real-Time Traffic with Active Drop Queue.*” IEEE/ACM Trans. Netw., Vol. 14, No. 5, pp. 965–977, October 2006.
- J.40 E. Vergetis, R. Guérin, and S. Sarkar, “*Realizing the Benefits of UserLevel Channel Diversity.*” ACM Computer Communication Review, Vol. 35, No. 5, October 2005.
- J.39 Y. Xu and R. Guérin, “*On the Robustness of Router-based Denial-of-Service (DoS) Systems.*” ACM Computer Communication Review, Vol. 35, No. 3, July 2005.
- J.38 Y. Xu and R. Guérin, “*Individual QoS Versus Aggregate QoS: A Loss Performance Study.*” IEEE/ACM Trans. Netw., Vol. 13, No. 2, April 2005.
- J.37 A. Sridharan, R. Guérin, and C. Diot, “*Achieving Near-Optimal Traffic Engineering Solutions for Current OSPF/IS-IS Networks.*” IEEE/ACM Trans. Netw., Vol. 13, No. 2, April 2005.
- J.36 E. Vergetis, R. Guérin, S. Sarkar, and J. Rank, “*Can Bluetooth Succeed as a Large-Scale Ad Hoc Networking Technology?*” IEEE J. Select. Areas. Commun., Special Issue on Wireless Ad-Hoc Networks, Vol. 23, No. 3, pp. 644–656 March 2005.
- J.35 R. Guérin and A. Orda. “*Computing Shortest Paths for Any Number of Hops.*” IEEE/ACM Trans. Netw., Vol. 10, No. 5, pp. 613–620, October 2002.
- J.34 A. S. Diwan, R. Guérin, and K. N. Sivarajan. “*Performance Analysis of Speeded-Up High-Speed Packet Switches.*” JHSN, Vol. 10, No. 3, 2001, pp. 161–186.

- J.33 R. Guérin and V. Pla. "Aggregation and Conformance in Differentiated Service Networks: A Case Study." ACM Computer Communication Review, January 2001.
- J.32 G. Apostolopoulos, R. Guérin, S. Kamat, A. Orda, and S. Tripathi. "Intra-Domain QoS Routing in IP Networks: A Feasibility and Cost/Benefit Analysis." Special Issue of IEEE Networks on Integrated and Differentiated Services for the Internet, September 1999.
- J.31 R. Guérin and A. Orda. "QoS-based Routing in Networks with Inaccurate Information: Theory and Algorithms." IEEE/ACM Trans. Netw., Vol. 7, No. 3, June 1999, pp. 350–364.
- J.30 R. Guérin and V. Peris. "Quality-of-Service in Packet Networks: Basic Mechanisms and Directions." Invited Paper. Computer Networks and ISDN Systems, Vol. 31, No. 3, February 1999, pp. 169-179.
- J.29 E. Basturk, A. Birman, G. Delp, R. Guérin, R. Haas, S. Kamat, D. Kandlur, P. Pan, D. Pendarakis, V. Peris, R. Rajan, D. Saha, and D. Williams. "Design and Implementation of a QoS Capable Switch-Router." Computer Networks and ISDN Systems, Vol. 31, No. 1-2, January 1999, pp. 17-30.
- J.28 G. Apostolopoulos, R. Guérin, S. Kamat, and S. K. Tripathi. "On Reducing the Processing Cost of On-Demand Path Computation." JHSN, Vol. 7, No. 2, pp. 77–98, 1998.
- J.27 L. Georgiadis, R. Guérin and A. Parekh. "Optimal multiplexing on a Single Link: Delay and Buffer Requirements." IEEE Trans. Infor. Theory, Vol. 43, No. 5, September 1997.
- J.26 I. Cidon, L. Georgiadis, R. Guérin, and Y. Shavitt. "Improved Fairness Algorithms for Rings with Spatial Reuse." IEEE/ACM Trans. Netw., Vol. 5, No. 2, April 1997.
- J.25 L. Georgiadis, R. Guérin, V. Peris, and K. Sivarajan. "Efficient Network QoS Provisioning Based on per Node Traffic Shaping." IEEE/ACM Trans. Netw., Vol. 4, No. 4, August 1996.
- J.24 I. Cidon, R. Guérin, A. Khamisy, and K. Sivarajan. "Cell vs Message Level Performances in ATM Networks." Telecommun. Sys., Vol. 5, 1996.
- J.23 L. Georgiadis, R. Guérin, V. Peris, and K. Sivarajan. "The Effect of Traffic Shaping in Efficiently Providing End-to-End Performance Guarantees." Telecommun. Sys., Vol. 5, 1996.
- J.22 I. Cidon, R. Guérin, A. Khamisy and M. Sidi. "On Queues with Inter-Arrival Proportional to Service Times." Probability in the Engineering and Informational Sciences, Vol. 10, January 1996.
- J.21 I. Cidon, R. Guérin, I. Kessler and A. Khamisy. "Analysis of a Statistical Multiplexer with Generalized Periodic Sources." QUESTA Special Issue on Telecommunications Systems, Vol. 20, No. I-II, 1995.
- J.20 T. E. Tedijanto, R. O. Onvural, D. C. Verma, L. Gün, and R. Guérin. "NBBS Path Selection Framework." IBM Systems Journal, Special Issue on Networking BroadBand Services, Vol. 34, No. 4, November 1995.
- J.19 H. Ahmadi, P. F. Chimento, R. Guérin, L. Gün, B. Lin, R. O. Onvural, and T. E. Tedijanto. "NBBS Traffic Management Overview." IBM Systems Journal, Special Issue on Networking BroadBand Services, Vol. 34, No. 4, November 1995.
- J.18 I. Cidon, L. Georgiadis, R. Guérin and A. Khamisy. "Optimal Buffer Sharing." IEEE

- J. Select. Areas Commun., Vol. 13, No. 7, September 1995.
- J.17 I. Gopal and R. Guérin. “*Network Transparency: The plaNET Approach.*” IEEE/ACM Trans. Netw., Vol. 2, No. 3, June 1994, pp. 226–239.
- J.16 I. Cidon, R. Guérin, and A. Khamisy. “*Protective Buffer Management Policies.*” IEEE/ACM Trans. Netw., Vol. 2, No. 3, June 1994, pp. 240–246.
- J.15 B. S. Davie, J. M. Smith, D. D. Clark, D. J. Farber, I. Gopal, R. Guérin, W. D. Sincoskie, and D. L. Tennenhouse. “Aurora: An Experiment in Gigabit Network Technologies,” in *High Performance Networks: Frontiers and Experience*. Edited by A. N. Tantawy, Kluwer Academic Pubs., 1994, pp. 3–25.
- J.14 L. Georgiadis, R. Guérin, and I. Cidon. “*Throughput Properties of Fair Policies in Ring Networks.*” IEEE/ACM Trans. Netw., Vol. 1, No. 6, December 1993, pp. 718–728.
- J.13 I. Cidon, I. Gopal, P. M. Gopal, R. Guérin, J. Janniello, and M. Kaplan. “*The plaNET/ORBIT High Speed Network.*” JHSN, Vol. 2, No. 3, September 1993.
- J.12 L. Gün and R. Guérin. “*Bandwidth Management and Congestion Control Framework of the Broadband Network Architecture.*” Computer Netw. & ISDN Sys., Vol. 26, No. 1, September 1993.
- J.11 A. Birman, H. R. Gail, G. Grover, R. Guérin, S. L. Hantler, Z. Rosberg, and M. Sidi. “*Buffer Size Requirements Under Longest Queue First.*” Perf. Eval., Vol. 18, No. 2, September 1993.
- J.10 H. Ahmadi, R. Guérin, and K. Sohraby. “*Analysis of a Rate-Based Access Control Mechanism for High-Speed Networks.*” IEEE Trans. Commun., Vol. COM-41, No. 6, June 1993.
- J.9 I. Cidon, R. Guérin, A. Khamisy and M. Sidi. “*Analysis of a Correlated Queue in Communication Systems.*” IEEE Trans. Info. Theory, Vol. 39, No. 2, March 1993.
- J.8 I. Gopal, R. Guérin, J. Janniello and V. Theoharakis. “*ATM Support in a Transparent Network.*” IEEE Netw. Mag., Vol. 6, No. 6, November 1992.
- J.7 J. S.-C. Chen, R. Guérin and T. E. Stern. “*Markov-modulated Flow Model for the Output Queues of a Packet Switch.*” IEEE Trans. Commun., Vol. COM-40, No. 6, June 1992.
- J.6 I. Cidon, I. S. Gopal, and R. Guérin. “*Bandwidth Management and Control in plaNET.*” IEEE Commun. Mag., Vol. 29, No. 10, October 1991.
- J.5 R. Guérin, H. Ahmadi and M. Naghshineh. “*Equivalent Capacity and its Application to Bandwidth Allocation in High-Speed Networks.*” IEEE J. Select. Areas Commun., Vol. SAC-9, No. 7, September 1991.
- J.4 J.S.-C. Chen and R. Guérin. “*Performance Analysis of an Input Queueing Packet Switch with Two Priority Classes.*” IEEE Trans. Commun., Vol. COM-39, No. 1, January 1991.
- J.3 R. Guérin and Y.-C. Lien. “*Overflow Analysis for Finite Buffer Systems.*” IEEE Trans. Commun., Vol. COM-38, No. 9, September 1990.
- J.2 R. Guérin. “*Queueing-Blocking System with Two Arrival Streams and Guard Channels.*” IEEE Trans. Commun., Vol. COM-36, No. 2, February 1988.
- J.1 R. Guérin. “*Channel Occupancy Time Distribution in a Cellular Radio System.*” IEEE Trans. on Vehic. Technol., Vol. VT-36, No. 3, August 1987.

Refereed Conferences and Workshops

- C.95 M. Nikkhah and R. Guérin, “*Migrating to IPv6 - The Role of Basic Coordination.*” Proc. IFIP Networking 2014, Trondheim, Norway, June 2014.
- C.94 B. Arzani, A. Gurney, S. Cheng, R. Guérin, and B. T. Loo, *Impact of Path Characteristics and Scheduling Policies on MPTCP Performance*. Proc. 4th International Workshop on Protocols and Applications with Multi-Homing Support (PAMS 2014), Victoria, BC/Canada, May 2014.
- C.93 S. Weber, R. Guérin, and J. C. de Calvacante, “*When can bundling help adoption of network technologies or services?*” Proc. IAB Workshop on Internet Technology Adoption and Transition (ITAT 2013). Cambridge, UK, December 2013.
- C.92 R. Guérin, J. C. de Calvacante, and S. Weber, “*Adoption of Bundled Services With Network Externalities and Correlated Affinities.*” W-PIN/NetEcon 2013 Workshop, Pittsburgh, PA, June 2013 (poster presentation).
- C.91 M. H. Afrasiabi, R. Guérin, and S. Venkatesh, “*Opinion Formation in Ising Networks.*” Proc. ITA 2013 Workshop, San Diego, CA, February 2013.
- C.90 R. Guérin, K. Hosanagar, Y. Tan, S. Venkatesh, and L. Yan, “*Online Opinion Formation and Social Interactions.*” Proc. WITS 2012 Workshop, Orlando, FL, December 2012.
- C.89 B. Arzani, R. Guerin, and A. Ribeiro, “*A Distributed Routing Protocol for Predictable Rates in Wireless Mesh Network.*” Proc. IEEE ICNP 2012 Conference, Austin, TX, October 2012.
- C.88 M. H. Afrasiabi and R. Guérin, “*Pricing Strategies for User-Provided Connectivity Services.*” Proc. INFOCOM 2012 mini-Conference, Orlando, FL, March 2012.
- C.87 M. Nikkhah, R. Guérin, Y. Lee, and R. Woundy, “*Assessing IPv6 Through Web Access – A Measurement Study and Its Findings.*” Proc. ACM CoNEXT 2011 Conference, Tokyo, Japan, December 2011.
- C.86 M. H. Afrasiabi and R. Guérin, “*Exploring User-Provided Connectivity – A Simple Model.*” Proc. ICQT’11 – 7th International Workshop on Advanced Internet Charging and QoS Technology, Paris, France, October 2011.
- C.85 S. Sen and K. Yamauchi and R. Guérin and K. Hosanagar, “*The Impact of Reprovisioning on the Choice of Shared Versus Separate Networks.*” Proc. Ninth Workshop on E-Business (WEB 2010), Saint Louis, MO, December 2010.
- C.84 K.-W. Kwong and R. Guérin, “*Controlling the Growth of Internet Routing Tables Through Market Mechanisms.*” Proc. ACM ReArch Workshop, Philadelphia, PA, December 2010.
- C.83 K.-W. Kwong, L. Gao, R. Guérin, and Z.-L. Zhang, “*On the Feasibility and Efficacy of Protection Routing in IP Networks.*” Proc. IEEE INFOCOM, San Diego, CA, March 2010. The paper was the recipient of the **IEEE INFOCOM 2010 Best Paper Award**.
- C.82 Z.-L. Zhang, P. Nabipay, A. Odlyzko, and R. Guérin, “*Interactions, Competition and Innovation in a Service-Oriented Internet: An Economic Model.*” Proc. IEEE INFOCOM Mini-conference, San Diego, CA, March 2010.
- C.81 T. Salonidis, G. Sotiropoulos, R. Guérin, and R. Govindan, “*Online Optimization of 802.11 Mesh Networks.*” Proc. ACM CoNEXT’09, Rome, Italy, December 2009.

- C.80 S. Sen, R. Guérin, and K. Hosanagar, “*Shared Versus Separate Networks: The Impact of Reprovisioning.*” Proc. ACM ReArch Workshop, Rome, Italy, December 2009.
- C.79 A. Chaintreau, K.-W. Kwong, and R. Guérin, “*Quantifying Content Consistency Improvements Through Opportunistic Contacts.*” Proc. ACM MobiCom Workshop on Challenged Networks (Chants’09), Beijing, China, September 2009.
- C.78 Y. Liao, L. Gao, R. Guérin, and Z.-L. Zhang, “*Reliable Interdomain Routing Through Multiple Complementary Routing Processes.*” Proc. Re-Arch’08, Madrid, Spain, December 2008.
- C.77 K.-W. Kwong, R. Guérin, A. Shaikh, and S. Tao, “*Balancing Performance, Robustness and Flexibility in Routing Systems.*” Proc. ACM CoNEXT’08, Madrid, Spain, December 2008.
- C.76 Y. Jin, S. Sen, R. Guérin, K. Hosanagar, and Z.-L. Zhang, “*Dynamics of Competition Between Incumbent and Emerging Network Technologies.*” Proc. NetEcon’08, August 2008, Seattle, WA.
- C.75 K.-W. Kwong, R. Guérin, A. Shaikh, and S. Tao, “*Improving Service Differentiation in IP Networks through Dual Topology Routing.*” Proc. ACM CoNEXT’07, New York, NY, December 2007.
- C.74 S. Ray, R. Guérin and R. Sofia, “*Distributed Path Computation without Transient Loops: An Intermediate Variables Approach.*” Proc. ITC’20, Ottawa, Canada, June 2007.
- C.73 S. Ray, R. Guérin and R. Sofia, “*A Distributed Hash Table Based Address Resolution Scheme for Large-Scale Ethernet Networks.*” Proc. IEEE ICC’07, Glasgow, Scotland, June 2007.
- C.71 E. Vergetis, E. Pierce, M. Blanco, and R. Guérin, *Packet-Level Diversity: From Theory to Practice. An 802.11-based Experimental Investigation.* Proc. ACM MOBI-COM 2006, Los Angeles, September 2006.
- C.70 Y. Xu and R. Guérin, *A Double Horizon Defense Design for Robust Regulation of Malicious Traffic.* Proc. SECURECOMM, Baltimore, MD, August 2006.
- C.69 T. Fei, S. Tao, L. Gao, R. Guérin, and Z.-L. Zhang, *Light-Weight Overlay Path Selection in a Peer-to-Peer Environment.* Proc. Global Internet Symposium, Barcelona, Spain, April 2006.
- C.68 T. Fei, S. Tao, L. Gao, and R. Guérin, *How to Select a Good Alternate Path in Large Peer-to-Peer Systems?* Proc. IEEE INFOCOM’06, Barcelona, Spain, April 2006.
- C.67 Y. Huang and R. Guérin, *Does Over-Provisioning Become More or Less Efficient as Networks Grow Larger?* Proc. ICNP 2005, Boston, MA, November 2005.
- C.66 E. Vergetis, R. Guérin, and S. Sarkar, *Improving Performance Through Channel Diversity in the Presence of Bursty Losses.* Proc. ITC’19, Beijing, China, August 2005.
- C.65 S. Tao, J. Apostolopoulos, and R. Guérin, *Real-Time Monitoring of Video Quality in IP Networks.* Proc. ACM NOSSDAV’05, Skamania, OR, June 2005.
- C.64 R. Sofia, R. Guérin, and P. Veiga, *Enabling Scalable Inter-AS Signaling: A Load Reduction Approach.* Proc. IEEE ISCC’2005, La Manga del Mar Menor, Cartagena, Spain, June 27-30 2005.
- C.63 A. Sridharan and R. Guérin, *Making OSPF/IS-IS Routing Robust to Link Failures.* Proc. Networking’2005, University of Waterloo, Ontario, Canada, May 2005.
- C.62 S. Tao, K. Xu, A. Estepa, T. Fei, L. Gao, R. Guérin, J. Kurose, D. Towsley, and

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Issued Patents

Over 30 US patents granted and several pending.