Curriculum Vitae from Roch Guerin

August 31, 2026

Curriculum Vitae - Roch Guérin

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

Professional Appointments

- **Harold B. and Adelaide G. Welge Professor & Department Chair 2013–**
  Department of Computer Science and Engineering
  Washington University in Saint Louis
  - Responsible for overseeing a department of currently 28 T/TT primary faculty and 15 Teaching faculty with a FY26 budget of about $11M, research expenditures of $6.4M and $6.5M, and new awards of $8.5M and $4.5M for FY24 and FY25, respectively.
  - Recruited 24 T/TT faculty and 15 Teaching faculty since joining in 2013.
  - Successfully shepherded 15 tenure cases and 6 promotions to Full Professors for our tenure track faculty, and 8 promotions to Senior Lecturer and 4 to Teaching Professor for our teaching track faculty. To-date, all our tenure and promotion cases have been successful, in part because of a strong mentoring system.
  - Managed the growth of our undergraduate majors from a little under 300 to close to 1000, including more than doubling the percentage of female students to now over 30%, and seeing the fraction of under-represented minority students go from around 6% to close to 10%.
  - Helped launch several new undergraduate and graduate programs: "CS+X" programs (X=Business, Economics, Mathematics), new major in Data Science jointly with the department of Statistics and Data Science, new minor in Computational AI (FL26), new Master program in AI Engineering (FL27), and new interdisciplinary PhD program jointly with the departments of Political Science, Psychological and Brain Science, and the Brown School of Social Work.
  - Involved in the renovation of one building (Jolley Hall) and the construction of another (McKelvey Hall), and our department's moves in those buildings

- **Alfred Fitler Moore Professor of Telecommunications Networks 1998–2013**
  Department of Electrical and Systems Engineering
  University of Pennsylvania
  Carried out research on quality-of-service and routing in networks. Branched into network economics and problems of technology adoption in system with externalities.
- **Founder and CEO and then Chief Scientist 2001–2004**
  Ipsum Networks (on leave from University of Pennsylvania)
  Responsible for taking the company through seed and Series A funding rounds before handing it over to an industry CEO upon returning to Penn. 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
  Oversaw department working on networking and distributed applications, spanning topics such as advanced reservations, policy support for RSVP, QoS routing, integrated switch and scheduling designs, etc. Many of the department's contributions were incorporated in commercial IBM routers, i.e., NWays 2210, 2212, and 2216.
- **Manager, Broadband Networking 1994–1997**
  Security and Networking Systems Department
  IBM T.J. Watson Research Center
  Led research efforts in the design, architecture, and analysis of broadband networks. The group collaborated with IBM divisions to design and build a QoS capable Router.
- **Manager, Network System Design 1992–1993**
  IBM High Performance Computing and Communications Department
  (On assignment from IBM Research)
  Supervised research on new network algorithms and architectures. Technology developed by the group was deployed in the AURORA testbed and IBM's NWays 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 Department, 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 of 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.

Other Academic Appointments

- Adjunct Assistant Professor — Fall 1993
  Dept. of Elec. Eng., Columbia University
- Research Assistant — 1984-1986
  Dept. of Elec. Eng., California Institute of Technology
- Teaching Assistant — 1983-1985
  Dept. of Elec. Eng., California Institute of Technology

Current Research Interests

- Resources management in virtualized systems
- Network economy and its impact on technology adoption
- Quality-of-service and resource allocation
- Network robustness and scalability

Awards and Honors

- **Best Student Paper Award** at IEEE RTSS 2023 for the paper titled *"Progressive Neural Compression for Adaptive Image Offloading under Timing Constraints,"* co-authored with R. Wang, H. Liu, J. Qiu, M. Xu, and my colleague C. Lu.
- Keynote, IEEE INFOCOM 2021 conference
- 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.

Research Funding

- CNS Collaborative Research: EAGER: Speeding-up large-scale simulations of atmospheric composition, NSF CNS-2334507, 2024-2026, PI (K. Agrawal and R. Martin, WashU co-PIs), $221,112 ($207,394 WashU share)
- CCF Collaborative Research: Conference: NSF Workshop on Sustainable Computing for Sustainability, NSF CCF-2334853, 2023-2024, PI (A. McGovern, U. Oklahoma, Klara Nahrstedt, UIUC, Co-PIs), $188,087 ($185,078 WashU share)
- Seed grant (internal) 2023: Speeding-up large-scale simulations of atmospheric composition, PI (K. Agrawal and R. Martin, co-PIs), $23,458
- CNS Core: Small: Exploring the Benefits of Non-Work-Conserving Networking, NSF CNS-2006530, 2021-2025, PI, $458,591
  - REU supplement (2022), $10,250
- Google Faculty Research Award: Minimum Capacity Inter-Data Center Networks with Service Guarantees, 2019, PI, $48,506.
- Huawei: PaaS Message Communication Middleware, 2015–2016, Co-PI (joint with C. Gill and C. Lu, PI). $292,959.
- NeTS: Medium: Provisioning, Enforcing, and Pricing Temporal Service Differentiation in Virtualized Networked Environments, NSF CNS-1514254, 2015–2020, PI (C. Gill and C. Lu, Washington University, co-PIs), $602,228.
- CC*DNI Networking Infrastructure: Washington University Research Network (WURN), NSF ACI-1541364, 2015–2016, PI (R. Pappu, co-PI), $475,590.
- NeTS: Small: Collaborative Research: Protocol Stacks Design and Evolution: The Role of Layering and Modularity, NSF CNS-1319684/1361771, 2013–2017, PI (collaborative with Georgia Tech.), $250,000 (Wash. U. share).
- NeTS: Small: Exploring the Challenges of Network Migration – An IPv6 Case Study and its Consequences, NSF CNS-1116039, 2011–2014, PI, $378,842.
  - CNS-1224514 - REU Supplement, $16,000.
- EAGER: Collaborative Research: Information Diffusion and Opinion Formation in Networked Systems, NSF CCF-1137519, 2011–2013, PI (S. Venkatesh, Penn ESE, K. Hosanagar, Penn Wharton, co-PIs, collaborative with U. Washington), $247,500 (Penn share).
- Tracking and Fostering IPv6 Adoption. Comcast Sponsored Research Agreement, 2011 (renewal), $73,000.
- Tracking and Fostering IPv6 Adoption. Comcast Sponsored Research Agreement, 2010, $70,000.
- A Market Approach to Controlling the Proliferation of Internet Routes, NSF CNS-0915982, 2009–2012, PI, $455,558.
- On the Economic Viability of Network Architectures, NSF CNS-0721610, 2007–2010, Penn PI, (K. Hosanagar, Penn Wharton Business School, co-PI, collaborative with U. Minnesota), $700,552 (Penn share).
  - CNS-1048836 - Supplemental award, $26,420.
  - CNS-0936354 - REU Supplement, $10,066.
  - CNS-0936355 - REU Supplement, $10,066.
- Uplink Scheduling in the EV-DO Rev. A System, Sprint Research Grant, 2007, $45,000.

- A Framework for Manageability in Future Routing Systems, NSF CNS-0627004, 2006–2009, Penn PI (Collaborative proposal with U. Massachusetts and U. Minnesota), $350,000 (Penn share).
- EFAME II Ethernet Metropolitan Area Networking, Siemens Research Grant, 2006, $85,000.
- EFAME Ethernet Metropolitan Area Networking, Siemens Research Grant, 2005, $80,000.
- Traffic engineering applications in optical IP networks, Tellium Research Grant, 2001, $38,500.
- Robust Time Independent Routing and Stabilizing Route Convergence in Large Scale Networks, Sprint Research Grant, 2001, $60,000.
- Scalable QoS Control for the Next Generation Internet, NSF ITR-0085930, Penn PI (collaborative with U. Massachusetts and U. Minnesota), 2000–2004, $792,182 (Penn share).
- Traffic Engineering and Systems Design in IP Networks, Nortel Research Grant, 2000, $47,100.
- On The Impact of Aggregation on The Performance of Traffic Aware Routing, Sprint Research Grant, 2000, $60,000.
- Application Driven Evaluation, Design, and Implementation of Network Services and Resource Sharing, NSF ANI99-06855, PI, 1999–2002, $983,750.
- Routing and Scheduling Issues in Support of Advance Reservations, NSF ANI99-02943, PI, 1999–2002, $449,700.
- RSVP Aggregation - Design Alternatives and Trade-Offs, Nortel Research Grant, 1999, $47,100.
- Routing and Traffic Aggregation, Sprint Research Grant, 1999, $60,000.
- IBM Equipment Grant, 1999, ≈ $100,000.
- 3Com Equipment Grant, 1998, ≈ $25,000.

University Service (Washington University)

2013–present Washington University, CSE Faculty Search Committee (ex officio)
2014–present Executive Committee, McKelvey School of Engineering, Member
2022–2023 Inaugural Chair Search Committee, Department of Statistics and Data Science, School of Arts & Sciences, Member
2021 Washington University CIO Search Committee, Member
2016–2018 Washington University Research Network Policies Sub-Committee, Chair
2016–2017 University Librarian Search Committee, Member
2016 University Staff Diversity Committee, Member
2015–2016 University Library Committee, Member
2015–2017 Governing Council for the Institute of Clinical and Translational Sciences (ICTS), Member
2014–2015 Dean Search Committee, School of Engineering & Applied Sciences, Member

University Service (Penn)

2011-2012 Member Comp. Eng. Curriculum Committee; Member Faculty Grievance Commission.
2010-2011 Graduate Group Chair (Elec. & Sys. Eng.); Member Comp. Eng. Curriculum Committee; Member Faculty Grievance Commission.

2009-2010 Graduate Group Chair (Elec. & Sys. Eng.); Member ORS committee; Member Comp. Eng. Faculty Recruiting committee; Member Faculty Grievance Commission.

2008-2009 Chair, Communications Faculty recruiting committee; Member Comp. Eng. Undergraduate Degree Definition committee; Member Joseph Moore Chair Search committee.

2007-2008 Chair, Faculty Council, School of Engineering and Applied Sciences; Chair, Communications Faculty recruiting committee; Chair, Staff Recognition Award Committee, School of Engineering and Applied Sciences; Member, Elec. & Sys. Eng. Department Impact committee; Member SEAS Computing committee.

2006-2007 Member, Faculty Council, School of Engineering and Applied Sciences; Chair, Communications Faculty recruiting committee; Member Elec. & Sys. Eng. Curriculum Restructuring committee.

2005-2006 Chair, Ramsey Chair Search committee, Member Elec. & Sys. Eng. Department Chair Search committee.

2004-2005 Member Elec. & Sys. Eng. Department Chair Search committee; Member Elec. & Sys. Eng. Strategic committee.

2003-2004 Member Elec. & Sys. Eng. Department Chair Search committee; Member Pompa Chair Search committee; Member Zisman Chair Search committee.

2001-2002 Member, Communications Faculty Search committee.

2000-2001 Member, Communications Faculty Search committee; Member, Computer and Information Science, Chair Search committee.

1999-2000 Member, Computer and Information Science, Chair Search committee.

Post-docs Supervised

- Jacomo Corbo (2009) - with Kartik Hosanagar
- Youngmi Jin (2007–2008)
- Saikat Ray (2005–2006)

Students Supervised

Ph.D. Students

- Jiaming Qiu (2021-2026) - Benefits of Traffic Reprofiling for Delay Sensitive Networking (currently at Huawei)
- Jiayi Song (2014–2022) - Improving Resource Efficiency in Cloud Computing (currently at ByteDance)
- Behnaz Arzani (2011–2017) - Improving Network Performance through End-Point Diagnosis and Multipath Communications - (currently at Microsoft Research, jointly advised with Boon Thau Loo)
- Hadi Afrasiabi (2009–2015): Decision Making in Networked Systems - (currently at Wells Fargo Securities).
- Mehdi Nikkhah (2009–2015): On The Adoption Dynamics of Internet Technologies: Models and Case Studies - (currently at 6D.ai).
- Soumya Sen (2005–2011): On the economic viability of network systems and architectures - (currently Associate Professor, Carlson School of Management of the U. Minnesota).
- Kin-Wah (Eric) Kwong (2005–2010): Building a sustainable Internet - (currently at Cisco Systems).

- Evangelos Vergetis (2001–2006): Topology control and path diversity in wireless networks - (currently at intelligencia.ai).
- Shu Tao (2000–2005): Improving the quality of real-time applications through path switching - (currently Engineering Manager at Google).
- Ying Xu (1999–2005): Robust network service delivery in shared resources environments - (currently at Lyft).
- Yaqing Huang (1999–2005): Understanding how to provide service guarantees in IP-based networks - (currently at Jane Street Investments).
- Rute Sofia (2000–2004): SICAP: A shared-segment inter-domain control aggregation protocol - (currently at Fortiss GmbH).
- Ashwin Sridharan (1999–2004): Impact of traffic and network information on routing performance - (currently at Google).

MS Students (with Thesis)

- Sangeetha Abdu Jyothi (2011-2012): Exploring AS-level path diversity in the Internet.
- Simran Singh (2010-2011): Diversity coding and multipath routing in Linux kernel.
- Tingyu He (2007–2009): Optimizing rate selection for rate and delay sensitive users in modern CDMA systems.
- Ramesh Subbaraman (2005–2007): Distributed scheduling in CDMA networks.
- Wael Ashmawi (1999–2000): Characterization of video streaming applications in DiffServ networks.

Advisory Boards, Consulting, and Related Activities

- Member, NSF CISE Advisory Committee (2019–2025)
- Chair, Academic Program Review of the Boston University Division of Systems Engineering (2018)
- Member Israeli Council for Higher Education's Committee for the evaluation of study programs in Electrical and Communication System Engineering (2016)
- Member Scientific Committee - Laboratory of Information, Networking and Communication Sciences (LINCS) (2013–)
- Member Scientific Advisory Board - SITI, University Lusofona (2012–2016)
- Member Scientific Advisory Board - Simula Research (2010–2013)
- 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); Crowell & Moring (2007); Growth Networks (acquired by Cisco Systems, 2000); Gardella Grace (2020-2021); IBM (1998-1999); Iptivia (2005–2008); Lucent Technologies (1999); Moses & Singer (2007); ReefEdge (2001); Thomson Research (2007).
- Expert witness working with Fish & Richardson (2005–2006, 2008, 2011–2016, 2019–2020, 2023–2025); GlobalIP (2020–); Goldberg Segalla (2020); Holland & Knight (2011); JTB Law (2015–2016); Kirkland & Ellis (1999); McDermott (2014, 2016-2017); Orrick (2006); Sidley (2014); Sterne, Kessler, Goldstein & Fox (2010).

Professional Activities

NSF

- Member NSF CISE Advisory Committee (2019–2025)
- Member NSF CISE Committee of Visitors, CNS sub-group (2023)
- Participant, NSF ANIR Committee of Visitors, June 2000.
- Panelist and/or external expert regularly since 1990

Prof. Societies

- Chair (elected), ACM SIGCOMM (2017–2021)
- ACM Publications Board (2013–2018)
- Member ACM SIGCOMM Technical Advisory Board (2001–2005)
- Chair, IEEE Technical Committee on Computer Communications (1997–1999)
- Member-at-Large (elected) of the Board-of-Governors of the IEEE Communications Society (1999–2002).

Editorial

- Chair and Executive Editor, Proceedings of the ACM (PACM) Steering Committee (2017–2022)
- Guest editor, ACM Transactions on Internet Technology - Special Issue on Pricing and Incentives in Networks and Systems (2013-2014)
- Editor-in-Chief, IEEE/ACM Transactions on Networking (2009–2013)
- Member, Editorial Board of Foundations and Trends in Networking (2005–2017)
- Area Editor, ACM Computer Communications Review (2005–2006)
- Editor, Journal of Computer Networks (2000–2001)
- Guest-Editor for Dec. 2000 IEEE JSAC issue on *Internet QoS*
- Editor, ACM Computer Communications Review (1998–2001)
- Area Editor, IEEE Communications Surveys (1998–2000)
- Technical Editor, IEEE/ACM Trans. Networking (1994–2000)
- Technical Editor, Journal of High-Speed Networks (1994–1996)
- Technical Editor, the IEEE Transactions on Communications (1992–1993)

Conf. Chairs

- Program co-Chair ICNP (2020)
- Program co-Chair NetEcon (2017)
- Program co-Chair, ACM CoNEXT (2007)
- General Chair, ACM SIGCOMM (2005)
- Program co-Chair, ACM SIGCOMM (2001)
- General Co-Chair IWS (1999)
- Technical Co-Chair, 1st joint conference of IEEE Com. Soc. and Russian POPOV Society on Internet Technologies and Services (1999)
- General Chair, IEEE INFOCOM (1998)

PC Member

- ANCS (2005)
- CoNEXT (2015)
- ACM EC (2012, 2009)
- Global Internet (1999, 1996)
- High Speed Networks (1999)
- ACM HotMetrics (2008)
- ICNP (2019, 2016, 2015, 2014, 2012)
- IEEE INFOCOM (2001, 2000, 1995–1997), Area chair (2009), Advisory member

(2023, 2024)
- ACM IMC (2008)
- ACM MobiHoc (2018, 2017, 2016)
- NetEcon (2019, 2018, 2016, 2015)
- NetSciCom (2017)
- IFIP Performance (2018)
- ACM SIGMETRICS (2017, 2014)
- ACM SIGCOMM (2006,1996–2000), Senior PC member (2009)
- W-PIN/NetEcon (2014, 2013)
- W-PIN (2012)

Award Cmtes.
- Best Paper Award committee INFOCOM, Chair (2024)
- Best Paper Award committee MobiHoc, Member (2019)
- ACM MobiHoc Best Paper Award selection panel, Member (2012)
- IEEE INFOCOM Life Time Achievement Award selection committee, Member (2011–2012)
- IEEE TCCC Outstanding Service Award selection committee, Member (2011–2012)
- ACM SIGCOMM Test-of-Time Award, Chair (2010)

Others
- ACM Computing Classification System (CCS) revision project, team lead *"Network"* category (2011)
- ACM CoNEXT Steering Committee, Chair (2010–2012)
- ACM CoNEXT Steering Committee, Member (2008–2009)
- Agence Nationale de la Recherche, France, panelist and external expert (2009–2011)
- Institut Telecom, Paris, France, external expert (2009)
- CNRI AURORA Testbed management team, Member (1993–1994)

Courses Taught

- Introduction to Computer Networks (CSE 473) - Fall 2014, Fall 2017-19
  Dept. Comp. Sci. & Eng., Washington University in St. Louis
  Senior level undergraduate course
- Modeling and Performance Evaluation of Computer Systems (CSE 538) - Spring 2014, Fall 2015-16, Fall 2020-26
  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 = 65 – Google Scholar]

Working Papers & Preprints

- Daisy Wang, Zhuoran Sun, Kunal Agrawal, Sebastian D. Eastham, and Roch Guérin, *"Speeding up the GEOS-Chem High Performance CTM through MPI load balancing."* Under submission to the journal of Geoscientific Model Development (GMD). August 2026.
- R. Guérin, *"When Two Is Worse Than One."* Working paper, June 2019, arXiv preprint arXiv:1909.08969.

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.61 J. Qiu, J. Song, R. Guérin, and H. Sariowan, *"On the Benefits of Traffic 'Reprofiling' – The Multiple Hop Case, Part I."* IEEE/ACM Trans. Netw., Vol. 32, No. 4, pp. 3421–3436, Aug. 2024,DOI: `https://doi.ieeecomputersociety.org/10.1109/TNET.2024.3392030`. Long version available at `http://arxiv.org/abs/2404.09087`.
J.60 J. Song, J. Qiu, R. Guérin, and H. Sariowan, *"On the Benefits of Traffic 'Reprofiling' – The Single Hop Case."* IEEE/ACM Trans. Netw., Vol. 32, No. 3, June 2024. DOI: `https://doi.org/10.1109/TNET.2024.3356863`. Long version available at `https://arxiv.org/abs/2104.02222`.
J.59 J. Qiu, R. Wang, A. Chakrabarti, R. Guérin, and C. Lu, *"Adaptive Edge Offloading for Image Classification Under Rate Limit".* IEEE Trans. Computer-Aided Design of Integrated Circuits and Systems, 2022. The paper was presented at the ACM International Conference on Embedded Software (EMSOFT), October 2022, Hybrid+Shanghai+Phoenix. `https://doi.org/10.1109/TCAD.2022.3197533`.
J.58 C. Li, S. Xi, C. Lu, R. Guérin, and C.D. Gill *"Virtualization-Aware Traffic Control for Soft Real-Time Network Traffic on Xen."* IEEE/ACM Trans. Netw., Vol. 30, No. 1, February 2022.

J.57 J. Song and R. Guérin, *"Pricing (and Bidding) Strategies for Delay Differentiated Cloud Services."* ACM Transactions on Computational Economics, Vol. 8, No. 2, May 2020.

J.56 R. Guérin, K. Hosanagar, X. Li, and S. Sen *"Shared or Dedicated Infrastructures: On the Impact of Reprovisioning Ability."* MIS Quarterly, Vol. 43, No. 4, December 2019.

J.55 M. H. Afrasiabi, R. Guérin, and S. Venkatesh, *"Opinion Formation in Ising Networks."* Online Social Networks and Media Journal, Vol. 5, March 2018.

J.54 M. Nikkhah, A. Mangal, C. Dovrolis, and R. Guérin, *"A Statistical Exploration of Protocol Adoption."* IEEE/ACM Trans. Netw., Vol. 25, No. 5, October 2017.

J.53 M. Nikkhah and R. Guérin, *"Migrating the Internet to IPv6: An Exploration of the When and Why."* IEEE/ACM Trans. Netw., Vol. 24, No. 4, August 2016.

J.52 M. H. Afrasiabi and R. Guérin, *"Exploring User-Provided Connectivity."* IEEE/ACM Trans. Netw., Vol. 24, No. 1, February 2016.

J.51 R. Guérin, J. C. de Oliveira, and S. Weber, *"Adoption of bundled services with network externalities and correlated affinities."* Special issue on Pricing and Incentives in Networks and Systems of the ACM Trans. Internet Technol., Vol. 14, No. 2–3, October 2014.

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, 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, December 2010.

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, December 2010.

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, September 2010.

J.46 R. Guérin and K. Hosanagar, *"Fostering IPv6 Migration Through Network Quality Differentials."* ACM SIGCOMM Computer Communication Review, Vol. 40, No. 3, 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.

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.

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, October 2006.

J.40 E. Vergetis, R. Guérin, and S. Sarkar, *"Realizing the Benefits of User-Level 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, 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, 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.

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.

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C.7 H. Ahmadi, R. Guérin, and K. Sohraby, *Analysis of Leaky Bucket Access Control Mechanism with Batch Arrival Process.* Proc. IEEE GLOBECOM'90, San Diego, CA, December 1990.

C.6 H. Ahmadi and R. Guérin, *Bandwidth Allocation in High-Speed Networks Based on the Concept of Equivalent Capacity.* Proc. Seventh International Teletraffic Congress Seminar, Morristown, NJ, USA, October 1990.

C.5 H. Ahmadi and R. Guérin, *Analysis of a Class of Buffer Storage Systems with Markov-Correlated Input and Bulk Service.* Proc. Fourth International Conference on Data Communications and their Performance, Barcelona, Spain, June 1990.

C.4 J. S.-C. Chen, R. Guérin and T. E. Stern, *Markov-Modulated Flow Model for the Output Queues of a Packet Switch.* Proc. IEEE INFOCOM'90, San Francisco, U.S.A., June 1990.

C.3 J. S.-C. Chen and R. Guérin, *Input Queueing of an Internally Non-Blocking Integrated Packet Switch with Two Priority Classes.* Proc. IEEE INFOCOM'89, Ottawa, Canada, April 1989.

C.2 J. S.-C. Chen and R. Guérin, *Performance Study of an Integrated Packet Switch with Two Priority Classes.* Proc. ITG/GI Conference on Communication in Distributed

Systems, Stuttgart, Germany, February 1989.

C.1 E.C. Posner and R. Guérin, *Traffic Policies in Cellular Radio that Minimize Blocking of Handoff Calls.* Proc. 11th International Teletraffic Congress (ITC 11), Kyoto, Japan, September 1985.

Standard Contributions

S.20 R. Yavatkar, D. Pendarakis, and R. Guérin. *"A Framework for Policy-based Admission Control."* RFC 2753, January 2000, Informational RFC.

S.19 J. Heinanen and R. Guérin. *"A Two Rate Three Color Marker."* RFC 2698, September 1999. Informational RFC.

S.18 J. Heinanen and R. Guérin. *"A Single Rate Three Color Marker."* RFC 2697, September 1999. Informational RFC.

S.17 G. Apostolopoulos, R. Guérin, S. Kamat, A. Orda, T. Przygienda, and D. Williams. *"QoS Routing Mechanisms and OSPF Extensions."* RFC 2676, August 1999. Experimental RFC.

S.16 R. Guérin, S. Blake, and S. Herzog. *"Aggregating RSVP-based QoS Requests."* Internet Draft, `(draft-guerin-aggreg-rsvp-00.txt)`, November 1997.

S.15 D.-H. Gan, R. Guérin, S. Kamat, T. Li, and E. Rosen. *"Setting up Reservations on Explicit Paths using RSVP."* Internet Draft, `(draft-guerin-expl-path-rsvp-01.txt)`, November 1997.

S.14 R. Guérin, S. Kamat, and E. Rosen. *"Extended RSVP-Routing Interface."* Internet Draft, `(draft-guerin-ext-rsvp-routing-intf-00.txt)`, July 1997.

S.13 R. Guérin, S. Kamat, and E. Rosen. *"Setting up Reservations on Explicit Paths using RSVP."* Internet Draft, `(draft-guerin-expl-path-rsvp-00.txt)`, July 1997.

S.12 J. Heinanen, A. Lin, and R. Guerin. *"Removing Network Based Tagging from GFR."* ATM Forum Contribution 97-0479, July 1997, Montreal, Canada.

S.11 S. Herzog, D. Pendarakis, R. Rajan, and R. Guérin. *"Open Outsourcing Policy Service (OOPS) for RSVP.* Internet Draft, `(draft-ietf-rsvp-policy-oops-00.[ps,txt])`, April 1997.

S.10 R. Guérin, S. Kamat, and S. Herzog. *"QoS Path Management with RSVP."* Internet Draft, `(draft-guerin-qos-path-mgmt-rsvp-00.txt)`, March 1997.

S.9 R. Guérin and J. Heinanen. *"UBR+ Enhancements."* ATM Forum Contribution 97-0015, February 1997, San Diego, CA.

S.8 R. Guérin and J. Heinanen. *"UBR+ Service Category Definition."* ATM Forum Contribution 96-1598, December 1996, Vancouver, Canada.

S.7 D. Williams, R. Guérin, and D. Kandlur. *"ATM Virtual Circuit Identification Support for an RSVP-based Service."* Internet Draft, `(draft-williams-issll-vcuse-00.txt)`, September 1996.

S.6 R. Guérin, D. Kandlur, and D. Williams. *"Extensions to the MARS model for Integrated Services."* Internet Draft, `(draft-kandlur-issll-rsvp-mars-00.txt)`, September 1996.

S.5 A. Birman, V. Firoiu, R. Guérin, D. Kandlur. *"Support for RSVP-based Service over an ATM Network."* Internet Draft, `(draft-birman-ipatm-rsvpatm-01.txt)`, August 1996.

S.4 S. Shenker, C. Partridge, and R. Guérin. *"Specification of Guaranteed Quality of Service."* RFC 2212, IETF Network Working Group, Category: Standards Track, September 1997.

S.3 R. Guérin and D. Kandlur. *"Issues in Extending Unicast and Multicast RSVP Flows Across ATM Networks."* ATM Forum Contribution 96-0094, February 1996, Los Angeles, CA.

S.2 R. Guérin, D. Kandlur, V. Peris, R. Rajan, R. Onvural. *"Issues Related to the Support of End-to-End QoS Guarantees."* ATM Forum Contribution 95-1538, December 1995, London, England.

S.1 R. Guérin, D. Kandlur, V. Peris, R. Rajan, R. Onvural. *Soft Requests for End-to-End Guarantees."* ATM Forum Contribution 95-1539, December 1995, London, England.

Tutorials, Invited Seminars, Panels, etc.

I.85 *A brief (machine learning) foray at the edge of computing.* Invited talk at the 2024 LINCS Annual Workshop. June 2024.

I.84 *On the benefits of reprofiling flows.* Invited talk at the 2023 LINCS Annual Workshop. July 2023.

I.83 *AI/ML models and networks, a complex relationship.* Keynote, 6th Asia-Pacific Workshop on Networking (APNet 2022), July 2022, Virtual.

I.82 *Minimizing inter-datacenter network bandwidth under latency constraints.* ECE Seminar, University of Massachusetts Amherst, January 2022.

I.81 *Back to the future – Can lessons from networking's past help inform its future?* Keynote at the 2021 IEEE INFOCOM conference, May 2021.

I.80 *Pricing (and Bidding) Strategies for Delay Differentiated Cloud Services.* Invited talk, NCTU, Taiwan, December 2019.

I.79 *Network Technology Adoption – Why It Is Hard.* Keynote, First Internet Architecture and Technology Conference, Chengdu, China, December 2018.

I.78 *Cloud Computing Challenges and Opportunities and the Role of Pricing.* Departmental Colloquium, Department of Computer Science and Engineering, University of California Riverside, December 1st, 2017.

I.77 *Assessing the Potential Opportunities of User-Provided Connectivity.* Workshop: Information and Communication Systems and their application to vertical sectors, Montevideo, Uruguay, March 2015.

I.76 *Overcoming the Challenges of Network Technology Adoption.* Department of Computer Science of Missouri University of Science & Technology, Rolla, MO, October 2014.

I.75 *Growing up in the Internet Shadow – and What Next?* Keynote at the Networking 2014 conference, June 2–4, 2014, Trondheim,Norway.

I.74 *Pricing Network Services With Strong Externalities – A Representative Example.* Workshop on Internet Topology and Economics (WITE) 2012, Georgia Tech, GA, November 2012.

I.73 *The Internet at a cross-road: Clean-slate vs. growing pains.* Keynote presentation at the NMI 2012 Conference, Berlin, Germany, July 2012.

I.72 *Innovating in a Networked World.* Invited presentation at the Technion Computer Engineering (TCE) 2012 Conference, Technion, Israel, June 2012.

I.71 *User-Provided Connectivity Services – A Basic Model and Pricing Strategies.* Invited Seminar, Princeton University, Princeton, NJ, April 2012.

I.70 *From Innovating for Networks to Networked Innovation.* Invited talk, Washington University, Saint Louis, MO, March 2012.

I.69 *User-Provided Connectivity Services – A Basic Model and Pricing Strategies.* Seminar, Bell Labs, Murray Hill, NJ, November 2011.

I.68 *Monitoring IPv6 Content Accessibility and Reachability.* Presentation at the Summer 2010 ESCC/Internet2 Joint Techs conference, July 2010, Columbus, OH.

I.67 *The Curse of Incompatible (Network) Technologies and the Role of Gateways.* Invited Seminar, Boston University, May 2010.

I.66 *The Internet Is out of Breath, or Is It?* Keynote presentation at IWQoS'09, Charleston, S.C., July 2009.

I.65 *Does the Networked Generation Need a Next Generation Network?* Keynote presentation at NGI 2009, Aveiro, Portugal, July 2009.

I.64 *Competing Network Technologies - Winners and Losers.* Presentation at IBM T.J. Watson Research Center, June 2009.

I.63 *What Is Network Science?* ACM CoNEXT 2008 Panel with C. Diot (Thomson), F. Sestini (European Commission), and Ty Znati (NSF) - Moderated by K. Ross (Polytechnic Institute of NYU), Madrid, Spain, December 2008.

I.62 *Competition Dynamics of Network Technologies,* Princeton University, ISS Seminar, October 2008.

I.61 *IP Address Allocation - Clean-Slate Research Agenda,* Cisco workshop on IP Address Allocation, San Jose, CA, March 2008.

I.60 *Reproducibility in Networking Research: A Wishful Dream?* Panel (with C. Diot, M. Crovella, G. Varghese, and B. Krishnamurthy) at Intimate 2007 - Workshop on Methods and Tools for Network Analysis, Paris, France, June 2007.

I.59 *Wireless Systems – Two Case Studies.* Presentation at Rescom 2007 Summer School, Calcatoggio, Corsica, June 2007.

I.58 *Size Does Matter! From the Age of Closed-Loop to the Age of Open-Loop.* Presentation at NeXtworking'07 - 2nd COST-NSF Workshop on Future Internet, April 2007, Berlin, Germany.

I.57 *Robust & Lightweight Networking.* Invited Talk, France Telecom R&D, October 2006.

I.56 R. Guérin, *Packet-Level Diversity Basic Results and Initial Experiments.* Sig. Proc. & Commun. Seminar, ECE Dept., U. Delaware, Newark, DE, April 2006.

I.55 Panel on *Future Network Architectures.* Internet2 Reconnections Workshop, Chicago, October 2005.

I.54 R. Guérin, *Realizing the Benefits of User-Level Channel Diversity.* Advance Networks Colloquium, Center for Satellite and Hybrid Communications Networks, U. Maryland, September 2005.

I.53 R. Guérin, *Exploring the Benefits of Channel Diversity in a Multi-User Environment.* Invited talk, Intel Research, Cambridge, U.K., June 2005.

I.52 *From Multi-Service Networks to Multi-Network Services - Research Challenges for the Next Years.* Panel at the Final Seminar of the COST 279 Project, June 2005, Lisbon, Portugal.

I.51 R. Guérin, *Which Way towards a More Reliable Communication Infrastructure? (Network Centric vs User Centric Traffic Engineering).* Final Seminar of the COST 279 Project, June 2005, Lisbon, Portugal.

I.50 A. Sridharan, R. Guérin and C. Diot, *Achieving Near-Optimal Traffic Engineering Solutions for Current OSPF/IS-IS Networks.* Invited Presentation, NANOG'27 Meeting, Phoenix, AZ, February 2003.

I.49 R. Guérin, *Bandwidth Is a Commodity. Deal With It.* IEEE Spectrum, January 2003.

I.48 *To Overlay Or Not To Overlay?* Presentation at the NGN'2001 panel (with Guru

Parulkar) on "The Internet at a Crossroads - Controlled IP or Overlay Networks?" NGN'2001, Boston, MA, November 2001.

I.47 R. Guérin, *On The Impact of Aggregation on The Performance of Traffic Aware Routing.* Invited talk, California Institute of Technology, April 2001.

I.46 R. Guérin, *On The Impact of Aggregation on The Performance of Traffic Aware Routing.* Nowlin Distinguished Lecture at University of Texas, Austin, April 2001.

I.45 R. Guérin, *On The Impact of Aggregation on The Performance of Traffic Aware Routing.* Invited talk, Columbia University, March 2001.

I.44 R. Guérin, *On The Impact of Aggregation on The Performance of Traffic Aware Routing.* Invited talk at DIMACS Mini-Workshop on Quality of Service Issues in the Internet, February 2001.

I.43 R. Guérin, *On The Impact of Aggregation on The Performance of Traffic Aware Routing.* Invited presentation at France Telecom, Paris, France, November 2000.

I.42 R. Guérin, *On The Impact of Aggregation on The Performance of Traffic Aware Routing.* Invited presentation at UC Irvine Distinguished Speakers Seminar Series, November 2000.

I.41 R. Guérin, *On The Impact of Aggregation on The Performance of Traffic Aware Routing.* Invited presentation at Closing Seminar of COST 257 European Research Program, November 2000.

I.40 R. Guérin, *Quality-of-Service in IP Networks.* Half-Day Tutorial, RTAS'2000, Washington, D.C., May 2000.

I.39 R. Guérin, *Aggregation and Conformance in Differentiated Service Networks.* Invited Presentation, Nortel Networks, Boston, MA, May 2000.

I.38 Organizer and moderator of panel on "The future of networking research: Academia, research labs, or startups" at INFOCOM'2000, Tel-Aviv, Israel, March 2000.

I.37 R. Guérin, *QoS Routing: Status and Experiments.* Invited Presentation, Telcordia, Morristown, NJ, December 1999.

I.37 R. Guérin, *Internet QoS* and *IP Routing: from Early Protocols to Emerging Technologies.* Half-Day Tutorials at First IEEE/POPOV Workshop on Internet Technologies and Services, Moscow, Russia, November 1999.

I.36 R. Guérin, *QoS Routing in IP Networks.* Invited Presentation, QoS Summit, Paris, France, November 1999.

I.35 Organizer panel on "Most Significant Contributions to Networking in the Last decade" at 14th Computer Communications Workshop, Estes Park, CO, October 1999.

I.34 R. Guérin, *Intra-Domain QoS Routing in IP Networks: A Feasibility and Cost-Performance Investigation.* Invited Presentation at Sprint Advanced Technology Lab, Burlingame, CA, June 1999.

I.33 Panel *"Is Networking Research Dead?"* Workshop on Intelligent Internet Infrastructure, IBM T. J. Watson Research Center, March 1999. Organizer: Roch Guérin, Panelists: S. Keshav (Cornell), N. McKeown (Stanford), E. Nahum (IBM), S. Schulzrinne (Columbia).

I.32 G. Apostolopoulos, R. Guérin, S. Kamat, and S. Tripathi, *"QoS Routing in IP Networks: Myths and Realities."* Position paper and presentation at NASA/NREN Workshop III, Ames Research Center, CA, August 18-19, 1998.
See `http://www.nren.nasa.gov/workshops3.html` for details.

I.31 R. Guérin, *Quality-of-Service: Too little or too much (How much optimization do we really need?)* Keynote address, IEEE/IFIP IWQoS'98, Napa, CA, May 1998.

I.30 Panel on *Fast Forwarding for High Performance Routers.* Organizer: R. Guérin;

Panelists: K. Eng, H. Esaki, S. Keshav, OPENSIG FALL'97, Columbia University, NY, October 1997.

I.29 R. Guérin, *QoS routing in IP networks: Initial Work and Open Issues.* OPENSIG FALL'97, Columbia University, NY, October 1997.

I.28 IEEE ATM'97 Workshop. Panel on *ATM: Reality and the Challenges Ahead.* Panelists: M. Decina, R. Guérin, Ken-ichi Kitami, Amardeo Sarma, and Steve Weinstein. Lisbon, Portugal, June 1997.

I.27 IFIP Fifth International Workshop on Quality of Service (IWQoS '97). Panel on *Reservations about Reservations.* Panelists: F. Baker, J. Crowcroft, R. Guérin, H. Schulzrinne, and L. Zhang. Columbia University, New York, NY, May 1997.

I.26 R. Guérin, *Quality-of-Service Issues in an Internet.* Seventh IFIP Conference on High Performance and Networking (HPN'97), White Plains, NY, May 1997.

I.25 R. Guérin, *QoS Support for Applications: Issues and Implications.* MREN/NSF Forum on HPDN/vBNS, Northwestern University, Evanston, IL, April 1997.

I.24 R. Guérin, *QoS Support and Offering: ATM and/or IP? and Missing Pieces.* MREN/NSF Forum on HPDN/vBNS, Northwestern University, Evanston, IL, April 1997.

I.23 R. Guérin, *Quality-of-Service Issues in an Internet: Problems and (some) Solutions.* Hong Kong University of Science and Technology Workshop on High Speed Multimedia networking, Hong Kong, April 1997.

I.22 R. Guérin, *"Traffic Management in ATM+IP Networks: Interoperability or Else?"* Washington University Workshop on Integration of IP and ATM, St Louis, MO, November 1996.

I.21 R. Guérin, *"Switching RSVP Flows."* Washington University Workshop on Integration of IP and ATM, St Louis, MO, November 1996.

I.20 R. Guérin, Panel on *"Resource Allocation in a QOS Environment."* HPCN + vBNS Workshop, University of Colorado at Boulder, Boulder, CO, October 1996.

I.19 R. Guérin, *"Quality of Service and Trustworthiness."* Workshop on Information Systems Trustworthiness organized by the National Research Council, Washington, D.C., October 1996.

I.18 R. Guérin, *"Integrated Services for QoS Support in an Internet: Definitions, Issues, and Challenges."* Keynote speech at COS-242 Closing Seminar, June 1996, Paris, France.

I.17 R. Guérin, *"Standardization of (Quality of) Service Interoperability: Open Issues and Problems"*, OPENSIG Spring'96 Workshop, April 1996, Columbia University, New York.

I.16 R. Rajan and R. Guérin, *"Inter-operability Issues in the ABR service."*, ITC Specialists Seminar, April 1996, Montreal, Canada.

I.15 L. Georgiadis, R. Guérin, V. Peris, and K. Sivarajan, *"Traffic Shaping and Reshaping to Efficiently Provide End-to-End Guarantees."* 6th Maryland Workshop on Very High Speed Networks, University of Maryland Baltimore County, November 1995.

I.14 I. Cidon, R. Guérin, A. Khamisy, and K. Sivarajan, *"Application vs Network Level Performance in ATM Networks."* Invited presentation. First ATM Traffic Expert Symposium, Basel, Switzerland, April 1995.

I.13 L. Georgiadis, R. Guérin, V. Peris, and K. Sivarajan, *"Effect of Traffic Shaping in Efficiently Providing End-to-End Performance Guarantees."* Invited presentation. First ATM Traffic Expert Symposium, Basel, Switzerland, April 1995.

I.12 R. Guérin, L. Gün, R. Onvural, and T. Tedijanto. *"Path Selection Algorithms in Broadband Network Services Architecture."* Third ORSA Telecommunications Con-

ference, Boca Raton, Florida, March 20-22, 1995.

I.11 P. Chimento, R. Guérin, L. Gün, and T. Tedijanto. *"Bandwidth Management Procedures for Broadband Network Services Architecture."* Third ORSA Telecommunications Conference, Boca Raton, Florida, March 20-22, 1995.

I.10 *"plaNET/ORBIT Experiments and Conclusions."* 1994 Gigabit Testbeds Workshop, November 1994, Reston, Va.

I.9 *"Hardware Independent Signalling: The Cost and Feasibility of Independence (or How Much Can/Should We Standardize?"* Symposium on Multimedia Networking, Columbia University, October 1994.

I.8 R. Guérin, *"ATM Technology: Lessons and Pitfalls."* Workshop on ATM: Real Choices, University of Maryland Baltimore County, November 1993.

I.7 I. Cidon, R. Guérin and A. Khamisy. *"On Protective Buffer Policies."* IEEE/LEOS Summer Topical Meeting on Gigabit Networks, Santa Barbara, CA, July 1993.

I.6 *"Application vs Network Performance for Real-Time Connections in ORBIT."* Fourth Gigabit Testbed Workshop, Washington, D.C., June, 1993.

I.5 Participant to *"Workshop on QOS Issues in High Speed Network,"* AT&T Bell Laboratories, Murray Hill, NJ, April 1992.

I.4 I. Cidon, R. Guérin, A. Khamisy and M. Sidi, *"On Queues with Inter-Arrival Times Proportional to Service Times."* 26th Annual Conference on Information Sciences and Systems, Princeton, NJ, March 1992.

I.3 I. Cidon, R. Guérin, A. Khamisy and M. Sidi, *"Analysis of a Correlated Queue in Communication Systems."* 26th Annual Conference on Information Sciences and Systems, Princeton, NJ, March 1992.

I.2 *"Bandwidth Management and Congestion Control in plaNET."* Third Gigabit Testbed Workshop, San Diego, CA, January 1992.

I.1 Member of Panel on *"Remote Visualization"* at Visualization'91, San Diego, CA, October 1991.

Partial List of Issued Patents

P.35 T. Salonidis, G. Sotiropoulos, R. Guerin, and R. Govindan: *"Device and method for computation of channel loss rate and collision loss rate of communication link(s) in a random access network."* Patent No. 9,210,055.

P.34 T. Salonidis, G. Sotiropoulos, R. Guerin, and R. Govindan: *"Device and method for computation of feasible rate regions of a random access network."* Patent No. 9,060,285.

P.33 T. Salonidis, G. Sotiropoulos, R. Guerin, and R. Govindan: *"Device and method for computation of channel loss rate and collision loss rate of communication link(s) in a random access network."* Patent No. 8,824,318.

P.32 M. Vange, M. Plumb, M. Kouts, G.S. Wilson, R. Guerin, and R. Rajan: *"Route aware network link acceleration."* Patent No. 8,510,468.

P.31 R. Guerin, R. Rajan, and W. Yu: *"Method and System for Path Change Root-Cause Identification in Packet Networks."* Patent No. 7,450,495 B2, November 11, 2008.

P.30 R. Guerin and R. Rajan: *"Method and System for Topology Construction and Path Identification in a Routing Domain Operated According to a Link State Protocol."* Patent No. 7,330,435, February 12, 2008.

P.29 R. Guerin and R. Rajan: *"Method and System for Traffic Monitoring in a Packet Communication Network."* Patent No. 7,257,081, August 14, 2007.

P.28 R. Guerin and R. Rajan: *"Method and System for Topology Construction and Path Identification in a Two-Level Routing Domain Operated According to a Simple Link State Routing Protocol."* Patent No. 7,120,120 B2, October 10, 2006.

P.27 R. Rajan and R. Guerin: *"A Method and System for Path Identification in Packet Networks."* Patent No. 6,836,465 B2, December 28, 2004.

P.26 E. Ellesson, R. Guerin, S. Kamat, A. Krishna, R. Rajan, and D. Verma: *"Architecture for Supporting Service Level Agreements in an IP Network."* Patent No. 6,459,682, October 1, 2002.

P.25 R. Guerin, S. Kamat, P. Pan, V. Peris, and R. Rajan: *"Rate Guarantees through Buffer Management."* Patent No. 6,377,546, April 23, 2002.

P.24 R. Guerin, A Krishna, V. Peris, and D. Verma: *"Dynamic Selection of Network Providers."* Patent, No. 6,243,754, June 5, 2001.

P.23 G. Delp, V. Firoiu, R. Guérin, P. Leichty, D. Poulter, V. Peris, R. Rajan, and J. Shaffer: *"Earliest Deadline First Communications Cell Scheduler and Scheduling Method for Transmitting Earliest Deadline Cells First."* Patent No. 6,028,843, February 22, 2000.

P.22 G. Delp, R. Guérin, P. Leichty,V. Peris, R. Rajan, and A. Sloane: *"Method and Apparatus for Resource Allocation with Guarantees."* Patent No. 5,996,013, November 30, 1999.

P.21 L. Georgiadis, R. Guérin, V. Peris, R. Rajan, and V. Peris: *"Method to Control Jitter in High-Speed Packet-Switched Networks."* Patent No. 5,933,414, August 3rd, 1999.

P.20 I. Gopal, R. Guérin, and K. N. Sivarajan: *"Method and System for an Efficient Multiple Access Polling Protocol for Interactive Communication."* Patent No. 5,889,963, March 30, 1999.

P.19 C. Aras, R. Guérin, G. Lebizay, R. Onvural, G. Shippy, and L.-C. Tai: *"Method and Apparatus for Multicast Based Video Conferencing."* Patent No. 5,867,653, February 2, 1999.

P.18 C. Aras, R. Guérin, G. Lebizay, R. Onvural, G. Shippy, and L.-C. Tai: *"Method System and Article of Manufacture for Multi-Casting Audio Visual Material."* Patent No. 5,862,329, January 19, 1999.

P.17 P. Chang, R. Guérin, A. Parekh, and J. Rayfield: *"Method and System for Implementing Multiple Leaky Bucket Checkers Using a Hybrid Synchronous/Asynchronous Update Mechanism."* Patent No. 5,835,711, November 10, 1998.

P.16 L. Georgiadis, R. Guérin, V. Peris, and S. Varma: *"Traffic Flow Regulation to Guarantee End-to-End Delay in Packet Switched Networks."* Patent No. 5,796,719, August 18, 1998.

P.15 R. Guérin and I. Iliadis: *"Switching Apparatus and Method for Multiple Traffic Classes."* Patent No. 5,742,606, April 21, 1998.

P.14 M. Bellare, R. Guérin, and P. Rogaway: *"Method and Apparatus for Data Authentication in a Data Communication Environment."* Patent No. 5,673,318, September 30, 1997. See also Patent No. 5,757,913, May 26, 1998.

P.13 I. Gopal, R. Guérin, and K. N. Sivarajan: *"Method and System for an Efficient Multiple Access Polling Protocol for Interactive Communication."* Patent No. 5,539,882, July 23, 1996.

P.12 J. H. Derby, J. E. Drake, J. G. Dudley, R. Guérin, M. A. Kaplan, G. A. Marin, M. L. Peters, and K. Potter, Jr.: *"Packet Switching Reseource Management Within Nodes."* Patent No. 5,483,522, January 9, 1996.

P.11 I. Cidon, L. Georgiadis, R. Guérin, Y. Shavitt, and A. Slater: *"Method and Appara-*

tus for Improved Throughput in a Multi-Node Communication System With a Shared Resource." Patent No. 5,467,352, November 14, 1995. See also Patent No. 5,572,526, November 5, 1996.

P.10 I. Cidon, L. Georgiadis, R. Guérin, Y. Shavitt, and A. Slater: *"Method and Apparatus for Dynamically Allocating Shared Resource Access Quota."* Patent No. 5,446,737, August 29, 1995 (also Patent No. 5,572,526).

P.9 J. H. Derby, J. E. Drake, J. G. Dudley, R. Guérin, M. A. Kaplan, G. A. Marin, M. L. Peters, and K. Potter, Jr.: *"Packet Switching Reseource Management Within Nodes."* Patent No. 5,425,021, June 13, 1995.

P.8 I. Cidon, I. Gopal, and R. Guérin,: *"Method and System of Requesting Resources in a Packet-Switched Network with Minimal Latency."* Patent No. 5,367,517, November 22, 1994.

P.7 H. Ahmadi, J. H. Derby, R. Guérin, L. Gün, G. A. Marin, M. Naghshineh and K. Sohraby: *"Rate-Based Congestion Control in Packet Communications Networks."* Patent No. 5,311,513, May 10, 1994.

P.6 H. Ahmadi, R. Guérin and L. Gün: *"Traffic Management in Packet Communications Networks."* Patent No. 5,289,462, February 22, 1994.

P.5 J. H. Derby, R. Guérin and L. Gün: *"Traffic Measurements in Packet Communications Networks."* Patent No. 5,274,625, December 28, 1993.

P.4 H. Ahmadi, J. Chen, C.-S. Chow, R. Guérin, L. Gün, A. Lee and T. Tedijanto: *"Methods and Apparatus for Optimum Path Selection in Packet Transmission Networks."* Patent No. 5,233,604, August 3rd, 1993.

P.3 R. Guérin and Y.-C. Lien: *"A Wavelength Division Photonic Switch."* Patent No. 5,040,169, August 13th, 1991.

P.2 T. Ancheta, A. Birman, P.-C. Chang, and R. Guérin: *"Parallel Architecture for High-Speed Flag Detector and Packet Identification."* Patent No. 4,974,223, November 27th, 1990.

P.1 Y.-C. Lien and R. Guérin: *"High-Speed Switch as for an Optical Communication System."* Patent No. 4,933,930, June 12th, 1990.