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Academic Experience

12/02 – present	**Tata Institute of Fundamental Research**, School of Technology and Computer Science, Homi Bhabha Road, Mumbai- 400005. *Dean (2017 - present)*, *Professor (2011 - present), Associate Professor (2004-11), Reader (2002-04).*
11/96 – 12/03	**Indian Institute of Technology Delhi**, Industrial Eng. Group, Dept. of Mech. Eng., *Associate Professor (2002); Assistant Professor (1997 – 2002)*

Selected Visiting and Adjunct Academic Positions

March 2016 – Present	Adjunct academic, **CAFRAL** (Centre for Advanced Financial Research and Learning). Research wing of **Reserve Bank of India**. Mumbai
Sep-Dec 2015	Senior Academic Fellow**, CAFRAL**, Research wing of **Reserve Bank of India**. Mumbai
Nov 2013 May 2015	**Department of Applied Mathematics, Ecole Polytechnique**, Palaiseau, Cedex, France.
Oct-Nov 2012	**ICERM (Institute for Computational and Experimental Research in Mathematics) Brown University**.
Nov 2011	**Korteweg-de Vries Institute for Mathematics, University of Amsterdam,** Visiting Professor on the STAR Grant
Oct 10, Apr-May 11	**School of Mathematical and Computer Sciences, Heriot Watt University,** Visiting Fellow on EPSRC Grant
June 10	**Newton Institute of Mathematical Sciences, Cambridge University**, UK. Invited guest in a program on *Stochastic Networks*
Summers 04, 05, 07	**Graduate School of Business, Columbia University**
Summers 97, 98, 99, 04, 05, 07	**Industrial Engineering and Operations Research, Columbia University**
3/06 – 12/06	**Indian School of Business,** Hyderabad.

1/02 – 4/02	**Tata Institute of Fundamental Research**, School of Technology and Computer Science, Mumbai.
5/01 – 6/01	**University of Twente**, Netherlands. Computer Science Department
1/2000 – 4/2000	**Stanford University**, Department of Management Science and Engineering.
7/03 – 12/05	**Indira Gandhi Institute for Developmental Research**, Mumbai. *Adjunct Associate Professor.*

Publications

The list is attached separately

Education

89-93	**Ph.D. Operations Research, Stanford University**
89-92	**M.S. Statistics, Stanford University**
85-89	**B.Tech. Mech. Eng., Indian Institute of Technology Delhi**

Editorial Boards, Professional Service

2016 – present	Member, National Advisory Board, Economic Sciences at IIT Kanpur
2016 – present	Member, Academic Council, Indira Gandhi Institute for Developmental Research, Mumbai
2008 – 2016	Associate Editor, *Mathematics of Operations Research*
2003-2009	Associate Editor, *Management Science*. In the area of Stochastic Models and Simulation
2007 - 2010	Associate Editor, *ACM TOMACS*. In the area of Monte Carlo simulation
2008 - 2010	Guest Editor for a special issue of *Annals of Operations Research*
2006, 2008	Track Coordinator, Risk Analysis, Winter Simulation Conference

Awards and Recognition

- Best paper award at the ICST Sixth International Conference on Performance Evaluation Methodologies and Tools (*Valuetools 2012*) for the paper `The Concert Queueing Game with Random Arrivals Volume'

- Ranked amongst the most productive researchers in management from India (for period 1990-2009) in a study conducted by researchers from Aditya Birla Centre at the London Business School
http://www.peerpower.com/et/3464/Taking-stock-of-Indian-management-research

- Best paper award at the ICST Fourth International Conference on Performance Evaluation Methodologies and Tools (*Valuetools 2009*) for the paper `The Concert/Cafeteria Queuing Problem: A Game of Arrivals'

- Recipient of Yahoo Academic Research Grant for the year 2009-10

- Faculty Partnership award from IBM Research Lab Yorktown Heights for the year 2001-2002

- First Patent Invention Award, IBM Research Lab India, 2000

- Fellowship and continued support, Department of Operations Research, Stanford University, 1989-93

- Merit scholarship for topping in the Department of Mechanical Engineering in fourth and fifth semesters (1987-88), IIT Delhi

Former PhD Students

1) Santanu Dey. 2013. (Goldman Sachs, 2013 - 15)

   Thesis title: *Optimal Change of Measure for Model Selection and Efficient Simulation of Rare Event Probabilities with Financial Applications*

2) Ankush Agarwal. 2015. Currently, Post-doc Ecole Polytechnique, Palaiseau, France. At Center for Applied Mathematics

   Thesis title: *Monte Carlo Based Methods for Pricing American Options*

3) Karthyek RA Murthy. 2015. Currently, Post-doc at Columbia University, IEOR Dept.

   Thesis title: *Rare Events in Heavy Tailed Stochastic Systems: Algorithms and Analysis*

4) Tushar Raheja (IITD, jointly with Prof. Kiran Seth, IITD) Currently, popular writer, film maker

   Thesis title: *Modeling traffic congestion – to wait or to be late.*

Current PhD Students

1. Sarath Babu Moka
   Sampling from steady state distributions and large deviations in stochastic systems

2. Anand Deo
   Credit risk modeling (tentative)

Doctoral Committees

- External Examiner for Phd Thesis of Tejas Bodas, EE Dept., IIT Bombay. April 2016.
- Opponent in thesis defence of Pierre Nyquist completing his PhD in the Department of Mathematics, KTH Stockholm. 2014.
- Chaired the PhD thesis defence committee for V Sasidevan, TIFR. 2014.
- External Examiner for PhD thesis of Chandan Pal. Dept. Mathematics, IIT Bombay. 2013.
- External Examiner for PhD thesis of Tamal Banerjee. 2013. Dept. Mathematics, IISc Bangalore
- Examiner for PhD thesis Samarth Chandra. 2009. Dept. of Theoretical Physics, TIFR
- External Examiner for PhD thesis of Ozgur Kaya. 2005. Columbia Business School
- External Examiner for PhD thesis of Z. Huang. 2004. Department of Industrial Engineering and Operations Research, Columbia University
- Examiner for PhD thesis of Rahul Jain. 2004. School of Technology and Computer Science, TIFR

Key Consultancies and Industry Interaction

Sep – Dec 14 Feb – Apr 16	Taught introductory math finance to quants at Nomura Bank, Mumbai
August 2014	Taught Interest Rate Models to quants at Credit-Suisse Bank, Mumbai
Sep 11 – July 12	**Capital Metrics and Risk Solutions, Pune, India.** Helping in designing a cutting edge portfolio risk measurement product
Aug - Dec 10	Taught introductory math finance to quants at **ICICI Bank**, Mumbai
July 10	Taught introductory math finance to quants at **Morgan Stanley** in Mumbai
Apr – Sep 10	Taught cutting edge interest rate models, stochastic volatility based models, credit risk models to the advanced quants at **Nomura**, Mumbai
June 09	**Yahoo Research Lab,** Bangalore Designed algorithms for better estimation of click probabilities of Internet advertisements
Jan – Sep 08	**Bank of America** **(**On leave from TIFR) **Vice President, Head Quantitative Analysis** for Bank of America Continuum Solutions at Mumbai. Amongst the fifteen members of the executive global quantitative council of Bank of America.
October 07	**Institute for Financial Management and Research** (IFMR), Chennai. Taught a short course on Monte Carlo Methods in Finance to industry participants
Jan – April 07	**Bank of America**

	Taught a course on Mathematical Finance to researchers and analysts at Bank of America Continuum Solutions at Mumbai
4/05 – 12/07	**General Motors Research, India** In an R&D project, conducted research on modeling procurement auctions for project networks
12/05–6/07	**Capital Metrics and Risk Solutions, Pune, India.** Equity and financial analytics research firm Helped develop cutting edge risk analysis and financial models
July 15, 2006	**Indian School of Business, Hyderabad.** Conducted a workshop on *Computational Finance* for industry participants
7/99 – 7/02	**IBM India Research Lab, Delhi** Conducted research and development in the areas of e-commerce and communications networks.
7/00 – 12/02	**Delhi Transportation Corporation** Delhi bus traffic demand estimation and DTC bus route rationalization.

Patents Awarded

1. Distributed bid processing method for open-cry and descending price auctions. With Manish Gupta. Filed February 17, 2000. Awarded July 31, 2007. Number 7,251,630.

2. System for optimal resource allocation and planning for hosting computing services. With Johara Shahabuddin; Kannan Balaji; Sanjiv Kapoor; Vishu Gupta; Ajay Chrungoo. Filed January 29, 2001. Awarded April 5, 2005. Number 6,877,035.

3. A. Bassamboo, M. Gupta and S. Juneja. An Efficient Winner Determination Technique for Determining Winner Bids in Online Single Item, Multiple Units Auctions. Filed at USPTO.

Corporate Experience before joining Academia

9/95 - 10/96	**Andersen Consulting,** 426 World Trade Center, Barakhamba Lane, New Delhi. *Senior Consultant.*
9/93 - 6/95	**American Credit Indemnity (Company of Dun & Bradstreet Corporation)** Baltimore, MD. Specialty credit insurance company. *Director Quantitative Analysis*

Internships

6/92 - 9/92 6/91 - 9/91	**IBM T.J. Watson Research Center**, Yorktown Heights, NY. Summer Intern. Performance Analysis Group, Computer Science Division
6/90 - 9/90	**Bell Labs**, Holmdel, NJ. Summer Intern. Operations Research Group

Miscellaneous

- Organized a two-day workshop on *Learning and Related Probabilistic Applications* at TIFR in February 2015
- Organized a two-day workshop on Game Theory at TIFR in May 2013
- As part of ICTS, organized a School in Mathematical Finance at TIFR in January 2012 where some of the leading luminaries gave short courses to the researchers and students from all over India. www.icts.res.in/program/**Math**_Fin
- Organized a School on Applied Probability in September 2009 at TIFR where some of the leading luminaries gave short courses to the researchers and students from all over India
- Chairperson, Faculty Induction and Recruitment Committee. School of Technology and Computer Science, TIFR. (2012 to 2016)
- Subject Board Convener, STCS, TIFR. 2005-06, 2012-13, Sept – Nov. 2016

Publications

2017

- Hong, L. J., S. Juneja, and G. Liu (2017), Kernel smoothing for nested estimation with application to portfolio risk measurement, accepted by *Operations Research*, forthcoming.

- Juneja, Sandeep. Dynamic Portfolio Credit Risk and Large Deviations. *Econophysics and Sociophysics: Recent Progress and Future Directions*. Springer, Cham, 2017. 41-58.

2016

- A. Agarwal, S. Juneja and R. Sircar. 2016. American Options under Stochastic Volatility: Control Variates, Maturity Randomization & Multiscale Asymptotics. *Quantitative Finance* 16 (1), 17-30.
- S. Juneja and D. Manjunath. 2016. To Lounge or to Queue Up. *MAMA'16, ACM SIGMETRICS 2016*
- Hult, H., Juneja, S., & Murthy, K. (2016). Exact and efficient simulation of tail probabilities of heavy-tailed infinite series. *arXiv preprint arXiv:1609.01807*.

2015

- S. Foss, S. Juneja, M. Mandjes and S. B. Moka. 2015. Spatial Loss Systems: Exact Simulation and Rare Event Behavior. *ACM SIGMETRICS Performance Evaluation Review* 43 (2), 3-6

- S. Dey, S. Juneja, K. R. A. Murthy. 2015. Incorporating Views on Marginal Distributions in the Calibration of Risk Models. *Operations Research Letters*, **43**,1, 2015, 46–51

- S. B. Moka and S. Juneja 2015. Regenerative Simulation for Queueing Networks with Exponential or Heavier Tail Arrival Distributions. *ACM Transactions on Modeling and Computer Simulation (TOMACS)* **25** (4), 1-22.

- A. Agarwal and S. Juneja. 2015. Nearest neighbor based estimation technique for pricing Bermudan options. *International Game Theory Review* Vol. 17, No. 1,1540002 (31 pages)

- S. Juneja and T. Raheja. 2015. The Concert Queueing Game: Fluid Regime with Random Order Service. *International Game Theory Review*, Vol. 17, No. 2, 1540012 (15 pages)

- P. Glynn and S. Juneja. 2015. Ordinal optimization - empirical large deviations rate estimators, and stochastic multi-armed bandits. http://arxiv.org/abs/1507.04564

2014

- K. R. A. Murthy, S. Juneja and J. Blanchet. 2014. State-independent Importance Sampling for Random Walks with Regularly Varying Increments. arXiv:1206.3390v3. *Stochastic Systems,* Issue 2, Volume 4, 321-374.

- J. Hong, S. Juneja and J. Luo. 2014. Estimating Sensitivities of Portfolio Credit Risk using Monte Carlo. *INFORMS Journal of Computing*. http://dx.doi.org/10.1287/ijoc.2014.0602; 26, 4, 848 – 865.

2013

- S. Juneja and M. Mandjes. Overlap Problems on the Circle. Adv. in Appl. Probab. Volume 45, Number 3 (2013), 773-790.

- A. Agarwal, S. Dey and S. Juneja. Efficient Simulation of Large Deviation Events for Sums of Random Vectors using Saddle Point Representations. J. Appl. Probab. Volume 50, Number 3 (2013), 703-720.

- S. Juneja and N. Shimkin. The Concert Queuing Game: Strategic Arrivals with Waiting and Tardiness Costs. *Queueing Systems*. 2013, Volume 74, Issue 4, pp 369-402. DOI 10.1007/s11134-012-9329-3

- P. Glynn and S. Juneja. 2013. Asymptotic Simulation Efficiency based on Large Deviations. *ACM TOMACS* **23**, 3, Article No. 20.

- Moka, S. B., Juneja, S. 2013. Regenerative Simulation for Multiclass Open Queuing Networks. In *Proceedings of 2013 Winter Simulation Conference. IEEE Press. 643-654.*

- Agarwal, A., & Juneja, S. 2013. Comparing Optimal Convergence Rate of Stochastic Mesh and Least Squares Method for Bermudan Option Pricing *In Proceedings of the 2013 Winter Simulation Conference, IEEE Press.* 701-712.

- Murthy, K. R., Juneja, S., Blanchet, J. 2013. Optimal Rare Event Monte Carlo for Markov Modulated Regularly Varying Random Walks. *In Proceedings of the 2013 Winter Simulation Conference, IEEE Press,* 564-576.

2012

- S. Juneja, T. Raheja and N. Shimkin. 2012. The Concert Queueing Game with Random Arrival Volume. *Sixth International Conference on Performance Evaluation Methodologies and Tools, IEEE (Valuetools 2012). 317-325.*

- Karhyek R. A. M. and S. Juneja 2012. State-independent Importance Sampling for estimating large deviation probabilities in heavy-tailed random walks. *Sixth International Conference on Performance Evaluation Methodologies and Tools, IEEE (Valuetools 2012). 127-135.*

- Reijsbergen, D.P. and de Boer, P.T. and Scheinhardt, W.R.W. and Juneja, S. (2012) *Some advances in importance sampling of reliability models based on zero variance approximation.* In: Proceedings of the Ninth International Workshop on Rare Event Simulation, RESIM 2012. pp. 30-35.

2011

- S. Asmussen, J. Blanchet, S. Juneja and L. R. Nandayapa. 2011. Efficient simulation of tail probabilities of sums of correlated lognormals, *Annals of Operations Research*, 189, 1, 5-23. DOI **10.1007/s10479-009-0658-5.**

- P. W. Glynn and S. Juneja. 2011. Ordinal optimization: A nonparametric framework. *Proceedings of Winter Simulation Conference*. IEEE Press 4062-4069

- S. Dey and S. Juneja. 2011. Efficient estimation of density and probability of large deviations of sum of iid random variables. *Proceedings of Winter Simulation Conference*. IEEE Press 3805 -3816

- S. Juneja. 2011. An Introduction to Financial Mathematics. *Math Unlimited: Essays in Mathematics.* Editors: H.N. Ramaswamy, C.S. Yogananda, R. Sujatha, Science Publishers. 191-223. pdf

- Dirk P. Kroese, Nahum Shimkin, Joseph Kreimer, Sandeep Juneja: Preface. *Annals of Operations Research* 189 (1): 1-3 (2011)

2010

- R. Jain, S. Juneja and N. Shimkin. 2010. The Concert Queuing Problem: To Wait or To Be Late. *Discrete Events Dynamic Systems*, 21, 103-138. (pdf)

- M. Gordy and S. Juneja. 2010. Nested Simulation in Portfolio Risk Measurement. *Management Science* 56, 10, 1833-1848 (pdf)

- R. Jain, S. Juneja and N. Shimkin. 2010. Queueing for Timely Service: Equilibrium Analysis and Social Efficiency, *MSOM 2010*, SIG Conference.

- S. Dey and S. Juneja. 2010. Multidimensional Fourier Inversion using Importance Sampling with Applications to Options Pricing. *Proceedings of Winter Simulation Conference*. IEEE Press. 2801-2809.

- S. Juneja. 2010. Monte Carlo Methods in Finance: An Introductory Tutorial. *Proceedings of Winter Simulation Conference*. IEEE Press. 95-103.

- M. Gordy and S. Juneja. 2010. Full Monte Carlo simulation of CDO portfolios. Encyclopedia of Quantitative Finance. Ed. Rama Cont, Wiley

2009

- S. Juneja and H. Kalra. 2009. Variance Reduction Techniques for Pricing American Options. *Journal of Computational Finance* (pdf) **12** (3), 79-102, 2009

- S. Juneja and R. Jain. 2009. The Concert/Cafeteria Queuing Problem: A Game of Arrivals. ICST Fourth International Conference on Performance Evaluation Methodologies and Tools. 10.4108/ICST.VALUETOOLS2009.7624. Received the best paper award (pdf)

- J. Hong and S. Juneja. 2009. Estimating the Mean of a Nonlinear Function of a Conditional Expectation. *Proceedings of Winter Simulation Conference.* IEEE Press 1223-1236. (pdf)

- S Juneja and L Ramprasath. 2009. Nested Simulation for Portfolio Losses within a Time Horizon. *Proceedings of Winter Simulation Conference.* IEEE Press. 434-443.

2008

- Bassamboo, S. Juneja and A. Zeevi. 2008. Portfolio Credit Risk with Extremal Dependence' *Operations Research,* 56, 3, 593-606 (pdf of a draft)

- P. Glasserman and S. Juneja. 2008. Uniformly Efficient Importance Sampling for the Tail Distribution of Sums of Random Variables. *Mathematics of Operations Research*, 33 (1) 36-50.pdf

- S. Juneja. 2008. Optimizing Portfolio Tail Measures: Asymptotics and Efficient Simulation Optimization, *Proceedings of Winter Simulation Conference.* IEEE Press. 621-628. pdf

- J. Blanchet, S. Juneja and L. R. Nandayapa. 2008. Efficient Tail Estimation for Sums of Correlated Lognormals. *Proceedings of Winter Simulation Conference.* IEEE Press. 617-624 (pdf)

- P. Glynn and S. Juneja. 2008. A Large Deviations View of Asymptotic Efficiency for Simulation Estimators. *Proceedings of 2008 Winter Simulation Conference, IEEE Press.* 396-406 (pdf)

2007

- S. Juneja. 2007. Estimating Tail Probabilities of Heavy Tailed Distributions with Asymptotically Zero Relative Error. *Queueing Systems*,57, 2-3, 115-127.(pdf)

- Bassamboo, S. Juneja and A. Zeevi. 2007. Inefficiencies of State-Independent Importance Sampling in the Presence of Heavy Tails, *Operations Research Letters*, **35,** 2, 251-260 (pdf)

- S. Juneja, R. Karandikar, P. Shahabuddin. 2007. Asymptotics and Fast Simulation for Tail Probabilities of Maximum of Sums of Few Random Variables. *ACM TOMACS*, **17**, 2.

- S. Andradottir, P. Glasserman, P. Glynn, P. Heidelberger, S. Juneja. 2007. Perwez Shahabuddin, 1962-2005: A Professional Appreciation. *ACM TOMACS,* **17***,* 2

2006

- Ahamed, V. S. Borkar, S. Juneja. 2006. Adaptive Importance Sampling for Markov Chains using Stochastic Approximation, *Operations Research,* **54**,3, 489-504.

- A. Basssamboo and S. Juneja. 2006. Optimal Resource Allocation in Two Stage Sampling of Input Distributions. *Proceedings of the 2006 Winter Simulation Conference,* IEEE Press. 216-221.

- M. Gordy and S. Juneja. 2006. Efficient Simulation for Risk Measurement in Portfolio of CDOs. *Proceedings of the 2006 Winter Simulation Conference,* IEEE Press. 749-756.

- S. Ghosh and S. Juneja. 2006. Computing Worst-Case Tail Probabilities in Credit Risk. *Proceedings of the 2006 Winter Simulation Conference,* IEEE Press. 246-254.

- S. Juneja and P. Shahabuddin. 2006. Rare Event Simulation Techniques: An Introduction and Recent Advances. *Handbook in Operations Research and Mangement Sciences, Volume 13*: Simulation. Chapter 11. Elsevier. Editors: Shane Henderson and Barry Nelson 291-350.

2005

- S. Juneja and V. Nicola. 2005. Efficient Simulation of Buffer Overflow Probabilities in Jackson Networks with Feedback, *ACM TOMACS* , **15**, 4, 281-315 pdf

- N. Bolia and S. Juneja. 2005. Monte Carlo Methods for Pricing Financial Options. *Sadhana,* 30, 347-386. (pdf)

- N. Bolia, S. Juneja. 2005. Function-Approximation Based Perfect Control Variates to Price American Options. *Proceedings of the 2005 Winter Simulation Conference*, IEEE Press. 1876-1883. (pdf)

- Bassamboo, S. Juneja, A. Zeevi. 2005. Expected Shortfall in Credit Portfolios with Extremal Dependence. *Proceedings of the 2005 Winter Simulation Conference*, IEEE Press. 1850-1858.

- A. Bassamboo, S. Juneja, A. Zeevi. 2005. Importance Sampling Simulation in Presence of Heavy Tails. *Proceedings of the 2005 Winter Simulation Conference*, IEEE Press. 664-672

- S. Juneja. 2005. Adaptive Importance Sampling Techniques for Markov Chains: An Overview. *Operations Research with Economic and Industrial Applications: Recent trends*, Anamaya Publishers, New Delhi, 97-119.

2004

- R. Randhawa and S. Juneja. 2004. Combining Importance Sampling and Temporal Difference Control Variates to Simulate Markov Chains. *ACM TOMACS,* 14, 1, 1-30.

- V. S. Borkar, S. Juneja, A. A. Kherani. 2004. Performance Analysis Conditioned on Rare Events: An Adaptive Simulation Scheme, *Communications in Information and Systems,* 3, 4, 259-278.

- P. W. Glynn and S. Juneja. 2004. A Large Deviations Perspective on Ordinal Optimization. *Proceedings of the 2004 Winter Simulation Conference*, IEEE Press. 577-585.

- N. Bolia, P. Glasserman, S. Juneja. 2004. Function-Approximation-based Importance Sampling for Pricing American Options. *Proceedings of the 2004 Winter Simulation Conference*, IEEE Press. 604-611.

2003

- V. S. Borkar, S. Juneja, A. A. Kherani, An Adaptive Simulation Scheme for Conditional Performance Analysis, *Proceedings of the International Workshop on IT-Enabled Manufacturing, Logistics and Supply Chain Management*, December 2003, 170-176.

- S. Juneja. 2003. Efficient Rare Event Simulation using Importance Sampling: An Introduction. Computational Mathematics Modeling and Algorithms. Narosa publishers, New Delhi, 2003, 357-396. (ps file: Includes techniques for simulating polling systems)

2002

- S. Juneja, P. Shahabuddin. 2002. Simulating Heavy Tailed Processes using Delayed Hazard Rate Twisting, *ACM TOMACS*, 12, 2, 94-118.

- R. Randhawa and S. Juneja. 2002. Simulating Rare Events by Combining Temporal Difference Methods and Importance Sampling. Proceedings of ReSim/COP 2002.

- S. Juneja and V. Nicola. 2002. Efficient Simulation of Buffer Overflow Probabilities in a Queuing Network, Proceedings of ReSim/COP 2002.

- Kumar, G. Batra, K. Girotra and S. Juneja. 2002. `Demand Estimation for Delhi Transport Corporation' Proceedings of National Conference on Transportation Systems. 733-744.

2001

- S. Juneja. 2001. Importance Sampling and the Cyclic Approach, *Operations Research, Vol. 49-6,* 900-912.

- S. Juneja, P. Shahabuddin. 2001. Efficient Simulation of Markov Chains with Small Transition Probabilities, *Management Science*, Vol. 47-4, 547-562.

- S. Juneja, P. Shahabuddin. 2001. A Splitting Based Importance Sampling Algorithm for Fast Simulation of Markov Chains with Small Transition Probabilities, *IEEE Transactions on Reliability*, Vol. 50-3, pp 235-245.

- A. Bassamboo, M. Gupta and S. Juneja. 2001. `Efficient Winner Determination Techniques in a single item multiple unit auction'. Proceedings of First IFIP Conference on E-commerce, E-business and E-government, held in Zurich, Switzerland. 417-430.

- With Johara Shahabuddin, Abhay Chrungoo, Vishu Gupta, Sanjiv Kapoor, Arun Kumar. 2001. Stream-Packing: Resource Allocation in Web Server Farms with a QoS Guarantee. To appear in HIPC Conference Proceedings. Publishers Springer Verlag

1999

- S. Juneja, P. Shahabuddin and A Chandra. 1999. Simulating Heavy Tailed Processes using Delayed Hazard Rate Twisting, *Proceedings of 1999 Winter Simulation Conference,* 420-427.

1994

- C.S. Chang, P. Heidelberger, S. Juneja, P. Shahabuddin. 1994. Effective Bandwidth and Fast Simulation of ATM Intree Networks, *Performance Evaluation* 20, 45-65.

1993

- C. S. Chang, P. Heidelberger, S. Juneja and P. Shahabuddin. 1993. Effective Bandwidth and Fast Simulation of ATM Intree Networks, Proceedings of PERFORMANCE 93 Conference, Rome, Italy.41-58.

1992

- S. Juneja, P. Shahabuddin. 1992. `Fast Simulation of Markovian Reliability/Availability Models with General Repair Policies', *Proc. of the twenty second Int'l Symp. on Fault-Tolerant Computing, IEEE Press*, 150-159.

Other

- S. Dey and S. Juneja. 2012. Incorporating fat tails in financial models using entropic divergence measures arXiv:1203.0643v1
- P. W. Glynn and S. Juneja. 2006. Ordinal Optimization: A Large Deviations Perspective. Preprint.
- X. Xiong, S. Juneja and M. Fu.2006. Asymptotically Optimal Simulation Allocation under Dependent Sampling. Preprint
- S. Juneja and V. Nicola, Efficient Simulation of Buffer Overflow Probabilities in a Queuing Network, TIFR Technical Report STCS-03/01. July 2003
- SFED: A Rate Control Based Active Queue Management Protocol, A. Kamra, S. Kapila, V. Khurana, V. Yadav, R.Shorey, H. Saran and S. Juneja, IBM IRL Research Report, New Delhi, India, 2000.
- S. Juneja, A.Rajan. 1990. Simulation Study of Renewal Approximations of GI/G/m Queue Departure Stream, Bell Laboratories, TM 4513-910122-01TM.

Education related articles in Newspapers

1) Op-Ed piece supporting increased government investments in the IITS.
   http://www.indianexpress.com/news/pay-it-forward/514743/

Selected Invited Talks (2003 onwards)

2016

- *Dynamic Portfolio Risk Measurement*. At Conference on Statistical Methods in Finance, at CMI, Dec. 2016.
- *Dynamic Portfolio Risk Measurement.* At Finance and Stochastics Day 2016, Imperial College, UK, 13 October 2016.
- *Modeling Credit Risk.* Valedictory address at Workshop on Big data, Economics and Finance, at Presidency College on 26 October 2016
- *To lounge first or to directly join the queue.* Technical session at Workshop on Big data, Economics and Finance, at Presidency College on 26 October 2016
- *Finding certainty in an uncertain world: A tale of tails.* Popular Talk at Chai and Why event. Oct. 2, 2016 at Prithvi Theatre.
- *Modeling Uncertainty- A Tale of Tails*, Popular talk at Mumbai Local, Junoon event. January 15, 2016 at Kitabkhana, Mumbai

2015

- *Rest in Lounge or Wait in Queue.* Invited speaker at the *Workshop on Congestion Games*. Held at Institute for Mathematical Sciences, National University of Singapore. December 16, 2015
- *Strategic arrivals to queues.* Keynote speaker at the *XIX Annual Conference of Society of Operations Management.* Held at IIM Calcutta. December 12, 2015
- *Ordinal optimization - Empirical large deviations rate estimators, and multi-armed bandit methods.* Invited speaker at Seminaire Bachelier Paris. Held at Henri Poincare Institute. May 29, 2015.
- *Large deviations, selecting the best population and multi-armed bandit methods.* Invited speaker at *International Conference on Applied Probability and Computational Methods in Applied Sciences*. Held at Shanghai Centre for Mathematics, Fudan University. November 2, 2015.
- *Ordinal optimization - Empirical large deviations rate estimators, and multi-armed bandit methods*. Invited speaker at the workshop *Applied Probability Frontiers: Computational and Modeling Challenges*. At Banff International Research Station, Canada. June 1, 2015.
- *Multi Armed Bandit Sampling in Nested Simulation for Financial Portfolio Risk Measurement.* Keynote speaker at *4th IIMA International Conference on Advanced Data Analysis, Business Analytics and Intelligence.* Held at IIM Ahmedabad. April 11, 2015
- *Ordinal optimization and multi-armed bandits, Portfolio risk measurement using multiarmed bandit methods*, Invited speaker at *NMI conference on Non-convex Optimization for Machine Learning.* IIT Bombay. June 15 and 16, 2015.
- *Large deviations, selecting the best population and multi-armed bandit methods,* Department of Mathematics Colloquium, IIT Bombay, October 4, 2015Symposium on Learning, Algorithms and Complexity, January 5-9, 2015, Indian Institute of Science, Bangalore, India. Invited talk on *Efficient Rare Event Simulation Algorithms for Heavy Tailed Processes*

- *Optimization in Simulation and Pure Exploration Multi-Armed Bandit Methods.* Invited talk at Workshop on Applied Optimization Models and Computation. January 28-30, 2015. ISI Delhi.

2014

- NUS-University of Tokyo Workshop on Quantitative Finance. Sept. 25-26, 2014. Invited talk on *Multi-armed Bandit sampling in Nested Portfolio Risk Measurement.*

- INFORMS Annual Meet, November 2014 in San Francisco. Invited talk on *Ordinal Optimization and Multi-armed Bandit Techniques*

- Conference on Stochastic Analysis and Applications, Dept. of Mathematics, IISc, September, 8 - 11, 2014. Invited talk on *Ordinal optimization in simulation and pure exploration multi-armed bandit methods*

- Stochastic Networks Conference at CWI Amsterdam, June 23-27, 2014. Invited talk on *Rare event simulation of heavy tailed random walks - A new approach*

- IIT Guwahati Mathematics Seminar Series. March 25, 2014. On *Rare event simulation of heavy tailed random walks - A new approach*

2013

- Seminar at Department of Applied Mathematics, Ecole Polytechnique, Palaiseau Cedex, France, November 14, 2013 on *Concert Queue Arrivals Game: An Overview*

- Seminar at Mathematics Department, IISc Bangalore, December 18, 2013. On *Concert Queue Arrivals Game: An Overview*

- INFORMS Annual Meet. October 2013. Invited to speak on

    - State Independent Important Sampling for Regularly Varying Distributions

    - Asymptotic Comparison of Popular Approaches to Price Bermudan Options

- Colloquium at University of Southern California EE Dept. Oct. 2013, On Rare Event Simulation of Heavy Tailed Random Walks

- ISI Delhi, International Symposium on Applied Optimization and Game-Theoretic Models January 9-11, 2013. Presented: The Concert Queueing Problem: Processor Sharing Regime

2012

- ICERM, Brown University, November 21, 2012. Presented: *The Concert/Cafeteria Queueing Game*

- Operations Management Seminar at Sloan School, MIT, November 5, 2012. *The Concert/Cafeteria Queueing Game*

- ASET Colloquium, TIFR, September 21, 2012. Presented: *Monte Carlo Methods in Finance*

- TCS Innovations Research Lab, Hyderabad, March 20, 2012: Conducted a *short course on computational finance*

- Indian School of Business, Hyderabad, March 20, 2012. Presented: *The concert queueing game: to wait or to be late*

- National Workshop and Training Programme on Differential Equations and Mathematical Modelling at Lady Shri Ram College, Delhi. Feb. 9, 2012. Plenary speaker: *Monte Carlo Simulation and Modelling*

2011

- INFORMS Winter Simulation Conference, Phoenix, Arizona, December 2011. Presented: *Efficient Estimation of Density and Probability of Large Deviations of Sum of IID Random Variables*

- INFORMS Winter Simulation Conference, Phoenix, Arizona, December 2011. Presented: *Ordinal optimization: A nonparametric framework*

- TACTICS Symposium 2011 (Hosted by Tata Consulting Services Research) December 2011. Presented: *Monte Carlo Methods in Finance*

- University of Amsterdam, November 3, 2011. Presented: *The Concert Queuing Game with a Finite Homogeneous Population*

- University of Twente, November 7, 2011. Presented: *The Concert/Cafeteria Queuing Game with a Fluid/Finite Population*

- The Applied Probability Society Conference, July 2012, Stockholm. Presented: *Multidimensional Fourier Inversion using Importance Sampling in Rare Event Simulation and Finance*

- The Applied Probability Society Conference, July 2012, Stockholm. Presented: *The concert queuing game: Stochastic system with homogeneous users*

- University of Bristol, May 20, 2011. Presented: *The concert queueing game: To wait or to be late*

- IIT Delhi, January 21, 2011. Presented: *1. Nested Monte Carlo Simulations, 2. The Concert Queuing Game*

2010

- Newton Institute, Cambridge, UK. June 16, 2010. Presented: *The concert queueing game: to wait or to be late*
- Maxwell Institute for Mathematical Sciences, Heriot Watt University, Edinburgh, September 29, 2010. Presented: *Estimating Mean of Non-Linear Function of a Conditional Expectation with Applications to Portfolio Risk Measurement*
- Maxwell Institute for Mathematical Sciences, Heriot Watt University, Edinburgh, September 29, 2010. Presented: *Concert Queuing Game: To Wait or To be Late*
- INFORMS Annual Meeting 2010. Texas Austin. Presented: *Entropy Approach for Incorporating Fat-tailed Constraints in Financial Models*

- INFORMS Annual Meeting 2010. Texas Austin. Presented: *The Concert Queuing Arrivals Game: Finite Customer Analysis*
- Stanford University, Operations Research Seminar, November 15, 2010: Presented: *The Concert Queuing Game*
- IIT Bombay, IEOR Dept., November 4, 2010. Presented: *The Concert Queuing Game: To Wait or To be Late*
- INFORMS Winter Simulation Conference, Baltimore, Maryland, December 2010. Conducted a tutorial on: *Monte Carlo Methods in Finance: An Introductory Tutorial*
- INFORMS Winter Simulation Conference, Baltimore, Maryland, December 2010. Presented: *Multidimensional Fourier Inversion using Importance Sampling with Application to Option Pricing*
- December 19th-22nd, 2010 at Quantitative Finance Workshop at ITM Institute of Financial Markets, Mumbai, INDIA. Presented: *Introduction to Financial Mathematics*

2009

- Workshop on Financial Mathematics at Dept. of Mathematics, Indian Institute of Science, Bangalore, May 10 -15, 2009. Presented: *Computational issues in pricing multi-dimension American and European Options*
- Mumbai-Pune Soft Matter meeting, TIFR. June 6, 2009. Presented: *Rare Event Analysis and Simulation.*
- Applied Probability Conference at Cornell University, July, 2009. Presented:
    - *The Concert Queueing Problem: A Game of Arrivals*
    - *Incorporating views in Mathematical Models using Entropy Approach*
    - *Simulation Estimation of the Mean of a Non-linear Function of a Conditional Expectation*
- Conference on Probability and Stochastic Process at ISI Delhi, Nov. 26-28. Presented: *The Concert Queueing Problem: A Game of Arrivals*
- CAFRL-IFMR-IISc-CMI conference on Application of Advanced Computational and Mathematical Methods in Finance held on September 26-27 at Parvathy Hall, IFMR Campus, Chennai. Presented: *Advances in Risk Measurement Techniques*
- International Conference on Methods and Models in Computer Science held in Jawaharlal Nehru University on Dec. 14, 2009. Presented: *Portfolio Risk Measurement*

2008

- Winter Simulation Conference at Miami, December, 2008. Presented:
    - *Optimizing Portfolio Tail Measures: Asymptotics and Efficient Simulation Optimization*
    - *A Large Deviations View of Asymptotic Efficiency for Simulation Estimators*

- Conference on ‘Efficient Monte Carlo: From Variance Reduction to Combinatorial Optimization’ held at Sandbjerg Estate, Sønderborg, Denmark 14-18 July 2008. Presented: *Nested Simulation in Risk Management*
- Colloquium, IIM Bangalore on November 14, 2008. Presented: *Extremal Dependence in Portfolio Credit Risk Modeling*
- International Conference on Modeling, Computation and Optimization, Indian Statistical Institute, New Delhi, January 09-10, 2008. Presented: *Nested Simulation in Portfolio Risk Measurement.*

2007

- International Workshop on Rare Event Simulation, The University of Nice, Azura Coast, France, April 30-May 04, 2007. Presented: *Simultaneous Estimation of Many Rare Events*
- Workshop on Rare Events in Communication Networks, Heriot Watt University, Edinburgh, UK July 02-07. 2007. Presented: *Estimating Rare Events Involving Heavy Tailed Random Variables with Asymptotically Zero Relative Error*
- INFORMS Applied Probability Conference, EURANDOM, The Netherlands, July 09-11, 2007. Presented:
    - *Uniformly Efficient Importance Sampling for the Tail Distribution of Sums of Random Variables*
    - *Minimizing Tail Probabilities: Asymptotic Analysis and Efficient Simulation optimization*
- International Conference on Stochastic Processes and Applications, Indian Institute of Science, Bangalore, July 16-21, 2007. Presented: *Simultaneous Estimation of Many Rare Events*

2006

- Conducted a short course on Computational Finance for the industry participants at the Indian School of Business, July 2006
- Winter Simulation Conference at Monterey, California, December 3-6, 2006. Presented: *Efficient Simulation Techniques for Portfolio of CDOs.*
- Gave a tutorial at the *Tenth Annual Society for Operations Management Conference* held at IIM Ahmadabad, December 21-23, 2006. Presented: *Introduction to Monte Carlo methods*
- Delivered the First Perwez Shahabuddin Memorial Lecture held at IIT Delhi, February 27, 2006. Presented: *Rare Event Simulation*

2005

- Gave series of lectures on Monte Carlo Methods in a Summer School on Mathematical Finance held at IGIDR, Mumbai. April 2005
- Winter Simulation Conference at Orlando, Florida, December 7-9, 2005. Presented: *Function-Approximation-based Control Variates for Pricing American Options*
- Summer Research Conference at the Indian School of Business, Hyderabad, August 7-9, 2005. Presented: *Portfolio Credit Risk under Extremal Dependence*
- Symposium on Current Topics in Operations Research, November 12, 2005. Organized by IEOR Department in IIT Bombay. Presented: *Monte Carlo Methods in Finance*

2004

- Winter Simulation Conference at Washington D. C. December 4-6, 2004. Presented:
    - *Function-Approximation-based Importance Sampling for Pricing American Options*
    - *A Large Deviations Perspective on Ordinal Optimization*
- Workshop on Monte Carlo Methods, Coorg, Nov. 28-Dec. 3, 2004. Presented a series of lectures on Importance Sampling
- Society of Mathematical Sciences Annual Meeting 2004. Held in October 11, 2004 in Delhi University. Presented: *Monte Carlo Methods in Finance*

2003

- INFORMS (Institute for Operations Research and Management Sciences Annual meet 2003) at Atlanta October 19-22, 2003. Presented:
    - *Adaptive Importance Sampling for Markov Chains using Stochastic Approximation*
    - *Optimizing QoS of Composite Web Services modeled as PERT Networks*
- Sixth International Conference of the Association of Asia Pacific Operations Research Society, December 2003 in Delhi. Presented:
    - *Selecting the best design amongst many alternatives via simulation using large deviations theory*
    - *Adaptive Importance Sampling for Markov Chains*

- International Conference on Operations Research with Economic and Industrial Applications 2004. Presented: *Computationally Efficient Winner Determination Techniques for Internet Multi-Unit Auctions.*
- Workshop on Applied Probability. Held on April 18, 2003 at TIFR. Presented: *A large deviations perspective on ordinal optimization.*