

PREDRAG R. JELENKOVIC

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Research Interests: Mathematical foundations of complex information networks and systems, statistical learning theory, biomedical data analytics, wireless networks, biological networks, distributed computing, information ranking, average case analysis of algorithms, heavy tails, queueing theory, applied probability

Education

- 1996 PhD in Electrical Engineering, Columbia University
Thesis title: The Effect of Multiple Time Scales and Subexponentiality on the Behavior of a Broadband Network Multiplexer
- 1995 MPh in Electrical Engineering, Columbia University, GPA 4.07
- 1993 MS in Electrical Engineering, Columbia University, GPA 4.07
- 1991 Dipl. Ing. in Electrical Engineering, Belgrade University, Belgrade, Yugoslavia
section: Electronics, class rank: Top 1% (out of 300 students)

Awards

- 2009 Google Faculty Award
- 2007 IBM Pat Goldberg Memorial Best Paper Award
- 2007 Co-author of a paper that won the Best Student Paper Award at the International Teletraffic Congress, Ottawa, Canada
Also, Top 3 Paper at the conference (out of 98 accepted papers), selected for presentation in a plenary session
- 2006 Top 3 Paper at INFOCOM'2006 (out of 1400 submissions), selected for fast track publication in IEEE/ACM Transactions on Networking
- 2004 IBM Faculty Award
- 2001 Co-author of a paper that was first runner-up for the Best Student Paper Award, International Teletraffic Congress, Salvador da Bahia, Brazil
- 2000 NSF Presidential Early Career Award for Scientists and Engineers (PECASE)
- 1999 Best Paper Award, Bell Labs Technical Journal
- 1999 NSF Faculty Early Career Development Award
- 1997 Best Student Paper Award, International Teletraffic Congress, Washington D.C.
- 1996 Eliahu Jury Award for the best PhD thesis in Systems, Communication and Signal Processing, Department of Electrical Engineering, Columbia University
- 1993 The Edwin Howard Armstrong Award for an outstanding academic record, Columbia University

Research Grants

2015-2018	Queues in Cloud Computing, jointly with M. Olvera-Cravioto, NSF (\$300,000)
2011-2014	Ranking Large Information Sets, jointly with M. Olvera-Cravioto, NSF (\$325,000)
2009-2014	Removing Inherent Instabilities in Communication Networks, NSF (\$374,474)
2009	Auction Radio, Google Research (\$40,000)
2006-2009	Design, Analysis and Control of Adaptive Sharing Mechanisms, jointly with E. G. Coffman, V. Misra and D. Rubenstein, NSF (\$710,000)
2004-2007	Funneling Impulses in Sensor Networks, jointly with N. Maxemchuk, V. Misra and D. Rubenstein, NSF (\$750,000)
2004	IBM Faculty Award (\$30,000)
2001-2004	Computational Analysis and Simulation of Bacterial Molecular Networks, jointly with D. Anastassiou, A. Rzhetsky and C. Zukowski, DOE (\$720,000)
2001-2005	The Columbia Hotspot Rescue Service, jointly with E. G. Coffman, J. Nieh, D. Rubenstein and H. Schulzrinne, NSF (\$1,400,000)
2001-2004	Network Caching for Efficient Internet Multimedia Content Delivery, jointly with E. G. Coffman, NSF (\$300,000)
2000	Lucent Grant in Science and Engineering, Lucent Technologies (\$20,000)
1999-2004	Modeling, Analysis and Control of Subexponential Traffic Streams in Multimedia Networks, Presidential Early Career Award/NSF CAREER Award (\$500,000)

Professional Employment

2008-present	Professor, Department of Electrical Engineering, Columbia University, New York
2003-present	Professor, Department of Industrial Engineering and Operations Research, Electrical Engineering, Columbia University, New York (courtesy appointment)
2001-2008	Associate Professor, Department of Electrical Engineering, Columbia University, New York (tenured 2002)
1998-2001	Assistant Professor, Department of Electrical Engineering, Columbia University, New York
1996 - 1998	Member of Technical Staff, Bell Labs, Lucent Technologies, Mathematical Sciences Research Center, Department of Networks and Systems Research
Summer 94	Summer Intern, AT&T Bell Laboratories, Mathematical Sciences Research Center
Summer 93	Summer Intern, C&C Research Laboratories, NEC USA, Inc
1991-1996	Graduate Research Assistant, Department of Electrical Engineering and Center for Telecommunications Research, Columbia University

Teaching

E6690: Statistical Learning for Biological and Information Systems (*new course*)
(year[students]: 17[51])

E6950: Wireless and Mobile Networking I
 (year[students]: 17[10], 16[27], 15[25], 14[22], 13[35], 12[30], 11[52], 10[40],
 09[31], 08[13], 07[30], 06[29], 05[30], 02[27])

E6010: Systems Biology: Design Principles of Biological Circuits
 (year[students]: 16[8], 15[10], 14[11], 13[13], 11[10], 10[8], 09[11], 08[10])

E6999: Fieldwork (year[students]: 15[17], 14[13])

E6951: Wireless and Mobile Networking II (year[students]: 04[36])

W3658: Probability (year[students]: 98[35], 04[30])

E6711: Stochastic Signals and Noise (year[students]: 98[25], 99[16], 00[21], 01[28])

E6902: Math. Modeling of Gene Regulatory Networks (year[students]: 03[10], 05[9])

E6081: Computational Methods for Biomol. and Info. Networks: (year[students]: 06[7])

E6781: Topics in Modeling and Analysis of Random Phenomena (year[students]: 00[5])

E6768: Topics in Telecommunication Networks (year[students]: 01[14])

E6762: Broadband Networks (year[students]: 02[7])

Former and Current PhD Students

Petar Momcilovic	graduated in June 2003, Associate Professor at the University of Florida, Gainesville (Jury Award*)
Ana Radovanovic	graduated in December 2004, Google Research, New York (Jury Award*)
Xiaozhu Kang	graduated in December 2008, Intel Research, Oregon
Jian Tan	graduated in January 2009, IBM Research, New York (Jury Award*)
Evangelia Skiani	graduated in June 2015, Strategy Research, Goldman Sachs, New York (Jury Award*)

Professional Activities

Reviewer for networking/performance conferences, IEEE/ACM and Applied Probability journals

Participated in NSF panel reviews

Technical program committee member:

IEEE INFOCOM'1999-2005, 2007-2009

MobiHoc'2008, NYMAN'2003, MAMA'2004-2009, ITC'2009, Performance'2013-2014, WiOpt'2015, EuCNC'2016

Member of the IEEE, INFORMS

Service at the Dept. of Electrical Engineering at Columbia University: Chair of the TA assignment committee (1998-2000), Chair of the PhD admissions committee (2007-2010), Chair of the MS admissions committee (2012-13), Member of the Undergraduate curriculum committee (2011-), Member of the Graduate curriculum committee (2013-), Member of MS advising committee (2012-), Member of the MS admissions committee (2012-)

* Annual award for the best PhD thesis in the areas of Systems, Communications, Signal Processing, or Circuits, in the Department of Electrical Engineering, Columbia University.

Patents

“Algorithmic Modeling of TES Processes for Simulation Analysis”, C&C Research Laboratories, NEC (US Patent 5,784,596, 1998)

“Method for Dynamically Allocating Carriers in a Wireless Packet Network, with Reuse of Carriers”, Bell Labs, Lucent Technologies (US Patent 6,496,490, 2002)

Publications

Archival Journals

- [J1] P. R. Jelenkovic and B. Melamed, “Algorithmic Modeling of TES Processes”, *IEEE Transactions on Automatic Control*, Vol. 40, No. 7, pp. 1305 - 1312, July 1995.
- [J2] P. R. Jelenkovic, A. A. Lazar, and N. Semret, “The Effect of Multiple Time Scales and Subexponentiality of MPEG Video Streams on Queueing Behavior”, *IEEE Journal on Selected Areas in Communications*, Special Issue on Video Modeling, Vol. 15, No. 6, August 1997.
- [J3] P. R. Jelenkovic and A. A. Lazar, “Subexponential Asymptotics of a Markov-Modulated Random Walk with Queueing Applications”, *Journal of Applied Probability*, Vol. 35, No. 2, pp. 325-347, 1998.
- [J4] P. Whiting, P. R. Jelenkovic, M. Andrews, K. Kumaran, F. Dominique and S. Borst, “Dynamic Bandwidth Allocation Algorithms for High Speed Wireless Data Networks”, *Bell Labs Technical Journal*, Vol. 3, No. 3, pp. 30-49, July-September, 1998 (Best Paper Award).
- [J5] E. G. Coffman Jr., L. Flatto, P. R. Jelenkovic and B. Poonen “Packing Random Intervals On-Line”, *Algorithmica*, Special Issue on Average Case Analysis of Algorithms, Vol 22, No. 4, pp. 448-476, December 1998.
- [J6] B. M. Hochwald and P. R. Jelenkovic, “State Learning and Mixing in Entropy of Hidden Markov Processes and the Gilbert-Elliott Channel”, *IEEE Transactions on Information Theory*, Vol. 45, No. 1, pp. 128-138, January 1999.
- [J7] P. R. Jelenkovic and A. A. Lazar, “Asymptotic Results for Multiplexing Subexponential On-Off Processes”, *Advances in Applied Probability*, Vol. 31, No. 2, pp. 394-421, 1999.
- [J8] P. R. Jelenkovic, “Subexponential Loss Rates in a GI/GI/1 Queue with Applications”, *Queueing Systems*, Special Issue on Long-Tailed Distributions, Vol. 33, pp. 91-123, 1999.
- [J9] P. R. Jelenkovic “Asymptotic Approximation of the Move-To-Front Search Cost Distribution and Least-Recently-Used Caching Fault Probabilities”, *Annals of Applied Probability*, Vol. 9, No. 2, pp. 430-464, 1999.
- [J10] E. G. Coffman Jr., P. R. Jelenkovic and B. Poonen, “Reservation Probabilities”, *Advances in Performance Analysis*, Vol. 2, No. 2, 1999.
- [J11] E. G. Coffman Jr. and P. R. Jelenkovic, “Performance of the Move-To-Front Algorithm with Markov-Modulated Request Sequences”, *Operations Research Letters*, Vol. 25, pp. 109-118, 1999.
- [J12] E. G. Coffman Jr., L. Flatto and P. R. Jelenkovic, “Interval Packing: The Vacant Interval Distribution”, *Annals of Applied Probability*, Vol. 10, No. 1, pp. 240-257, 2000.
- [J13] E. G. Coffman Jr. and P. R. Jelenkovic, “Threshold Interval Packing and Reservation Algorithms”, *Performance Evaluation Review*, Vol. 28, No. 4, 2001.

- [J14] E. G. Coffman Jr., P. R. Jelenkovic and P. Momcilovic, "The Dyadic Stream Merging Algorithm", *Journal of Algorithms*, Vol. 43, pp. 120-137, 2002.
- [J15] P. R. Jelenkovic and P. Momcilovic, "Finite Buffer Queue with Generalized Processor Sharing and Heavy-Tailed Input Processes", *Computer Network Journal*, Special Issue on Long-Range Dependent Traffic, Vol. 40, No. 3, pp. 433-443, 2002.
- [J16] S. Borst, O. Boxma and P. R. Jelenkovic, "Reduced-Load Equivalence and Induced Burstiness in Generalized Processor Sharing Queues with Long-Tailed Traffic Flows", *Queueing Systems*, Vol. 43, pp. 273-306, 2003.
- [J17] P. R. Jelenkovic and P. Momcilovic, "Asymptotic Loss Probability in a Finite Buffer Queue with Heavy-Tailed Fluid On-Off Processes", *Annals of Applied Probability*, Vol. 13, No. 2, May 2003.
- [J19] P. R. Jelenkovic and P. Momcilovic, "Large Deviation Analysis of Subexponential Waiting Times in a Processor Sharing Queue", *Mathematics of Operations Research*, Vol. 28, No. 3, August 2003.
- [J18] Baryshnikov Y, E. G. Coffman Jr. and P. R. Jelenkovic, "Space Filing and Depletion", *Journal of Applied Probability*, Vol. 41, No. 3, pp. 691-702, 2004.
- [J20] P. R. Jelenkovic, P. Momcilovic and B. Zwart, "Reduced Load Equivalence under Subexponentiality", *Queueing Systems*, Vol. 46, pp. 97-112, 2004.
- [J21] P. R. Jelenkovic and A. Radovanovic, "Least-Recently-Used Caching with Dependent Requests", *Theoretical Computer Science*, Vol. 326, Issues 1-3, pp 293-327, October 2004.
- [J22] P. R. Jelenkovic and A. Radovanovic, "Optimizing LRU Caching for Variable Page Sizes", *Combinatorics, Probability and Computing*, Vol. 13, No. 4-5, pp. 627-643, 2004.
- [J23] P. R. Jelenkovic and P. Momcilovic, "Large Deviations of Square Root Insensitive Random Sums", *Mathematics of Operations Research*, Vol. 29, No. 2, pp. 398-406, May 2004.
- [J24] P. R. Jelenkovic, A. Mandelbaum and P. Momcilovic, "Heavy Traffic Limits for Queues with Many Deterministic Servers", *Queueing Systems*, Vol. 47, Issue 1-2, 2004.
- [J25] Y. Baryshnikov, E. G. Coffman Jr, P. R. Jelenkovic, P. Momcilovic and D. Rubenstien, "Flood Search under the California Split Strategy", *Operations Research Letters*, Vol. 32, Issue 3, pp. 199-206, 2004.
- [J26] P. R. Jelenkovic, X. Kang and A. Radovanovic, "Near Optimality of the Discrete Persistent Access Caching Algorithm", *Discrete Mathematics and Theoretical Computer Science*, Vol. AD, pp. 201-222, 2005.
- [J27] P. R. Jelenkovic, A. Radovanovic and M. S. Squillante, "Critical Sizing of LRU Caches for Dependent Requests", *Journal of Applied Probability*, Vol. 43, No. 4, pp. 1013-1027, December 2006.
- [J28] P. R. Jelenkovic, P. Momcilovic and M. S. Squillante, "Scalability of Wireless Networks", *IEEE/ACM Transactions on Networking*, Vol. 15, No. 2, pp. 295-308, April 2007.
- [J29] P. R. Jelenkovic and A. Radovanovic, "The Persistent-Access-Caching Algorithm", *Random Structures and Algorithms*, Vol. 33, No. 2, pp. 219-251, September 2008.
- [J30] P. R. Jelenkovic, X. Kang and J. Tan, "Heavy-Tailed Limits for Medium Size Jobs and Comparison Scheduling", *Annals of Operations Research*, Special Issue on Stochastic Performance Models for Resource Allocation in Communication Systems, Vol. 170, No. 1, pp. 133-159, September 2009.

- [J31] P. R. Jelenkovic, A. Radovanovic , “Asymptotic Optimality of the Static Frequency Caching in the Presence of Correlated Requests”, *Operations Research Letters*, Vol. 37, Issue 5, September 2009.
- [J32] P. R. Jelenkovic and J. Tan, “Modulated Branching Processes, Origins of Power Laws and Queueing Duality”, *Mathematics of Operations Research*, Vol. 35, No. 4, pp. 807-829, 2010.
- [J33] P. R. Jelenkovic and M. Olvera-Cravioto, “Information Ranking and Power Laws on Trees”, *Advances in Applied Probability*, Vol. 42, No. 4, pp. 1057-1093, 2010.
- [J34] P. R. Jelenkovic and M. Olvera-Cravioto, “Implicit Renewal Theory and Power Tails on Trees”, *Advances in Applied Probability*, Vol. 44, No. 2, 2012.
- [J35] P. R. Jelenkovic and M. Olvera-Cravioto, “Implicit Renewal Theorem for Trees with General Weights”, *Stochastic Processes and their Applications*, Vol. 122, No. 9, pp. 3209-3238, 2012.
- [J36] P. R. Jelenkovic and M. Olvera-Cravioto, “Power Laws on Weighted Branching Trees”, *Springer Proceedings in Mathematics and Statistics*, (invited paper), Vol. 53, pp. 159-187, 2013.
- [J37] P. R. Jelenkovic and J. Tan, “Characterizing Heavy-Tailed Distributions Induced by Retransmissions”, *Advances in Applied Probability*, Vol. 45, No. 1, pp. 106-138, 2013.
- [J38] P. R. Jelenkovic and M. Olvera-Cravioto, “Convergence Rates in the Implicit Renewal Theorem on Trees”, *Journal of Applied Probability*, Vol. 50, No. 4, pp. 1077-1088, 2013.
- [J39] P. R. Jelenkovic and M. Olvera-Cravioto, “Maximums on Trees”, *Stochastic Processes and their Applications*, Vol. 125, No. 1, pp. 217-232, 2015.
- [J40] P. R. Jelenkovic and E. D. Skiani, “Distribution for the Number of Retransmissions of Bounded Documents”, *Advances in Applied Probability*, Vol. 47, No. 2, pp. 425-449, June 2015.
- [J41] P. R. Jelenkovic and E. D. Skiani, “Instability of Sharing Systems in the Presence of Retransmissions”, *Queueing Systems*, Vol. 81, No. 2, pp. 171-202, November 2015.
- [J42] L. Mohapatra, B. L. Goode, P. R. Jelenkovic, R. Phillips, J. Kondev, “Design Principles of Length Control of Cytoskeletal Structures”, *Annual Review of Biophysics*, Vol. 45, pp. 85-116, June 2016.
- [J43] L. Mohapatra, T. J. Lagny, D. Harbage, P. R. Jelenkovic, J. Kondev, “The Limiting Pool Mechanism Fails to Control the Size of Multiple Organelles”, *Cell Systems*, Vol. 4, No. 5, pp. 559-567.e14, 2017.

Submitted or in Preparation for Archival Journals

- [J44] P. Momcilovic, L. Mohapatra, P. R. Jelenkovic, and J. Kondev, “Scaling Laws for Organelle Growth in a Limited Pool of Monomers”, submitted.
- [J45] P. R. Jelenkovic, “Stability of Sharing Processors with Failures”, in preparation.
- [J46] D. Harbage, P. R. Jelenkovic, and J. Kondev, “Antenna Mechanism of Length Control of Actin Cables”, in preparation.
- [J47] L. Mohapatra, P. R. Jelenkovic, and J. Kondev, “Nucleolus Growth in C-Elegans”, in preparation.
- [J48] P. R. Jelenkovic, P. Momvilovic and M. Olvera-Cravioto, “Explicit Solutions to Weighted Branching Recursions”, in preparation.
- [J49] P. R. Jelenkovic, “Mean Value Equivalence of LRU Caching”, in preparation.
- [J50] P. R. Jelenkovic, “Ratio Limit Invariance for Move-To-Front Lists”, in preparation.
- [J51] P. R. Jelenkovic, “Precise Characterization of the Departure Process of an LRU Cache”, in

preparation.

Refereed Articles in Edited Books

- [B1] P. R. Jelenkovic and A. A. Lazar, "Multiple Time Scale and Subexponential Asymptotic Behavior of a Network Multiplexer", *Stochastic Networks: Stability and Rare Events*, Lecture Notes, Springer-Verlag, editors: S. Brown, P. Glasserman, K. Sigman, and D. D. Yao, 1996.
- [B2] P. R. Jelenkovic, "Asymptotic Results for Queues with Subexponential Arrivals", *Self-Similar Network Traffic and Performance Evaluation*, editors: K. Park and W. Willinger, John Wiley & Sons, 2000.

Conference Publications

- [C1] P. R. Jelenkovic and A. Weiss, "Large Deviation Analysis of Slotted Aloha Protocols", abstract in *Proceedings of the Third INFORMS Telecommunications Conference*, Boca Raton, Florida, March 20-22, 1995.
- [C2] P. R. Jelenkovic and A. A. Lazar, "On the Dependence of the Queue Tail Distribution on Multiple Time Scales of ATM Multiplexers", in *Proceedings of the 29th Annual Conference on Information Sciences and Systems*, Baltimore, Maryland, March 22-24, p. 746, 1995.
- [C3] P. R. Jelenkovic and B. Melamed, "Automated TES Modeling of Compressed Video", in *Proceedings of INFOCOM'95*, Boston, Massachusetts, pp. 746-752, April 2-5, 1995.
- [C4] P. R. Jelenkovic and A. A. Lazar, "Subexponential Asymptotics of a Network Multiplexer", in *Proceedings of the 33rd Annual Allerton Conference on Communication, Control, and Computing*, Urbana-Champaign, Illinois, October 1995.
- [C5] P. R. Jelenkovic and A. A. Lazar, "Evaluating the Queue Length Distribution of an ATM Multiplexer with Multiple Time Scale Arrivals", in *Proceedings of INFOCOM'96*, San Francisco, California, March 1996.
- [C6] P. R. Jelenkovic, A. A. Lazar, and N. Semret, "Multiple Time Scales and Subexponentiality in MPEG Video Streams", in *Proceedings of the International IFIP-IEEE Conference on Broadband Communications*, Montreal, Quebec, Canada, April 1996.
- [C7] P. R. Jelenkovic and A. A. Lazar, "On the Nonlinear Dynamics of Network Flow Control Algorithms", in *Proceedings of the 30th Annual Conference on Information Sciences and Systems*, Princeton, New Jersey, 1996.
- [C8] P. R. Jelenkovic and A. A. Lazar, "Multiplexing On-Off Sources with Subexponential On Periods: Part I", in *Proceedings of INFOCOM'97*, Kobe, Japan, April 1997.
- [C9] P. R. Jelenkovic and A. A. Lazar, "Multiplexing On-Off Sources with Subexponential On Periods: Part II", in *Proceedings of ITC 15*, Washington, D.C., USA, June 1997 (**Best Student Paper Award**).
- [C10] P. R. Jelenkovic and A. A. Lazar, "Asymptotic Results for Multiplexing Subexponential On-Off Sources", *Ninth INFORMS Applied Probability Conference*, Boston, June 30-July 2, 1997.
- [C11] B. M. Hochwald and P. R. Jelenkovic, "The Role of Memory in Entropy Approximation for Hidden Markov Models", in *Proceedings of the 35th Annual Allerton Conference on Communication, Control, and Computing*, Urbana-Champaign, Illinois, October 1997.
- [C12] E. G. Coffman Jr., P. R. Jelenkovic and B. Poonen, "Reservation Probabilities", abstract in *Proceedings of the Fourth INFORMS Telecommunications Conference*, Boca Raton, Florida, March 8-11, 1998.

- [C13] P. R. Jelenkovic, "Move-To-Front Algorithm with Markov-Modulated Arrivals", abstract in *Proceedings of the Fourth INFORMS Telecommunications Conference*, Boca Raton, Florida, March 8-11, 1998.
- [C14] E. G. Coffman Jr., L. Flatto, P. R. Jelenkovic and B. Poonen, "Packing Random Intervals On-Line", workshop on *Modeling Communication Networks via Stochastic Geometry*, Dagstuhl, Germany, March 25-28, 1998.
- [C15] P. R. Jelenkovic, "Long-Tailed Loss Rates in a Single Server Queue", in *Proceedings of INFOCOM'98*, San Francisco, California, April 1998.
- [C16] P. R. Jelenkovic, "A New Asymptotic Analysis of the Move-To-Front Search Cost Distribution", abstract in *Proceedings of the Fourth International Seminar on Average-Case Analysis of Algorithms*, Princeton University, Princeton, New Jersey, July 20-24, 1998.
- [C17] M. Andrews, S. Borst, F. Dominique, P. Jelenkovic, K. Kumaran, K.G. Ramakrishnan, P. Whiting, "Scheduling Algorithms for Delay Tolerant Traffic in Mobile Data Networks", in *Proceedings of the 5th International Workshop on Mobile Multimedia Communications*, Berlin, Germany, October 12-14, 1998.
- [C18] P. R. Jelenkovic, "Subexponential Teletraffic Models", *Twenty Fourth Conference on The Mathematics of Operations Research*, Lunteren, The Netherlands, January 12-15, 1999.
- [C19] P. R. Jelenkovic, "Network Multiplexer with Truncated Heavy-Tailed Arrival Streams", in *Proceedings of INFOCOM'99*, New York, NY, March 1999.
- [C20] S. Borst, O. Boxma and P. R. Jelenkovic, "Generalized Processor Sharing with Long-Tailed Traffic Sources", in *Proceedings of ITC 16*, Edinburgh, UK, June 7-11, 1999.
- [C21] S. Borst, O. Boxma and P. R. Jelenkovic, "Asymptotic Behavior of Generalized Processor Sharing with Long-Tailed Traffic Sources", in *Proceedings of INFOCOM'2000*, Tel-Aviv, Israel, March 26-30, 2000.
- [C22] S. Borst, O. Boxma and P. R. Jelenkovic, "Coupled Processors with Regularly Varying Service Times", in *Proceedings of INFOCOM'2000*, Tel-Aviv, Israel, March 26-30, 2000.
- [C23] S. Borst, O. Boxma and P. R. Jelenkovic, "Induced Burstiness in Generalized Processor Sharing Queues with Long-Tailed Traffic Flows", In *Proceedings of the 37th Annual Allerton Conference on Communication, Control, and Computing*, Urbana-Champaign, Illinois, September 1999.
- [C24] P. R. Jelenkovic and A. Neidhart, "A New Method for Measuring Queue Length Distribution With Markov-Modulated Arrival Processes", abstract in *Proceedings of the Fifth INFORMS Telecommunications Conference*, Boca Raton, Florida, March 2000.
- [C25] E. G. Coffman Jr. and P. R. Jelenkovic, "Threshold Policies for Single Resource Reservation Systems", *MAMA '2000*, Santa Clara, June 2000.
- [C26] P. R. Jelenkovic, "Statistical Resource Sharing in the Presence of Heavy Tails", *Workshop on Modeling and Analysis of Network Data*, National Institute of Statistical Sciences, Research Triangle Park, NC, March 9-10, 2001.
- [C27] P. R. Jelenkovic and P. Momcilovic, "Computing Capacity Regions in a Network Multiplexer with Heavy-Tailed Fluid On-Off Processes", in *Proceedings of INFOCOM'2001*, Anchorage, Alaska, April 22-26, 2001.
- [C28] P. R. Jelenkovic and P. Momcilovic, "Network Multiplexer with Generalized Processor Sharing and Heavy-Tailed On-Off Flows", in *Proceedings of ITC 17*, Salvador da Bahia, Brazil, December, 2001 (**first runner-up for the Best Student Paper Award**) .

- [C29] E. G. Coffman Jr., P. R. Jelenkovic and P. Momcilovic, "Provably Efficient Stream Merging", in *Proceedings of the Sixth International Workshop on Web Caching and Content Distribution*, Boston University, Boston, Massachusetts, June 20-22, 2001.
- [C30] P. R. Jelenkovic and P. Momcilovic, "Heavy-Tailed Waiting Times in a Processor Sharing Queue", *11th INFORMS Applied Probability Society Conference*, New York City, July 25-27, 2001.
- [C31] E. G. Coffman Jr, P. Jelenkovic, J. Nieh, D. Rubenstein and H. Schulzrinne, "The Columbia Hotspot Rescue Service", *Internet2 Network Research Workshop*, Chicago, IL, April 18-19, 2001.
- [C32] P. R. Jelenkovic and P. Momcilovic, "Resource Sharing with Subexponential Distributions", in *Proceedings of INFOCOM'2002*, New York, New York, June 23-27, 2002.
- [C33] P. R. Jelenkovic and A. Radovanovic, "Least-Recently-Used Caching in the Presence of Statistical Locality", extended abstract in *Proceedings of the Sixth INFORMS Telecommunications Conference*, Boca Raton, Florida, March 2002.
- [C34] P. R. Jelenkovic, "Least-Recently-Used Caching with Zipf's Law Requests", extended abstract in *Proceedings of the Sixth INFORMS Telecommunications Conference*, Boca Raton, Florida, March 2002.
- [C35] P. R. Jelenkovic, P. Momcilovic and B. Zwart, "Load Equivalence in Subexponential Queues", extended abstract in *Proceedings of the Sixth INFORMS Telecommunications Conference*, Boca Raton, Florida, March 2002.
- [C36] P. R. Jelenkovic, "A New Large Deviation Inequality with Applications", *LMS/ICMS Workshop on Modern Problems in Applied Probability: Large Deviations, Long-Range Dependence, Simulation, Applications to Stochastic Networks and Risk*, Heriot-Watt University, Riccarton, Edinburgh, EH14 4AS, UK, 21-29 August, 2002.
- [C37] P. R. Jelenkovic and P. Momcilovic, "Functional Criticality of the Busy Period Distribution in the GI/G/1 Queue", in *Proceedings of the 40th Annual Allerton Conference on Communication, Control, and Computing*, Urbana-Champaign, Illinois, October 2002.
- [C38] Y. Baryshnikov, E. G. Coffman Jr, P. R. Jelenkovic, P. Momcilovic and D. Rubenstein, "Flood Search under the California Split Strategy", *MAMA'2002*, Marina del Rey, California, June 2002.
- [C39] P. R. Jelenkovic and P. Radovanovic, "Asymptotic Insensitivity of Least-Recently-Used Caching to Statistical Dependency", in *Proceedings of INFOCOM'2003*, San Francisco, CA, April 2003.
- [C40] P. R. Jelenkovic and P. Radovanovic, "Optimal Randomized LRU Caching for Variable File Sizes", in *Proceedings of ITC 18*, Berlin, Germany, September, 2003.
- [C41] P. R. Jelenkovic, A. Radovanovic and M. S. Squillante, "Critical Sizing of LRU Caches for Dependent Requests", extended abstract in *Proceedings of the Seventh INFORMS Telecommunications Conference*, Boca Raton, Florida, March 2004.
- [C42] P. R. Jelenkovic, "Probabilistic Analysis of the Nearly Optimal Caching Algorithms in the WWW Environment", *The Tenth Seminar on the Analysis of Algorithms*, Berkeley, USA, June 2004.
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