

ACHAL BASSAMBOO

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Donald P. Jacobs Center

2001 Sheridan Road, Evanston, IL 60208

EDUCATION

Ph.D. *Business - Operations, Information and Technology*, Stanford University (2005)

Dissertation title: *Mathematical Models for Call Centers*

Dissertation advisors: J. Michael Harrison (GSB, Stanford University) and Assaf Zeevi (GSB, Columbia University)

M.S. *Statistics*, Stanford University (2004)

B.Tech. *Mechanical Engineering*, Indian Institute of Technology-Delhi (2000)

PROFESSIONAL EXPERIENCE

- | | |
|----------------|--|
| 2012 – | <i>Kellogg School of Management, Northwestern University</i> , Evanston, IL
Professor of Managerial Economics and Decision Sciences |
| 2009 – 2012 | <i>Kellogg School of Management, Northwestern University</i> , Evanston, IL
Associate Professor of Managerial Economics and Decision Sciences |
| 2006 – 2009 | <i>Kellogg School of Management, Northwestern University</i> , Evanston, IL
Assistant Professor of Managerial Economics and Decision Sciences |
| 2005 – 2006 | <i>Kellogg School of Management, Northwestern University</i> , Evanston, IL
Donald P. Jacobs Scholar in Managerial Economics and Decision Sciences |
| 2001 – 2005 | <i>Stanford University</i> , Stanford, CA
Research and teaching assistant |
| 2000 (Jun-Jul) | <i>IBM Indian Research Lab</i> , New Delhi, India
Summer Internship
Project: Efficient Algorithm for winner determination in N-product auctions. |
| 1999 (May-Aug) | <i>IBM Indian Research Lab</i> , New Delhi, India
Summer Internship
Project: Optimum scheduling policy for a <i>Multiproduct single processor</i> . |

RESEARCH INTERESTS

Applied probability and stochastic models, Stochastic systems: performance analysis and optimal control, Flexibility, Real-time information sharing, Operations management and Rare event simulation

PUBLICATIONS

Appeared/Forthcoming

1. T. Huang, G. Allon and A. Bassamboo, Bounded rationality in queueing systems. *Manufacturing and Service Operations Management*, Forthcoming.
2. M. Lim, A. Bassamboo, M. Daskin and S. Chopra, Facility location decisions with random disruptions and imperfect estimation. *Manufacturing and Service Operations Management*, Forthcoming.
3. A. Bassamboo, L. Y. Chu and R. S. Randhawa, Designing Flexible Systems Using a New Notion of Submodularity. *Operations Research Letters*, Forthcoming.
4. A. Bassamboo, R. Randhawa and J. A. Van Mieghem, A little flexibility is all you need: Asymptotic optimality of tailored chaining and pairing in queueing systems. *Operations Research*, 60:1423 – 1435, 2012.
5. E. Cil, G. Allon and A. Bassamboo, Large-scale Service Marketplaces: The Role of the Moderating Firm. *Management Science*, 58: 1854 – 1872, 2012.
6. G. Allon, A. Bassamboo and I. Gurvich, “We will be right with you:” Managing customers with vague promises. *Operations Research*, 59:1382 – 1394, 2011.
(Second prize in 2008 INFORMS JFIG Competition.)
7. G. Allon, and A. Bassamboo, Impact of delaying the delay announcement. *Operations Research*, 59:1198 – 1210, 2011.
8. G. Allon and A. Bassamboo, Buying from the babbling retailer? The impact of availability information on customer behavior, *Management Science*, 57:713 – 726, 2011.
9. A. Bassamboo, R. S. Randhawa, and J. A. Van Mieghem, Optimal flexibility configurations in newsvendor networks: Going beyond chaining and pairing. *Management Science*, 56:1526 – 1303, 2010
10. A. Bassamboo and R. S. Randhawa, On the accuracy of fluid models for capacity sizing in queueing systems with impatient customers. *Operations Research*, 58: 1398 – 1413, 2010.
(Third prize in 2010 INFORMS JFIG Competition.)
11. A. Bassamboo, R. S. Randhawa, and A. Zeevi, Capacity sizing under parameter uncertainty: Safety staffing principles revisited. *Management Science*, 56:1668– 1686, 2010.
12. M. Sohoni, A. Bassamboo, S. Chopra, U. Mohan and N. Sendil, Threshold incentives over multiple periods and the sales hockey stick phenomenon. *Naval Research Logistics*, 57:503 – 518, 2010.
13. Lim, M., M. Daskin, A. Bassamboo and S. Chopra, A facility reliability problem: Formulation, properties and algorithm. *Naval Research Logistics*, 57:58 – 70, 2010.
14. A. Bassamboo, S. Kumar and R. S. Randhawa, Dynamics of new product introduction in closed rental systems. *Operations Research*, 57:1347 –1359, 2009.
15. A. Bassamboo and A. Zeevi, On a data-driven method for staffing large call centers. *Operations Research*, 57:714–726, 2009.

16. A. Bassamboo, J. M. Harrison, and A. Zeevi, Pointwise stationary fluid models for stochastic processing networks. *Manufacturing and Service Operations Management*, 11:70 – 89, 2009.
17. A. Bassamboo, S. Juneja and A. Zeevi, Portfolio credit risk with extremal dependence. *Operations Research*, 56:593–606, 2008.
18. A. Bassamboo, S. Juneja and A. Zeevi, Performance of importance sampling simulation in the presence of heavy-tails. *Operations Research Letters*, 34:521– 531, 2006.
19. A. Bassamboo, J. M. Harrison and A. Zeevi, Design and control of a large call center: Asymptotic analysis of an LP-based method. *Operations Research*, 54:419–435, 2006.
20. A. Bassamboo, J. M. Harrison and A. Zeevi, Dynamic routing and admission control in high-volume service systems: Asymptotic analysis via multi-scale fluid limits. *Queueing Systems: Theory and Applications*, 51:249-285, 2005.

Book Chapters

21. G. Allon and A. Bassamboo, Cheap talk in operations: The role of intentional vagueness, *Chapter 1 in Operations Management Models with Consumer-Driven Demand*, S. Netessine and C. Tang, editors, 2009.

Submitted/Revised

22. G. Allon, A. Bassamboo and M. Lariviere, Would the Social Planner Let Bags Fly Free? *Under Revision*
23. G. Allon, A. Bassamboo and R. Randhawa, Price as a signal of product availability: Is it cheap? *Under Revision*
24. G. Allon, A. Bassamboo and E. Cil, A Service Marketplace with Multiple Classes and Multiple Skilled Agents. *Submitted for Publication*.

Work in progress/Manuscript in preparation

25. G. Allon, A. Bassamboo and Q. Yu, The impact of delay announcements on consumers: An empirical study.
26. A. Bassamboo and R.S. Randhawa, Using Estimated Patience Levels to Optimally Schedule Customers.
27. A. Bassamboo, and R. S. Randhawa. Optimal Control in a Netflix-Like Closed Rental System.
28. G. Allon, A. Bassamboo and E. Barlow, Managing Service in the presence of Labor issues.
29. A. Bassamboo, R. S. Randhawa and A. Zeevi, Near-optimal Control of Parallel Server Queueing Networks.
30. G. Allon, A. Bassamboo and R. Cui, How to teach your customers to play Nash along with queueing theory.
31. M. Lim, A. Bassamboo, S. Chopra and M. Daskin, Flexibility and fragility: Supply chain network design with disruption risks.
32. G. Allon and A. Bassamboo, Service introduction by product-oriented firms: Pricing, quality and variety.
33. G. Allon, A. Bassamboo, R. Cui and J. A. Van Mieghem, Information sharing in supply chains: An empirical and theoretical valuation.

PATENTS

- 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, 2000.

CASE STUDY

- Mercon Coffee Nicaragua (with J. A. Van Mieghem).

TALKS AND PRESENTATIONS

Conferences

- Would the Social Planner Let Bags Fly Free?, INFORMS Phoenix, October 2012.
- Price as a signal of product availability: Is it cheap?, MSOM Conference, Columbia University, New York, June 2012
- Near-optimal Control of Parallel Server Queueing Networks, CORS-SCRO 2012 Annual Conference, Niagara Falls, Ontario, June 2012
- Bounded Rationality in Service Systems, POMS, Chicago, April 2012
- Cheap Talk in Queues with Multiple Customer Classes, POMS, Chicago, April 2012
- Cheap Talk in Queues with Multiple Customer Classes, INFORMS Charlotte, November 2011.
- On the Accuracy of Fluid Models for Capacity Planning in Queueing Systems with Impatient Customers, INFORMS Charlotte, November 2011.
- On the accuracy of fluid models for capacity sizing in queueing systems with impatient customers, Applied Probability Society of INFORMS Conference, Stockholm, Sweden, July 2011.
- Near optimal control of parallel server queueing networks, Applied Probability Society of INFORMS Conference, Stockholm, Sweden, July 2011.
- Almost optimal control and capacity selection in parallel service systems, MSOM Conference, University of Michigan, Ross School of Business, Michigan, June 2011.
- Price as a signal of product availability: Is it cheap?, MSOM Conference, University of Michigan, Ross School of Business, Michigan, June 2011.
- Delaying the delay announcements, INFORMS Austin, November 2010.
- On the accuracy of fluid models for capacity sizing in queueing systems with impatient customers, INFORMS Austin, November 2010.
- Bounded rationality in queueing systems, MSOM, Technion, Israel June 2010.

- Accuracy of fluid models for capacity planning in queueing systems, Applied Probability Cluster, INFORMS San Diego, October 2009.
- Teaching your customers to play Nash, MSOM Cluster, INFORMS San Diego, October 2009.
- Optimal call center staffing with arrival uncertainty, Service Science Cluster, INFORMS San Diego, October 2009.
- Optimal flexibility configurations in newsvendor networks: Going beyond chaining and pairing, Applied Probability Cluster, INFORMS San Diego, October 2009.
- Accuracy of fluid models for capacity planning in queueing systems, MSOM Conference, MIT, Cambridge, June 2009.
- Cheap talk in queues, MSOM Conference, MIT, Cambridge, June 2009.
- A little flexibility is all you need: Optimality of tailored chaining and pairing, Applied Probability Cluster, INFORMS Washington DC, October 2008.
- Staffing call centers with differentiated levels of service: Approximate solutions via constraint dualization, MSOM Cluster, INFORMS Washington DC, October 2008.
- “We Will be Right with You”: Managing customers with vague promises. JFIG Finalist, INFORMS Washington DC, October 2008.
- Dynamics of new product introduction in closed rental systems. Applied Probability Cluster, INFORMS Washington DC, October 2008.
- Capacity planning in service systems with arrival rate uncertainty: Safety staffing principles revisited. Applied Probability Cluster, INFORMS Washington DC, October 2008.
- Optimal control in a Netflix-like closed rental system, MSOM, Maryland, June 2008.
- Staffing call centers with differentiated levels of service: Approximate solutions via constraint dualization, MSOM, Maryland, June 2008.
- “We Will be Right with You”: Managing customers with vague promises. MSOM, Maryland, June 2008.
- Staffing call centers with differentiated levels of service: Approximate solutions via constraint dualization, Contact Center Forum, Wharton School, February 2008.
- Dynamics of new product introduction in closed rental systems. Applied Probability Cluster, INFORMS, Seattle, November 2007.
- On the asymptotic accuracy of delay-based delay estimate. Applied Probability Cluster, INFORMS, Seattle, November 2007.
- Role of Services: Pricing, Durability and Product line. Revenue Management Cluster, INFORMS, Seattle, November 2007.
- Capacity sharing, Revenue Management Cluster, INFORMS, Seattle, November 2007.
- Staffing to meet service level constraint at large call center using pointwise stationary fluid models, Applied Probability Society of INFORMS Conference, Eindhoven, The Netherlands, July 2007.

- Role of Services: Pricing, Durability and Product line. POMS, Dallas, May 2007.
- Optimal resource allocation in two stage sampling of input distributions, Winter Simulation Conference Monterey, December 2006.
- Importance sampling for reduced form models, Winter Simulation Conference, Monterey, December 2006
- Role of services, MSOM cluster, INFORMS, Pittsburgh, November 2006.
- Importance sampling for reduced form models, Applied Probability cluster, INFORMS, Pittsburgh November 2006.
- Expected shortfall in credit portfolios with extremal dependence, Winter Simulation Conference, Orlando, December 2005.
- Importance sampling simulation in the presence of heavy tails, Winter Simulation Conference, Orlando, December 2005.
- An approximately optimal data-driven call center staffing method, Applied Probability cluster, INFORMS, New Orleans/San Francisco, November 2005.
- Importance sampling for portfolio credit risk with extremal dependence, Applied Probability cluster, INFORMS, New Orleans/San Francisco, November 2005.
- Importance sampling for portfolio credit risk with extremal dependence, Applied Probability Conference, Ottawa, July 2005.
- An LP-based method for staffing and routing in large call centers, Applied Probability cluster, INFORMS, Denver, October 2004.
- Importance sampling and rare event simulation in the presence of heavy-tails, Applied Probability cluster, INFORMS, Denver, October 2004.
- Asymptotically optimal staffing and routing in large call centers, Applied Probability cluster, INFORMS, Atlanta, October 2003.
- Optimal use of manufacturing capacity options, Manufacturing and Service Operations Management Society, sponsored session, INFORMS, San Jose, October 2002.
- Constructing an optimal portfolio of capacity options, MSOM conference, Ithaca, June 2002.

Academic Institutes

- The Fuqua School of Business, Duke UNiversity, April 2013.
- INSEAD, France, April 2012.
- College of Business at Illinois, University of Illinois at Urbana-Champaign, September 2011.
- Haas School of Business, University of California Berkeley, September 2010.
- Marshall School of Business, University of Southern California, November 2009.
- The H. Milton Stewart School of Industrial and Systems Engineering, Georgia Institute of Technology, November 2008.

- McCombs School of Business, University of Texas at Austin, November 2008
- Sloan School of Management, MIT, October 2008.
- Indian School of Business, Hyderabad, May 2008.
- Operation, Information and Technology Seminar, Graduate School of Business, Stanford University, April 2008.
- Joint Kellogg Operations and IEMS seminar, Northwestern University, March 2008.
- Indian Institute of Technology, New Delhi, India, January 2006
- Joint Kellogg Operations and IEMS seminar, Northwestern University, October 2005
- Sloan School of Management, MIT, February 2005.
- Management Science and Engineering, Stanford University, February 2005.
- Anderson School of Management, UCLA, January 2005.
- Graduate School of Business, Columbia University, January 2005.
- Kellogg School of Management, Northwestern University, January 2005.
- Graduate School of Business, University of Chicago, January 2005.
- Stern School of Business, New York University, January 2005.
- Graduate School of Business, Stanford University, December 2004.

HONORS AND AWARDS

- Third Prize in JFIG Competition at INFORMS 2010 for the paper *“On the accuracy of fluid models for capacity sizing in queuing systems with impatient customers.”*
- Chairs’ Core Teaching Award at Kellogg School of Management for 2009-2010.
- Second Prize in JFIG Competition at INFORMS 2008 for the paper *“We will be right with you”: Managing customer using vague promises.*
- Robert K. Jaedicke Merit Fellowship, Graduate School of Business, Stanford University for the year 2000-2001.
- Silver Medal for obtaining the highest CGPA among the students in Mechanical Engineering at IIT Delhi.
- Institute Merit Scholarship in all the semesters for being amongst the top 7% students at IIT Delhi.
- Obtained 4th rank in Mathematica’99 (mathematics competition) held at IIT Delhi.

DOCTORAL STUDENTS

- Ruomeng Cui, co-advisor, Expected Graduation: 2013.
- Qiuping Yu, co-advisor, Expected Graduation: 2013.
- Eric Park, Dissertation Committee, Expected Graduation: 2013.
- Tinglinag Huang, Dissertation Committee
Graduated: 2011, First Position: University College London.
- Eren Cil, co-advisor, “Managing service System with Self-interested Actors” Graduated: 2010, First Position: Lundquist College of Business, University of Oregon.
- Michael Lim, co-advisor, “Supply Chain Network Design in the Presence of Disruption Risks”
Graduated: 2009, First Position: College of Business, UIUC.

SERVICE

- PhD Coordinator for Operations Management program, 2012–
- Organizing Committee of Kellogg Operations Workshop, 2012.
- Kellogg Research Computing Committee 2011–2012.
- Co-chair for Capacity Planning track at POMS, Chicago, April 2012.
- Untenured observer in the Kellogg’s Personnel Committee for 2010–2011.
- Cluster-Chair for APS tracks at INFORMS, Charlotte, North Carolina, November 2011.
- Co-Chair of MSOM Student Paper Competition 2011.
- Council Member of Applied Probability Society 2011–2013.
- Organizing Committee of Kellogg Operations Workshop, 2010.
- Co-Chair for MSOM Service SIG, Technion, June 2010.
- Organizing Committee of Kellogg Operations Workshop, 2008.
- Associate Editor for Naval Research Logistics, since 2009–
- Referee for Operations Research, Mathematics of Operations Research, Management Science, Manufacturing and Service Operations Management, Queueing Systems: Theory and Applications, and European Journal of Operations Research.
- Organized sessions regularly in Applied Probability track, MSOM track and RM track at INFORMS annual conference.
- Organized a session at POMS, Dallas, May 2007.
- Judge for MSOM student paper competition for 2007, 2008 and 2009.
- Majors Presentation to the Kellogg incoming students 2006 and 2007.