

# Sergey Gorinsky

Curriculum Vitae

(as of 2016/12/21)

IMDEA Networks Institute  
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## RESEARCH INTERESTS

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Economics, technology, and security of networked systems: behavior of distributed entities, sharing of network resources, network structure, innovative business models, incentives, cost reduction, revenue maximization

## EDUCATION

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2003/8	<b>Ph.D. in Computer Science</b> <i>University of Texas at Austin, USA</i> Dissertation: “Robust Congestion Control for IP Multicast” Advisor: Dr. Harrick Vin	4.00 / 4.00 GPA
1999/5	<b>M.S. in Computer Science</b> <i>University of Texas at Austin, USA</i>	4.00 / 4.00 GPA
1994/2	<b>Engineer in Computer Engineering</b> <i>Moscow Institute of Electronic Technology, Russia</i> Thesis: “A Distributed Real-Time System for Control of a Knitting-Machine” Advisor: Dr. Aleksandr Shishkevich	5.00 / 5.00 GPA

## RESEARCH EXPERIENCE

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present – 2009/6	<b>Research Associate Professor (tenured)</b> <i>IMDEA Networks Institute, Spain</i> <i>Network economics; Internet interconnections; transit; peering; remote peering; content delivery networks; traffic attraction for revenue maximization; traffic offloading for cost reduction; structure and evolution of the Internet ecosystem; socially aware network design; Internet science</i>
2009/5 – 2003/9	<b>Assistant Professor (tenure track)</b> <i>Washington University in St. Louis, Department of Computer Science and Engineering, USA</i> <i>Internet architecture; incentive-oriented network design; delay-sensitive applications; fair efficient scheduling; transport protocols; network congestion control; link buffer sizing; router algorithms; robust protocols for untrustworthy network environments; virtual networks; virtual networking laboratories</i>
2003/8 – 1998/9	<b>Research Assistant</b> <i>University of Texas at Austin, Department of Computer Sciences, USA</i> Supervisor: Dr. Harrick Vin <i>Network congestion control; fair network sharing in the presence of misbehaving parties; utility of feedback in multicast; multicast protocols robust to receiver misbehavior</i>
1999/8 – 1999/5	<b>Summer Manager</b> <i>AT&amp;T Research Labs, Networking and Distributed Systems Research Center, USA</i> Mentors: Dr. K.K. Ramakrishnan, Dr. Matthias Grossglauser, and Dr. Nick Duffield <i>Scalable, efficient, and fair layered multicast congestion control in heterogeneous networks</i>

## RESEARCH EXPERIENCE (continued)

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- 1998/8 – 1998/5 **Engineer**  
*Lucent Bell Labs*, Network and Service Management Research Department, USA  
Mentors: Dr. Binay Sugla, Dr. Ajita John, and Keith Vanderveen  
*Network management with run-time specification of Management Information Bases*
- 1998/5 – 1997/6 **Research Assistant**  
*University of Texas at Austin*, Department of Computer Sciences, USA  
Supervisor: Dr. Aloysius Mok  
*Algorithms and admission control for real-time scheduling of multimedia applications*
- 1997/5 – 1994/9 **Faculty Assistant**  
*New Jersey Institute of Technology*, Department of Computer and Information Science, USA  
Supervisors: Dr. Alex Stoyenko and Dr. Sanjita Baruah  
*Efficient traffic characterization, traffic reshaping, and admission control for guaranteed-services networks*
- 1994/2 – 1990/9 **Undergraduate Research Assistant**  
*Moscow Institute of Electronic Technology*, Department of Computer Engineering, Russia  
Supervisor: Dr. Aleksandr Shishkevich  
*Distributed real-time control for a knitting-machine; hardware components; local-area network protocols*

## JOURNAL PUBLICATIONS\*

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- (11) I. Komnios, F. Tzapeli, and **S. Gorinsky**, “**Cost-Effective Multi-Mode Offloading with Peer-Assisted Communications**”, *Ad Hoc Networks*, 25(B), pp. 370-382, February 2015 (citation count: 2)
- (10) I. Castro, R. Stanojevic, and **S. Gorinsky**, “**Using Tuangou to Reduce IP Transit Costs**”, *IEEE/ACM Transactions on Networking*, 22(5), pp. 1415-1428, October 2014 (citation count: 13)
- (9) M. Podlesny and **S. Gorinsky**, “**Leveraging the Rate-Delay Trade-off for Service Differentiation in Multi-Provider Networks**”, *IEEE Journal on Selected Areas in Communications*, 29(5), pp. 997-1008, May 2011 (citation count: 14)
- (8) M. Georg and **S. Gorinsky**, “**Congestion Control with a Misbehaving Receiver: Robust TFRC and Other Protocols**”, *Journal of Internet Engineering*, 3(1), pp. 210-218, December 2009
- (7) **S. Gorinsky**, E.J. Friedman, S. Henderson, and C. Jechlitschek, “**Efficient Fair Algorithms for Message Communication**”, *Simulation Modelling Practice and Theory*, 17(3), pp. 513-527, March 2009 (citation count: 2)
- (6) **S. Gorinsky**, M. Georg, M. Podlesny, and C. Jechlitschek, “**A Theory of Load Adjustments and its Implications for Congestion Control**”, *Journal of Internet Engineering*, 1(2), pp. 82-93, October 2007 (citation count: 8)
- (5) **S. Gorinsky**, A. Kantawala, and J. Turner, “**Simulation Perspectives on Link Buffer Sizing**”, *Simulation: Transactions of the Society for Modeling and Simulation International* (special issue on New Challenges in Large-Scale Computer Systems and Network Modeling and Simulation), 83(3), pp. 245-257, March 2007 (citation count: 14)
- (4) D.K. Blandford, S.A. Goldman, **S. Gorinsky**, Y. Zhou, and D.R. Dooly, “**Smartacking: Improving TCP Performance from the Receiving End**”, *Journal of Internet Engineering*, 1(1), pp. 6-21, January 2007 (citation count: 9)
- (3) **S. Gorinsky**, S. Jain, H. Vin, and Y. Zhang, “**Design of Multicast Protocols Robust against Inflated Subscription**”, *IEEE/ACM Transactions on Networking*, 14(2), pp. 249-262, April 2006 (citation count: 19)

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\*The citation counts are according to a Google Scholar search on 2016/12/21.

## JOURNAL PUBLICATIONS (continued)

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- (2) S. Baruah, D. Chen, **S. Gorinsky**, and A. Mok, “**Generalized Multiframe Tasks**”, *Journal of Real-Time Systems*, 17(1), pp. 5-22, July 1999 (citation count: 227)
- (1) P. Sinha, **S. Gorinsky**, P. Laplante, A. Stoyenko, and T. Marlowe, “**Classification and Overview of Research in Real-Time Imaging**”, *Journal of Electronic Imaging*, 5(4), pp. 466-478, October 1996 (citation count: 7)

## CONFERENCE AND WORKSHOP PUBLICATIONS

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- (35) I. Castro and **S. Gorinsky**, “**Estimating the Real with the Virtual: How does the Accuracy Relate to the Internet Penetration?**”, *Proceedings of COMSNETS 2016*, pp. 1-8, January 2016
- (34) I. Castro, A. Panda, B. Raghavan, S. Shenker, and **S. Gorinsky**, “**Route Bazaar: Automatic Interdomain Contract Negotiation**”, *Proceedings of USENIX HotOS XV*, pp. 1-7, May 2015 (citation count: 8)
- (33) I. Castro, J. C. Cardona, **S. Gorinsky**, and P. Francois, “**Remote Peering: More Peering without Internet Flattening**”, *Proceedings of ACM CoNEXT 2014*, pp. 185-197, December 2014 (citation count: 17)
- (32) P. Bangera and **S. Gorinsky**, “**Economics of Traffic Attraction by Transit Providers**”, *Proceedings of IFIP Networking 2014*, pp.1-9, June 2014 (citation count: 6)
- (31) S. Hasan, **S. Gorinsky**, C. Dovrolis, and R. Sitaraman, “**Trade-offs in Optimizing the Cache Deployments of CDNs**”, *Proceedings of IEEE INFOCOM 2014*, pp. 460-468, April 2014 (citation count: 27)
- (30) P. Bangera and **S. Gorinsky**, “**An Economic Perspective on Traffic Attraction by Internet Transit Providers**”, *Proceedings of IEEE ICNP 2013*, pp. 1-2, October 2013 (citation count: 1)
- (29) M. Podlesny, **S. Gorinsky**, and B. Rengarajan, “**AIST: Insights into Queuing and Loss on Highly Multiplexed Links**”, *Proceedings of IEEE/ACM IWQoS 2012*, pp.1-9, June 2012
- (28) S. Hasan and **S. Gorinsky**, “**Obscure Giants: Detecting the Provider-Free ASes**”, *Proceedings of IFIP Networking 2012*, pp. 149-160, May 2012 (citation count: 12)
- (27) I. Castro and **S. Gorinsky**, “**T4P: Hybrid Interconnection for Cost Reduction**”, *Proceedings of NetEcon 2012*, pp. 178-183, March 2012 (citation count: 15)
- (26) R. Stanojevic, I. Castro, and **S. Gorinsky**, “**CIPT: Using Tuangou to Reduce IP Transit Costs**”, *Proceedings of ACM CoNEXT 2011*, pp.1-12, December 2011 (citation count: 34)
- (25) P. Bangera and **S. Gorinsky**, “**Impact of Prefix Hijacking on Payments of Providers**”, *Proceedings of COMSNETS 2011*, pp. 1-10, January 2011 (citation count: 19)
- (24) M. Podlesny and **S. Gorinsky**, “**Stateless RD Network Services**”, *Proceedings of IFIP Networking 2010*, pp. 135-147, May 2010 (citation count: 3)
- (23) M. Podlesny and **S. Gorinsky**, “**RD Network Services: Differentiation through Performance Incentives**”, *Proceedings of ACM SIGCOMM 2008*, pp. 255-266, August 2008 (citation count: 34)
- (22) **S. Gorinsky**, K.K. Ramakrishnan, and H. Vin, “**Addressing Heterogeneity, Scalability, and Privacy in Layered Multicast Congestion Control**”, *Proceedings of the International Conference on Computer Communications and Networks (ICCCN 2008)*, pp. 1-8, August 2008 (citation count: 26)
- (21) **S. Gorinsky** and H. Vin, “**Effairness: Dealing with Time in Congestion Control Evaluation**”, *Proceedings of the International Conference on Networking and Services (ICNS 2008)*, pp. 40-45, March 2008 (citation count: 2)
- (20) C. Wiseman, K. Wong, T. Wolf, and **S. Gorinsky**, “**Operational Experience with a Virtual Networking Laboratory**”, *Proceedings of ACM SIGCSE 2008*, pp. 427-431, March 2008 (citation count: 14)
- (19) M. Podlesny and **S. Gorinsky**, “**Price of Asynchrony: Queuing under Ideally Smooth Congestion Control**”, *Proceedings of IEEE International Conference on Network Protocols (ICNP 2007)*, pp. 332-333, October 2007 (citation count: 2)

CONFERENCE AND WORKSHOP PUBLICATIONS (continued)

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- (18) **S. Gorinsky** and C. Jechlitschek, “**Fair Efficiency, or Low Average Delay without Starvation**”, *Proceedings of the International Conference on Computer Communications and Networks (ICCCN 2007)*, pp. 424-429, August 2007 (citation count: 15)
- (17) M. Podlesny and **S. Gorinsky**, “**MCP: Few Bits for Fairing and Small Queues in the Stable State**”, *Proceedings of IEEE Symposium on Computers and Communications (ISCC 2007)*, pp. 1079-1084, July 2007 (citation count: 8)
- (16) M. Georg, C. Jechlitschek, and **S. Gorinsky**, “**Improving Individual Flow Performance with Multiple Queue Fair Queuing**”, *Proceedings of IEEE International Workshop on Quality of Service (IWQoS 2007)*, pp. 141-144, June 2007 (citation count: 6)
- (15) **S. Gorinsky**, C. Jechlitschek, and N.S.V. Rao, “**A Network Architecture for Large-Scale Science**”, *Proceedings of IEEE High-Speed Networks (HSN 2007)*, pp. 1-5, May 2007
- (14) M. Podlesny and **S. Gorinsky**, “**Multimodal Congestion Control for Low Stable-State Queuing**”, *Proceedings of IEEE INFOCOM 2007*, pp. 2466-2470, May 2007 (citation count: 12)
- (13) K. Wong, T. Wolf, **S. Gorinsky**, and J. Turner, “**Teaching Experiences with a Virtual Network Laboratory**”, *Proceedings of ACM SIGCSE 2007*, pp. 481-485, March 2007 (citation count: 37)
- (12) **S. Gorinsky** and N.S.V. Rao, “**Dedicated Channels as an Optimal Network Support for Effective Transfer of Massive Data**”, *Proceedings of IEEE INFOCOM 2006*, pp. 1-5, April 2006 (citation count: 24)
- (11) M. Georg and **S. Gorinsky**, “**Protecting TFRC from a Selfish Receiver**”, *Proceedings of the Joint International Conference on Autonomic and Autonomous Systems and International Conference on Networking and Services (ICAS/ICNS 2005)*, pp. 57-62, October 2005 (citation count: 10)
- (10) **S. Gorinsky**, A. Kantawala, and J. Turner, “**Link Buffer Sizing: A New Look at the Old Problem**”, *Proceedings of IEEE Symposium on Computers and Communications (ISCC 2005)*, pp. 507-514, June 2005 (citation count: 63)
- (9) **S. Gorinsky**, “**Feedback Modeling in Internet Congestion Control**”, *Proceedings of Next Generation Teletraffic and Wired/Wireless Advanced Networking (NEW2AN 2004)*, pp. 231-234, February 2004 (citation count: 15)
- (8) **S. Gorinsky**, S. Jain, H. Vin, and Y. Zhang, “**Robustness to Inflated Subscription in Multicast Congestion Control**”, *Proceedings of ACM SIGCOMM 2003*, pp. 87-98, August 2003 (citation count: 32)
- (7) **S. Gorinsky**, S. Jain, H. Vin, and Y. Zhang, “**Robustness of Multicast Congestion Control to Inflated Subscription**”, *Proceedings of ACM SIGMETRICS 2003*, pp. 312-313, June 2003 (citation count: 1)
- (6) **S. Gorinsky**, S. Jain, and H. Vin, “**Multicast Congestion Control with Distrusted Receivers**”, *Proceedings of Networked Group Communication (NGC 2002)*, pp. 19-26, October 2002 (citation count: 20)
- (5) **S. Gorinsky** and H. Vin, “**The Utility of Feedback in Layered Multicast Congestion Control**”, *Proceedings of Network and Operating Systems Support for Digital Audio and Video (NOSSDAV 2001)*, pp. 93-102, June 2001 (citation count: 40)
- (4) S. Baruah, G. Buttazzo, **S. Gorinsky**, and G. Lipari, “**Scheduling Periodic Task Systems to Minimize Output Jitter**”, *Proceedings of Real-Time Computing Systems and Applications (RTCSA 1999)*, pp. 62-69, December 1999 (citation count: 101)
- (3) **S. Gorinsky**, S. Baruah, and A. Stoyen, “**Boosting the Network Performance via Traffic Reshaping**”, *Proceedings of the International Conference on Computer Communications and Networks (ICCCN 1997)*, pp. 285-290, September 1997 (citation count: 5)
- (2) **S. Gorinsky**, S. Baruah, T. Marlowe, and A. Stoyenko, “**Exact and Efficient Analysis of Schedulability in Fixed-Packet Networks: A Generic Approach**”, *Proceedings of IEEE INFOCOM 1997*, pp. 584-591, April 1997 (citation count: 14)

## CONFERENCE AND WORKSHOP PUBLICATIONS (continued)

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- (1) **S. Gorinsky**, S. Baruah, and A. Stoyenko, “**Traffic Reshaping in Packet-Switched Virtual-Circuit Fixed-Packet Network**”, *Proceedings of Resource Allocation Problems in Multimedia Systems (RAPMS 1996)*, pp. 1-5, December 1996 (citation count: 5)

## SELECTED TECHNICAL REPORTS

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- (2) **S. Gorinsky** and H. Vin, “**Extended Analysis of Binary Adjustment Algorithms**”, *Technical Report TR2002-39, Department of Computer Sciences, University of Texas at Austin*, August 2002 (citation count: 25)
- (1) **S. Gorinsky** and H. Vin, “**Additive Increase Appears Inferior**”, *Technical Report TR2000-18, Department of Computer Sciences, University of Texas at Austin*, May 2000 (citation count: 31)

## HONORS

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- 2016 **Distinguished Member** of the Technical Program Committee, *IEEE INFOCOM 2016*
- 2015 **Distinguished Member** of the Technical Program Committee, *IEEE INFOCOM 2015*
- 2013 **I3 Certification** (Promotion, Incorporation and Intensification of Research Activities)  
*Ministry of Economy and Competitiveness, Spain*
- 2008 **Best Paper Award** for “Effairness: Dealing with Time in Congestion Control Evaluation”  
*International Conference on Networking and Services (ICNS 2008)*
- 2007 **Best Paper Award Nomination** for “Fair Efficiency, or Low Average Delay without Starvation”  
*International Conference on Computer Communications and Networks (ICCCN 2007)*
- 1996/5 – 1994/9 **REAP Fellowship** (merit scholarship for graduate students from Russia and Eastern Europe)  
*Association of International Educators, NAFSA, USIA, USA*
- 1994 **Diploma with Honors** (graduation with the highest honors)  
*Moscow Institute of Electronic Technology, Russia*
- 1993/5 – 1992/1 **Moscow Mayor’s Fellowship** (merit scholarship for undergraduate students)  
*City of Moscow, Russia*

## RESEARCH FUNDING

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- 2018/9 – 2014/10 “**Cloud4BigData: Efficient Cloud and BigData Infrastructure**”, project member  
*Regional Government of Madrid, Department of Education, Youth, and Sports, grant S2013/ICE-2894*  
500,020 Euros (4 partners)
- 2016/12 – 2015/1 “**HyperAdapt: Modeling and Online Performance Optimization of Adaptive Networks**”, project member  
*Spanish Ministry of Science and Innovation, State Program for Research, Development, and Innovation Aimed at Society’s Challenges, grant TEC2014-55713-R*  
175,450 Euros (single institution)
- 2015/5 – 2011/12 “**EINS: Network of Excellence in Internet Science**”, PI  
*European Commission, FP7-ICT grant 288021*  
4,997,000 Euros (33 partner institutions)
- 2014/12 – 2010/1 “**Secure Networked Systems**”, sole PI  
*Spanish Ministry of Science and Innovation, Ramon y Cajal grant RYC-2009-04660*  
192,480 Euros
- 2013/12 – 2010/1 “**MEDIANET: Integration of Next Generation Multimedia Services in the Internet of the Future**”, project member  
*Regional Government of Madrid, Department of Education grant S2009/TIC-1468*  
858,840 Euros (4 partners)

## RESEARCH FUNDING (continued)

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- 2013/6 – 2010/7 **“MEDIEVAL: MultimEDIA transport for mobile Video Applications”**, key personnel  
*European Commission, FP7-ICT grant 258053*  
3,470,885 Euros (9 partner institutions)
- 2013/6 – 2010/7 **“FLAVIA: FLExible Architecture for Virtualizable wireless future Internet Access”**, key personnel  
*European Commission, FP7-ICT grant 257263*  
3,653,886 Euros (10 partner institutions)
- 2013/2 – 2010/10 **“AMAROUT: Network Service Differentiation via Built-in Performance Incentives”**, PI  
*European Commission, FP7-PEOPLE grant 229599*  
75,596 Euros (out of the total 3,830,000 Euros)
- 2009/8 – 2006/9 **“An Architecture for a Diversified Internet”**, Co-PI  
*U.S. National Science Foundation, NSF grant CNS-0626661, \$1,098,834*
- 2009/8 – 2006/9 **“Technologies for Improving Laboratory Experiences in Advanced Technical Education”**, Co-PI  
*U.S. National Science Foundation, NSF grant REC-0632580, \$439,620*
- 2007/12 – 2004/1 **“Technologies for Dynamically Extensible Networks”**, project member  
*U.S. National Science Foundation, NSF grant ANI-0325298, \$2,100,000*
- 2005/8 – 2004/9 **“Virtual Networking – Enabling Network Service Innovation”**, Co-PI  
*U.S. National Science Foundation, NSF grant CNS-0435173, \$250,000*
- 2003/8 – 2000/9 **“Multicast Congestion Control Protocols”**, project member  
*U.S. National Science Foundation, NSF grant ANI-0082294, \$600,000*

## PROFESSIONAL SERVICE

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- present – 2004 **Advising of Doctoral Students**  
Vadim Kirilin, Carlos III University of Madrid, Spain, from 2016  
Dr. Pradeep Bangera, *“Alternative Revenue Sources for Internet Service Providers”*, Carlos III University of Madrid, Spain, 2016/11 (Ph.D. in Telematics Engineering; defended on 2016/11/14)  
Dr. Syed Hasan, *“The Role of Topology and Contracts in Internet Content Delivery”*, Carlos III University of Madrid, Spain, 2016/6 (Ph.D. in Telematics Engineering; defended on 2016/6/20)  
Dr. Ignacio Castro, *“Economics of Internet Interdomain Interconnections”*, Open University of Catalonia, Spain, 2015/7 (Ph.D. in Information and Knowledge Society; defended on 2015/7/20; currently a postdoctoral researcher in Dr. Steve Uhlig’s group at Queen Mary University of London, United Kingdom)  
Dr. Maxim Podlesny, *“Networking Mechanisms for Delay-Sensitive Applications”*, Washington University in St. Louis, USA, 2009/8 (Ph.D. in Computer Science; defended on 2009/7/28; currently a senior associate at PwC Canada)
- present – 2003 **Service on Doctoral Dissertation Committees**  
Dr. Ilya Nikolaevskiy, *“Scalability and Resiliency of Static Routing”*, Aalto University, Finland, 2016/12 (Doctor of Science in Computer Science; defended on 2016/12/20, pre-examiners: Dr. Alon Efrat and Dr. Sergey Gorinsky; opponent: Dr. Yevgeni Koucheryavy; instructors: Dr. Andrei Gurtov and Dr. Andrey Lukyanenko; supervisor: Dr. Antti Ylä-Jääski)  
Dr. Marco Chiesa, *“The Role of Routing Policies in the Internet: Stability, Security, and Load-Balancing”*, Roma Tre University, Italy, 2014/6 (Ph.D. in Computer Science and Engineering; defended on 2014/6/9, reviewers: Dr. Sergey Gorinsky and Dr. Gordon Wilfong; advisee of Dr. Giuseppe Di Battista)

## PROFESSIONAL ACTIVITIES (continued)

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Dr. Tatiana Polishchuk, "*Enabling Multipath and Multicast Data Transmission in Legacy and Future Internet*", University of Helsinki, Finland, 2013/9 (Ph.D. in Computer Science; defended on 2013/9/9, pre-examiners: Dr. Sergey Gorinsky and Dr. Guillaume Urvoy-Keller; opponent: Dr. Bob Briscoe; instructor: Dr. Andrei Gurtov; supervisor: Dr. Jussi Kangasharju)

Dr. Arun Vishwanath, "*Routers and Networks with Near-Zero Buffers*", University of New South Wales, Australia, 2011/3 (Ph.D. in Electrical Engineering and Telecommunications; advisee of Dr. Vijay Sivaraman)

Dr. Ruibiao Qiu, "*Design Issues for Reserved Delivery Subnetworks*", Washington University in St. Louis, USA, 2006/5 (D.Sc. in Computer Science; defended on 2006/1/6; advisee of Dr. Jonathan Turner)

Dr. Edward Spitznagel, "*High Performance Packet Classification*", Washington University in St. Louis, USA, 2005/12 (D.Sc. in Computer Science; defended on 2005/6/21; advisee of Dr. Jonathan Turner)

Dr. Anshul Kantawala, "*Improving the Performance of Internet Data Transport*", Washington University in St. Louis, USA, 2005/5 (D.Sc. in Computer Science; defended on 2005/2/16; advisee of Dr. Jonathan Turner)

Dr. Prashanth Pappu, "*Scheduling Algorithms for CIOQ Switches*", Washington University in St. Louis, USA, 2004/8 (Ph.D. in Computer Engineering; defended on 2004/7/27; advisee of Dr. Jonathan Turner)

present – 2014 **Membership in Conference Steering Committees**

*COMSNETS Association*

present – 2006 **Service on Journal Editorial Boards**

*Journal of Communications, Journal of Internet Engineering*

present – 2007 **Chairing of Program Committees**

*ICNP 2017 Chair* (with Dr. Jörg Liebeherr)

*ICCCN 2017 Track Chair* (with Dr. Baochun Li)

*NetSciCom 2014 (INFOCOM Network Science for Communication Networks) Chair* (with Dr. Nishanth Sastry and Dr. Thrasyvoulos Spyropoulos)

*COMSNETS 2013 Chair* (with Dr. Prashant Shenoy and Dr. Srikrishna Bhashyam)

*E6 2012 (COMSNETS Energy in Communication, Information, and Cyber-physical Systems) Chair* (with Dr. Shivkumar Kalyanaraman)

*IMDEA Networks Workshop 2011 (Internet Science) Chair*

*ICCCN 2009 Vice-Chair* (with Dr. Lavy Libman, Dr. Yang Yang, and Dr. Xiaobo Zhou)

*HSN 2008 (INFOCOM High-Speed Networks) Chair* (with Dr. Ashwin Gumaste)

*FIAP 2008 (ICCCN Future Internet Architectures and Protocols) Chair* (with Dr. Tilman Wolf)

present – 2005 **Service on Program Committees**

*SIGCOMM 2016, 2012; CoNEXT 2017–2015; INFOCOM 2017–2006; ICNP 2017–2010, 2008 (Area Chair: 2016, 2013); Networking 2016, 2012, 2011; ICCCN 2017, 2009–2007; PAM 2017, 2014; IC2E 2017; ITC 28 (2016); AINTEC 2016; NetEcon 2015, 2011; NetSciCom 2014; W-PIN+NetEcon 2014; COMSNETS 2013–2009; ICDCS 2013, 2012; E6 2012; Global Internet 2012–2010; LANMAN 2011, 2008; ANTS 2011; HSN 2008, 2007; ICT 2008; NEW2AN 2008–2006; LCN 2005*

## PROFESSIONAL ACTIVITIES (continued)

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present – 1996

### **Other Conference and Workshop Organization**

General Chairing: *SIGCOMM 2018* (with Dr. Janos Tapolcai), *COMSNETS 2017* (with Dr. Niloy Ganguly and Dr. Ashutosh Sabharwal), and *WoWMoM 2013*

Chairing of Publications: *SIGCOMM 2017*, *SIGCOMM 2010*, and *INFOCOM 2008* (with Dr. Aleksandar Kuzmanovic)

Chairing of Publicity: *INFOCOM 2012* (with Dr. Lavy Libman and Dr. Yu Cheng) and *LAN-MAN 2011* (with Dr. Asis Nasipuri and Dr. Arata Koike)

Membership in Best Paper Award Committees: *CoNEXT 2015*; *ICNP 2015*, *2014*

Membership in Posters Committees: *SIGCOMM 2004*

Membership in Innovators Committees: *COMSNETS 2016*

Student Mentoring: *SIGCOMM 2016*

Judging of Student Research Competitions: ACM Student Research Competition, *SIGCOMM 2016*; Ph.D. Forum, *SustainIT 2015*

Service on Panels:

(3) **”Net Neutrality: Is it Good, Bad, or Confusing for the Telecom Industry?”**, *COMSNETS 2016* (with Dr. Henning Schulzrinne, Dr. V. Sridhar, Dr. D. Manjunath, Sean Blagsvedt, and Anand Agarwal; moderator: Vijay Mann)

(2) **”The Future of Information-Centric Networking”**, *ICNP 2013* (with Dr. K. K. Ramakrishnan, Dr. Dan Rubenstein, and Dr. Lixia Zhang; moderator: Dr. Ken Calvert)

(1) **”Is Network Science Really a Science or Just a Buzzword?”**, *NetSciCom 2013* (with Dr. Nishanth Sastry and Dr. Thrasyvoulos Spyropoulos; moderator: Dr. Ram Ramanathan)

Chairing of Sessions: *SIGCOMM 2016*, *2012*; *CoNEXT 2015*, *2014*; *INFOCOM 2014*, *2012–2010*, *2008–2006*; *ICNP 2016*; *Networking 2016*, *2012*; *CloudCom 2016*; *COMSNETS 2012*, *2011*; *e-Energy 2012*; *SustainIT 2015*; *NetSciCom 2014*; *NetEcon 2012*; *IWQoS 2012*; *E6 2012*; *RAIT 2012*; *NetSciCom 2011*; *ICCCN 2008*, *2007*; *HSN 2008*, *2007*; *ISCC 2005*

Assistance to Organizing Committees: *ICECCS 1996*

present – 1996

### **Reviewing**

Books: *Addison Wesley*, *Prentice Hall*, *John Wiley & Sons*

Journals: *IEEE/ACM Transactions on Networking*, *IEEE Journal on Selected Areas in Communications*, *ACM Transactions on Internet Technology*, *ACM Transactions on the Web*, *ACM Transactions on Modeling and Performance Evaluation of Computing Systems*, *IEEE Transactions on Communications*, *IEEE Transactions on Computers*, *IEEE Transactions on Parallel and Distributed Systems*, *IEEE Transactions on Multimedia*, *IEEE Transactions on Mobile Computing*, *IEEE Transactions on Network and Service Management*, *IEEE Transactions on Circuits and Systems for Video Technology*, *IEEE Transactions on Services Computing*, *IEEE Network*, *ACM Computer Communication Review*, *Wireless Networks*, *IEEE Communications Letters*, *Computer Networks*, *Journal of Internet Engineering*, *Journal of Computer and System Sciences*, *Simulation Modelling Practice and Theory*, *International Journal of Parallel Programming*, *Performance Evaluation*, *Theoretical Computer Science*, *ACM Computing Surveys*, *Journal of Scheduling*

Conferences and Workshops: *SIGCOMM*, *CoNEXT*, *INFOCOM*, *ICNP*, *ICDCS*, *Multimedia*, *COMSNETS*, *Networking*, *IC2E*, *ITC*, *AINTEC*, *NetEcon*, *W-PIN+NetEcon*, *PAM*, *NOSSDAV*, *IWQoS*, *Global Internet*, *DSN*, *ICC*, *HSN*, *ICCCN*, *GLOBECOM*, *NEW2AN*, *ANTS*, *ICT*, *LAN-MAN*, *RTAS*, *LCN*, *WIAPP*, *MMCN*, *ICECCS*

Research Funding Proposals: *European Commission* (Horizon 2020, FP7), *U.S. National Science Foundation*, *GENI Project Office* (Global Environment for Network Innovations), *Hungarian Scientific Research Fund*, *Swiss National Science Foundation*, *ETH Zurich Research Commission*



## PROFESSIONAL ACTIVITIES (continued)

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- Research Project Evaluation: *Information Technology Research Academy (ITRA-Mobile)*
- present – 2004 **Institutional Service**  
Coordinator (with Dr. Jaime Garcia), *IMDEA-UC3M Research Seminar Series 2016–2010*, IMDEA Networks Institute  
Committee member, *Undergraduate Council Study Group on Emerging Technologies and Teaching and Learning*, 2009–2006, Washington University in St. Louis  
Judge, *Graduate Student Research Symposium 2004*, Washington University in St. Louis
- 2010 – 2008 **Service on Professional Society Committees**  
*Vice-Chairmanship, IEEE Communications Society (ComSoc) Technical Committee on High-Speed Networking (TCHSN)*
- present – 1997 **Membership in Professional Societies**  
ACM and its SIGCOMM; IEEE and its Communications Society
- present – 1995 **Attendance of Conferences and Workshops**  
*SIGCOMM 2016, 2015, 2013–2011, 2009–1999; CoNEXT 2015, 2014; INFOCOM 2014–2010, 2008–2005, 2002, 2001, 1997; ICNP 2016, 2013, 2007, 1998; COMSNETS 2016, 2013–2011; Networking 2016, 2014, 2012, 2010; CloudCom 2016; RIPE 73 (2016); Neutral Peering Days 2016; HotOS XV (2015); EPF10 (2015); MTA-BME Future Internet Research 2015; SustainIT 2015; NetSciCom 2014, 2013, 2011, 2010; CCSES 2014; CNTCV 2014; CoNEXT Student Workshop 2014; Space Internetworking 2014; NPSec 2013; DEV 2013; WoWMoM 2013; 1st Internet Science Conference (2013); CSWS 2013; iGov2 2013; e-Energy 2012; E6 2012; NetEcon 2012; IWQoS 2012, 2007; RAIT 2012; WISARD 2012; IMDEA Networks Workshop 2016, 2015 (Big Data and Cloud Computing), 2012 (Data), 2011 (Internet Science), 2010 (Energy Efficiency and Networking); WIE 2011; W-MUST 2011; EaGL-SysNet 2011; 2021, 2020 Networking Summit (2011, 2010); R2S 2010; ICCCN 2008, 2007, 1997, 1996; HSN 2008–2006; ICNS 2008; CCW 2007; SIGMETRICS 2005; ISCC 2005, 1998; GLOBECOM 2005; ICSE 2005; ICAS/ICNS 2005; PERCOM 2005; NEW2AN 2004; PINS 2004; RTSS 2002, 1996; HotNets-I; NGC 2002; NOSSDAV 2001, 2000; RAPMS 1996; ICECCS 1996, 1995; RSP 1995*

## SELECTED TALKS

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- 2016/7/26 **“Transit, CDN, IXP, and Other Beasts of the Internet Ecosystem”** (*invited talk*)  
*Applied Research Center for Computer Networks (ARCCN), Moscow, Russia*
- 2016/6/9 **“Route Bazaar”** (*invited talk*)  
*IMDEA Networks Workshop 2016, IMDEA Networks Institute, Leganes, Madrid, Spain*
- 2016/1/8 **“Estimating the Real with the Virtual: How does the Accuracy Relate to the Internet Penetration?”**  
*COMSNETS 2016, Bangalore, India*
- 2015/9/22 **“Remote Peering: Findings and Questions”** (*with Dr. Ignacio Castro*)  
*European Peering Forum (EPF10), Madrid, Spain*
- 2015/9/2 **“Routes and Interconnectivity: An Internet Trend and an Architectural Proposal”** (*invited talk*)  
*Ericsson Hungary Research, Budapest, Hungary*
- 2015/8/13 **“Routes and Interconnectivity: An Internet Trend and an Architectural Proposal”** (*invited talk*)  
*University of Cambridge, Cambridge, United Kingdom*

SELECTED TALKS (continued)

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- 2015/1/5      **“Remote Peering: More Peering without Internet Flattening”** (*invited talk*)  
*Budapest University of Technology and Economics (BME)*, Budapest, Hungary
- 2014/12/1     **“Remote Peering: More Peering without Internet Flattening”** (*invited talk*)  
*NICTA*, Sydney, Australia
- 2014/6/10     **“Service Differentiation in the Internet for All”** (*invited talk*)  
*Space Internetworking 2014*, Xanthi, Greece
- 2014/6/3      **“Economics of Traffic Attraction by Transit Providers”**  
*Networking 2014*, Trondheim, Norway
- 2014/5/5      **“Innovations in Internet Interconnections”** (*invited talk*)  
*University of Toronto*, Toronto, Canada
- 2014/4/29     **“Trade-offs in Optimizing the Cache Deployments of CDNs”**  
*INFOCOM 2014*, Toronto, Canada
- 2014/2/28     **“The Internet as a Science, in Europe”** (*invited talk*)  
*National Research University of Electronic Technology (MIET)*, Moscow, Russia
- 2013/10/7     **“Internet Traffic Management: Security vs. Economics”** (*keynote address*)  
*NPsec 2013*, Göttingen, Germany
- 2013/8/29     **“Innovations in Internet Interconnections”** (*invited talk*)  
*University of Oslo (UiO)*, Oslo, Norway
- 2013/8/27     **“Innovations in Internet Interconnections”** (*invited talk*)  
*Simula Research Laboratory*, Fornebu, Norway
- 2012/9/7      **“T4P and CIPT: New Economic Models for Network Interconnection”** (*invited talk*)  
*Budapest University of Technology and Economics (BME)*, Budapest, Hungary
- 2012/9/6      **“T4P and CIPT: New Economic Models for Network Interconnection”** (*invited talk*)  
*Eotvos Lorand University (ELTE)*, Budapest, Hungary
- 2012/6/4      **“AIST: Insights into Queuing and Loss on Highly Multiplexed Links”**  
*IWQoS 2012*, Coimbra, Portugal
- 2012/5/24     **“Obscure Giants: Detecting the Provider-Free ASes”**  
*Networking 2012*, Prague, Czech Republic
- 2012/3/15     **“On the Real Side of the Internet”** (*keynote address*)  
*RAIT 2012*, Dhanbad, Jharkhand, India
- 2012/3/15     **“Technologies and Economics of Internet Content Dissemination”** (*tutorial*)  
*RAIT 2012*, Dhanbad, Jharkhand, India
- 2011/12/2     **“CIPT: Using Tuangou to Reduce IP Transit Costs”** (*invited talk*)  
*WIE 2011*, La Jolla, California, USA
- 2011/9/9      **“Traffic Attraction through Prefix Deaggregation: An Economic Perspective”** (*invited talk*)  
*Basque Center for Applied Mathematics (BCAM)*, Bilbao, Spain
- 2011/9/6      **“Traffic Attraction through Prefix Deaggregation: An Economic Perspective”** (*invited talk*)  
*Eotvos Lorand University (ELTE)*, Budapest, Hungary
- 2011/1/19     **“Networking and Meaning of Life”** (*invited talk*)  
*2nd Workshop on Far-Out Research Ideas*, Institute IMDEA Networks, Leganes, Madrid, Spain
- 2010/11/19    **“Institute IMDEA Networks and its Research (Assistants)”** (*invited talk*)  
*Madrid Science Week*, Carlos III University of Madrid, Leganes, Madrid, Spain

SELECTED TALKS (continued)

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- 2010/11/10      **“Technico-Economic Design of Network Protocols and Algorithms”** (*invited talk*)  
*IMDEA-AETIC-UC3M Technology Transfer Symposium*, Leganes, Madrid, Spain
- 2009/11/11      **“Research at IMDEA Networks: Activities and Opportunities”** (*invited talk*)  
*Madrid Science Week*, Carlos III University of Madrid, Leganes, Madrid, Spain
- 2009/3/19        **“Innovating the Multi-Provider Internet: RD Network Services and their Incremental Deployment Incentives”** (*interview talk*)  
*Pompeu Fabra University*, Barcelona, Spain
- 2009/3/17        **“Innovating the Multi-Provider Internet: RD Network Services and their Incremental Deployment Incentives”** (*interview talk*)  
*Institute IMDEA Networks*, Leganes, Madrid, Spain
- 2009/3/16        **“Innovating the Multi-Provider Internet: RD Network Services and their Incremental Deployment Incentives”** (*interview talk*)  
*Telefonica Research*, Barcelona, Spain
- 2008/12/18      **“Innovating the Multi-Provider Internet”** (*invited talk*)  
*University of Konstanz*, Konstanz, Germany
- 2008/11/21      **“Innovating the Multi-Provider Internet”** (*interview talk*)  
*Katholieke Universiteit Leuven (K.U.Leuven)*, Heverlee, Leuven, Belgium
- 2008/11/13      **“Innovating the Multi-Provider Internet: RD Network Services and their Incremental Deployment Incentives”** (*invited talk*)  
*Massachusetts Institute of Technology (MIT)*, Cambridge, Massachusetts, USA
- 2008/10/16      **“RD Network Services: Differentiation through Performance Incentives”** (*invited talk*)  
*Intel Research Berkeley*, Berkeley, California, USA
- 2008/10/10      **“RD Network Services: Differentiation through Performance Incentives”** (*invited talk*)  
*University of Texas at Austin*, Austin, Texas, USA
- 2008/8/4         **“Addressing Heterogeneity, Scalability, and Privacy in Layered Multicast Congestion Control”**  
*ICCCN 2008*, St. Thomas, Virgin Islands, USA
- 2008/3/17        **“Effairness: Dealing with Time in Congestion Control Evaluation”**  
*ICNS 2008*, Gosier, Guadeloupe, France
- 2007/8/14        **“Fair Efficiency, or Low Average Delay without Starvation”**  
*ICCCN 2007*, Kahuku, Hawaii, USA
- 2007/5/11        **“A Network Architecture for Large-Scale Science”**  
*HSN 2007*, Anchorage, Alaska, USA
- 2007/2/5         **“Fair Efficiency, or Low Average Delay without Starvation”** (*invited talk*)  
*CCW 2007*, Pittsburgh, Pennsylvania, USA
- 2006/11/8        **“Bulk-Data Metanet: Virtualization by Example”** (*invited talk*)  
*NSF FIND kickoff meeting of Principal Investigators*, Chantilly, Virginia, USA
- 2006/4/24        **“Dedicated Channels as an Optimal Network Support for Effective Transfer of Massive Data”**  
*INFOCOM 2006*, Barcelona, Spain
- 2005/7/30        **“Washington University in St. Louis: Graduate Studies and Beyond”** (*invited talk*)  
*U.S. Education Advising Center*, Moscow, Russia
- 2005/6/29        **“Link Buffer Sizing: A New Look at the Old Problem”**  
*ISCC 2005*, La Manga del Mar Menor, Spain

## SELECTED TALKS (continued)

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- 2004/2/20      **“Robust Congestion Control for IP Multicast”** (*invited talk*)  
*University of North Carolina, Chapel Hill, North Carolina, USA*
- 2004/2/6      **“Feedback Modeling in Internet Congestion Control”**  
*NEW2AN 2004, St. Petersburg, Russia*
- 2003/8/26      **“Robustness to Inflated Subscription in Multicast Congestion Control”**  
*SIGCOMM 2003, Karlsruhe, Germany*
- 2003/8/6      **“Robust Congestion Control for IP Multicast”** (*Ph.D. defense*)  
*University of Texas at Austin, Austin, Texas, USA*
- 2003/4 – 2003/2      **“Robust Congestion Control for Multicast Communications”** (*interview talk*)  
*Eleven universities in the USA and Canada*
- 2002/10/24      **“Multicast Congestion Control with Distrusted Receivers”**  
*NGC 2002, Boston, Massachusetts, USA*
- 2001/11/8      **“Effairness: A Metric for Congestion Control Evaluation in Dynamic Networks”** (*invited talk*)  
*Stanford University, Stanford, California, USA*
- 2001/6/25      **“The Utility of Feedback in Layered Multicast Congestion Control”**  
*NOSSDAV 2001, Port Jefferson, New York, USA*
- 2000/11/20      **“Efficient and Scalable Multicast Congestion Control”** (*Ph.D. proposal*)  
*University of Texas at Austin, Austin, Texas, USA*
- 1997/9/23      **“Boosting the Network Performance via Traffic Reshaping”**  
*ICCCN 1997, Las Vegas, Nevada, USA*
- 1997/4/10      **“Exact and Efficient Analysis of Schedulability in Fixed-Packet Networks”**  
*INFOCOM 1997, Kobe, Japan*
- 1996/12/3      **“Traffic Reshaping in Packet-Switched Virtual-Circuit Fixed-Packet Network”**  
*RAPMS 1996, Washington, DC, USA*
- 1995/6/8      **“Development of a Real-Time Motion Image Encoder Using Codesign Methodology”**  
*RSP 1995, Chapel Hill, North Carolina, USA*

## TEACHING EXPERIENCE

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- 2009/5 – 2009/1      **“Protocols for Computer Networks”**, Washington University in St. Louis  
*Graduate networking course; experimental evaluation in the Open Network Laboratory (ONL); 4 (1 undergraduate and 3 graduate) students*
- 2008/12 – 2008/9      **“Introduction to Computer Networks”**, Washington University in St. Louis  
*Undergraduate senior-level networking course; broad coverage of Internet designs; experimental assignments in the Open Network Laboratory (ONL); 15 (11 undergraduate and 4 graduate) students; 1 teaching assistant*
- 2008/5 – 2008/1      **“Protocols for Computer Networks”**, Washington University in St. Louis  
*Graduate networking course; experimental evaluation in ONL; 12 (6 undergraduate and 6 graduate) students*
- 2007/12 – 2007/9      **“Introduction to Computer Networks”**, Washington University in St. Louis  
*Undergraduate senior-level networking course; broad coverage of Internet designs; assignments in ONL; 16 (11 undergraduate and 5 graduate) students; 1 teaching assistant*

## TEACHING EXPERIENCE (continued)

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- 2007/12 – 2004/9 **“Research Seminar on Networking”**, Washington University in St. Louis  
*Discussion of networking research publications*
- 2007/5 – 2007/1 **“Protocols for Computer Networks”**, Washington University in St. Louis  
*Graduate networking course; experimental evaluation in ONL; 21 (3 undergraduate and 18 graduate) students; 2 teaching assistants*
- 2006/12 – 2006/9 **“Introduction to Computer Networks”**, Washington University in St. Louis  
*Undergraduate senior-level networking course; broad coverage of Internet designs; assignments in ONL; 18 (7 undergraduate and 11 graduate) students; 2 teaching assistants*
- 2006/5 – 2006/1 **“Protocols for Computer Networks”**, Washington University in St. Louis  
*Graduate networking course; experimental evaluation in ONL; 19 (3 undergraduate and 16 graduate) students; 1 teaching assistant*
- 2005/5 – 2005/1 **“Protocols for Computer Networks”**, Washington University in St. Louis  
*Graduate networking course; experimental evaluation in PlanetLab; 20 (3 undergraduate and 17 graduate) students; 1 teaching assistant*
- 2004/12 – 2004/9 **“Introduction to Computer Networks”**, Washington University in St. Louis  
*Undergraduate senior-level networking course; broad coverage of Internet designs; 51 (32 undergraduate and 19 graduate) students; 4 teaching assistants*
- 2004/5 – 2004/1 **“Advanced Topics in Networking”**, Washington University in St. Louis  
*Graduate networking course; experimental evaluation in ns-2; 12 (6 undergraduate and 6 graduate) students*
- 2003/12 – 2003/9 **“Introduction to Computer Networks”**, Washington University in St. Louis  
*Undergraduate senior-level networking course; broad coverage of Internet designs; 52 (37 undergraduate and 15 graduate) students; 4 teaching assistants*
- 2002/5 – 2002/1 **“Current Topics in Computer Science”**, University of Texas at Austin  
Supervisors: Dr. Lorenzo Alvisi, Dr. Michael Dahlin, and Dr. Bruce Porter  
*Graduate course in support of faculty hiring*
- 1998/5 – 1997/6 **“Introduction to Computer Science”**, University of Texas at Austin  
Supervisors: Dr. Bruce Porter and Dr. Roger Priebe  
*Undergraduate classroom and lab sessions covering new material*
- 1997/5 – 1995/9 **“Data Communications”** and **“Introduction to Computability and Complexity”**, NJIT  
Supervisors: Dr. Boris Verkhovsky and Dr. Alex Stoyenko  
*Undergraduate and graduate course material preparation and serving as a lecturer on call*