September 16, 2009

J. G. "Jim" Dai
James C. Edenfield Professor
School of Industrial and Systems Engineering (ISyE)

I. EARNED DEGREE

Ph.D.	1990	Stanford University	Mathematics
M.S.	1985	Nanjing University, Nanjing	Mathematics
B.S.	1982	Nanjing University, Nanjing	Mathematics

II. EMPLOYMENT

James Riady Distinguished Visiting Professor in Decision Sciences	National University of Singapore	2009 – present
Edenfield Professor	Georgia Institute of Technology	2007–present
Professor of ISyE	Georgia Institute of Technology	1998–2007
Special Term Professor	Tsinghua University	2002–present
Visiting Professor	National University of Singapore	May 2001–July 2001
Professor of Mathematics	Georgia Institute of Technology	1998–2001
Visiting Professor	Stanford University	Dec 1998–June 1999
Visiting Professor	Aarhus University	Oct 1998–Dec 1998
Associate Professor of ISyE and of Mathematics	Georgia Institute of Technology	1996–1998
Assistant Professor of ISyE and of Mathematics	Georgia Institute of Technology	1990–1996
Visiting Assistant Professor of Mathematics	University of Wisconsin-Madison	Fall 1991

III. Ph.D. STUDENTS SUPERVISED

1. Din-Horng Yeh (co-advised with Chen Zhou), ISyE;
   Began Summer 1991; passed comprehensive in Fall 1991; completed in Summer 1994
   Thesis title: *Sequential bottleneck decomposition and the QNET method for some open multiclass*

queueing networks.
Publication: IV(A)14
Current position: Associate Professor, Kao Shiung Institute of Technology, Taiwan.

2. Wanyang Dai, School of Mathematics
Began Fall 1992; passed comprehensive in Spring 1993; completed in Fall 1996
Thesis title: *Diffusion approximations for open queueing networks with finite capacities*
Publication: IV(A)16, IV(A)21
Current position: Professor, Department of Mathematics, Nanjing University, China.

3. John Hasenbein (co-advised with John Vande Vate), ISyE;
Began Fall 1993; passed comprehensive in Fall 1994; completed in Summer 1998
Thesis title: *Capacity and scheduling of multiclass queueing networks*
Publication: IV(A)15
Current position: Tenured Associate Professor, University of Texas at Austin

4. Otis Jennings, ISyE;
Began Fall 1994; passed comprehensive in Spring 1995.
Completed in May 2000.
These title: Multiclass Queueing Networks with Setup Delays: Stability Analysis and Heavy Traffic Approximation
Publication: IV(B)4, IV(A)25.
Current position: Associate Professor, Graduate School of Business, Duke University.

5. Caiwei Li, ISyE;
Began Fall 1997; passed comprehensive exam in Spring 1999.
Completed in December 2001.
Thesis title: Dynamic scheduling of stochastic networks: dispatch and batch policies
Employer: Oracle Corporation, starting in June 2001.
Publication: IV(A)22.

6. Jozo Acksteiner (co-advised with John Vande Vate), ISyE;
Began Spring 1998; passed comprehensive exam in 1999.
Completed in August 2001.
Thesis title: Stability in re-entrant queueing systems and the role of cross-docks in the semiconductor industry
Employer: Booz Allen Hamilton Inc.

7. Ki-Seok Choi, ISyE;
Began Fall 1998; passed comprehensive exam in Fall 1999.
Completed in July 2003.
Thesis title: Supply contracts with service level guarantee

Current position: assistant professor, Hangook University of Foreign Study, Seoul.
Publication: IV(A)24

8. Junxia Chang (co-advised with Hayriye Ayhan), ISyE;
   Began Fall 1999; passed comprehensive exam in Fall 2000.
   Completed in December 2004.
   Thesis title: Control of stochastic networks with non-stationary arrivals.
   Publication: IV(B)5, IV(A)26

9. Wuqin Lin, ISyE;
   Began Fall 2001; passed comprehensive exam in Fall 2002.
   Thesis title: Dynamic control of stochastic processing networks
   Current position: Assistant Professor at Kellogg Business School of Northwestern University.
   Publication: IV(A)27

10. Tolga Tezcan (co-advised with Amy Ward), ISyE;
    Began Fall, 2001;
    Completed in June 2006.
    Thesis title: State Space Collapse in Many Server Diffusion Limits of Parallel Server Systems and Applications
    Current position : Assistant Professor at the Department of Industrial and Enterprise Systems Engineering, University of Illinois at Urbana-Champaign

11. Melda Ormeci (co-advised with John Vande Vate), ISyE;
    Began Fall 2001; passed comprehensive exam in Fall 2002.
    Completed in June 2006.
    Thesis Title: Inventory Control in a Make-To-Order Environment.
    Won the Second Prize for Dantzig Dissertation Award from INFORMS in 2006.
    Current position: Assistant Professor in The Faculty of Economics and Administrative Sciences of Ozyegin University, Istanbul.

12. Josh Reed (co-advised with Amy Ward), ISyE;
    Completed in June 2007.
    Thesis title: Queueing Models for Large Scale Telephone Call Centers
    Won INFORMS Nicholson Student Paper Prize in 2006.
    Current position: Assistant Professor at the Stern School of Business, New York University.

13. Jiheng Zhang (co-advising with Bert Zwart), ISyE;
    Completed in July 2009.
    Thesis topic: Limited Processor Sharing Queues and Parallel Server Queues
    Finalist in INFORMS Nicholson Student Paper Prize in 2008.
    Current position: Assistant Professor, Hong Kong University of Science and Technology.

IV. INTELLECTUAL PRODUCTS

A. Refereed Journal Publications

1. J. G. Dai and J. M. Harrison, Steady-state analysis of RBM in a rectangle: numerical methods and a queueing application. *Annals of Applied Probability* **1**, 16–35 (1991).
2. J. G. Dai and J. M. Harrison, Reflected Brownian motion in an orthant: numerical methods for steady-state analysis. *Annals of Applied Probability* **2**, 65–86 (1992).
3. J. G. Dai and Y. Wang, Nonexistence of Brownian models of certain multiclass queueing networks. *Queueing Systems: Theory and Applications* **13**, 41–46 (1993).
4. J. G. Dai and J. M. Harrison, The QNET method for two-moment analysis of closed manufacturing systems. *Annals of Applied Probability* **3**, 968–1012 (1993).
5. J. G. Dai, V. Nguyen and M. I. Reiman, Sequential bottleneck decomposition: an approximation method for open queueing networks. *Operations Research* **42**, 119–136 (1994).
6. J. G. Dai and V. Nguyen, On the convergence of multiclass queueing networks in heavy traffic. *Annals of Applied Probability* **4**, 26–42 (1994).
7. J. G. Dai and R. J. Williams, Existence and uniqueness of semimartingale reflecting Brownian motions in a convex polyhedron. *Theory of Probability and its Applications*, **special invited paper**, **40**, 3–53 (1995). (In Russian, to appear in the SIAM translation journal of the same name.)
8. J. G. Dai, On positive Harris recurrence of multiclass queueing networks: a unified approach via fluid limit models. *Annals of Applied Probability,* **5**, 49–77 (1995).
9. J. G. Dai and T. G. Kurtz, A multiclass station with Markovian feedback in heavy traffic. *Mathematics of Operations Research* **20**, 721–742 (1995).
10. J. G. Dai and S. P. Meyn, Stability and convergence of moments for multiclass queueing networks via fluid limit models. *IEEE Transactions on Automatic Control* **40**, 1889–1904 (1995).
11. J. G. Dai and G. Weiss, Stability and instability of fluid models for re-entrant lines, *Mathematics of Operations Research* **21**, 115–134 (1996).
12. J. G. Dai, A fluid-limit model criterion for instability of multiclass queueing networks, *Annals of Applied Probability*, **6**, 751–757 (1996).
13. J. Banks and J. G. Dai, Simulation studies of multiclass queueing networks, *IIE Transactions*, **29**, 213–219 (1997).
14. J. G. Dai, D. H. Yeh and C. Zhou, The QNET method for re-entrant queueing networks with priority disciplines, *Operations Research*, **45**, pp. 610–623 (1997).
15. J. G. Dai, J. J. Hasenbein and J. H. Vande Vate, Stability of a Three-Station Fluid Network, *Queueing Systems*, **Vol. 33**, 293–325 (1999).

16. J. G. Dai and W. Dai, A heavy traffic limit theorem for a class of open queueing networks with finite buffers, *Queueing Systems*, **Vol. 32**, 5–40 (1999).
17. J. G. Dai, J. H. Vande Vate, The Stability of Two-Station Multitype Fluid Networks, *Operations Research*, **48**, 721–744 (2000).
18. M. Bramson and J. G. Dai, Heavy traffic limits for some queueing networks, *Annals of Applied Probability*, **Vol. 11**, 49–90 (2001).
19. F. Avram, J. G. Dai and J. J. Hasenbein, Explicit solutions for variational problems in the quadrant. *Queueing Systems*,**Vol. 37**, 261–291 (2001).
20. J. G. Dai and G. Weiss, A fluid heuristic for minimizing makespan in job-shops, *Operations Research*, **Vol. 50**, 692–707 (2002).
21. Xinyang Shen, Hong Chen, J. G. Dai and Wanyang Dai, The Finite Element Method for Computing the Stationary Distribution of an SRBM in a Hypercube with Applications to Finite Buffer Queueing Networks, *Queueing Systems*, **Vol. 42**, 33–62 (2002).
22. J. G. Dai and Caiwei Li, Stabilizing batch processing networks, *Operations Research*, **Vol. 51**, 123–136, (2003).
23. J. G. Dai, John J.Hasenbein and John VandeVate, Stability and instability of a two-station queueing network, *Annals of Applied Probability*, **14**, 326–377, (2004).
24. K. S. Choi, J. G. Dai and J. S. Song, On measuring supplier performance under vendor-managed-inventory programs", *Management Science and Operations Management*, **Vol. 6**, 53–72, 2004.
25. J. G. Dai and Otis B. Jennings, Stabilizing queueing networks with setups, *Mathematics of Operations Research*, **Vol. 29**, 891–922, 2004.
26. Junxia Chang, Hayriye Ayhan, J. G. Dai and Cathy H. Xia, Dynamic scheduling of a multiclass fluid model with transient overload, *Queueing Systems*, **Vol. 48**, 263–307, 2004.
27. J. G. Dai and Wuqin Lin, Maximum Pressure Policies in Stochastic Processing Networks, *Operations Research*, **Vol. 53**, 197–218, 2005.
28. Jiankui Yang, J. G. Dai, Jian-Gang You, and Hanqin Zhang, A simple proof of diffusion approximations for LBFS re-entrant lines, *Operations Research Letters*, **Vol. 34**, 199–204, 2006.
29. J. G. Dai John J. Hasenbein and Bara Kim, Stability of Join-the-Shortest-Queue Networks, *Queueing Systems*, **57**, 129–145, 2007.
30. Melda Ormeci, J. G. Dai and John VandeVate, Impulse Control of Brownian Motion: The Constrained Average Cost Case, *Operations Research*, **56**, 618–629, 2008.
31. J. G. Dai and Tolga Tezcan, Optimal Control of Parallel Server Systems with Many Servers in Heavy Traffic, *Queueing Systems*, **59**, 95-134, 2008.

32. J. G. Dai and Wuqin Lin, Asymptotic optimality of maximum pressure policies in stochastic processing networks. submitted to *Annals of Applied Probability*, **18**, 2239–2299, 2008.
33. Tolga Tezcan and J. G. Dai, Dynamic Control of N-Systems with Many Servers: Asymptotic Optimality of a Static Priority Policy in Heavy Traffic, *Operations Research*, to appear.
34. Jiheng Zhang, J. G. Dai and Bert Zwart, Law of Large Number limits of Limited Processor Sharing Queues, *Mathematics of Operations Research*, accepted for publication in August 2009.
35. Maury Bramson, J. G. Dai and J. Michael Harrison, Positive recurrence of reflecting Brownian motion in three dimensions, submitted to *Annals of Applied Probability*, accepted for publication in August 2009.
36. Varun Gupta, J. G. Dai, Mor Harchol-Balter and Bert Zwart, The effect of higher moments of job size distribution on the performance of an $M/G/s$ queueing system, *Queueing Systems*, accepted for publication in July 2009.

B. Refereed Proceedings Publications and Book Chapters

1. J. G. Dai, Stability of open multiclass queueing networks via fluid models. *Proceedings of IMA Workshop on Stochastic Networks*, pp. 71–90, editors: F. Kelly and R. J. Williams, Springer-Verlag, New York, 1995.
2. J. G. Dai, J. H. Vande Vate, Global Stability of Two-Station Queueing Networks, Proceedings of Workshop on Stochastic Networks: Stability and Rare Events. Editors: Paul Glasserman, Karl Sigman and David Yao, pp. 1–26, Springer-Verlag, 1996.
3. J. G. Dai and B. Prabhakar, The throughput of data switches with and without speedup, *IEEE INFORCOM 2000*, 556–564 (2000).
4. J. G. Dai and Otis B. Jennings, Stability of General Processing Networks, In D. D. Yao, H. Zhang and X. Y. Zhou, editors, *Stochastic Models and Optimization*, Springer, 2002.
5. J. S. Chang, Hayriye Ayhan, J. G. Dai, Zhen Liu, Mark S. Squillante and Cathy H. Xia, Optimal dynamic scheduling in a multiclass fluid model of Internet servers with transient overload, *Proceedings of The 42nd Conference on Decision and Control*, pp. 721–727, IEEE Control Systems Society, December 2003.
6. J. G. Dai, Wuqin Lin, Rajeeva Moorthy, and Chung-Piaw Teo, Berth Allocation Planning Optimization in Container Terminals, in *Supply Chain Analysis: a Handbook on the Interaction of Information System and Optimization*, C. S. Tang, C.-P. Teo, and K. K. Wei Eds., Springer, New York, 2008.

C. Submitted Papers for Publications

1. J. G. Dai and Tolga Tezcan, State space collapse in many server diffusion limits of parallel server systems, submitted to *Mathematics of Operations Research* for publication in 2006.
2. Jiheng Zhang, J. G. Dai and Bert Zwart, Diffusion Limits of Limited Processor Sharing

Queues, submitted to *Annals of Applied Probability* for publication in December 2007.

3. J. G. Dai, Shuangchi He and Tolga Tezcan, Many-server diffusion limits for $G/Ph/n+GI$ queues, submitted to *Mathematics of Operations Research* for publication in December 2008.
4. J. G. Dai and Shuangchi He, Customer abandonment in many-server queues, submitted to *Annals of Applied Probability* for publication in April 2009.
5. J. G. Dai and J. Michael Harrison, "Reflecting Brownian motion in three dimensions: A new proof of sufficient conditions for positive recurrence", submitted to *Mathematical Methods for Operations Research* for publication in July 2009.

D. Non-Refereed Proceedings Publications

1. J. G. Dai and Steven Neuroth, DPPS scheduling policies in semiconductor wafer fabs, In G. T. Mackulak, J.W. Fowler and A. Schomig, editors, *Proceedings of the International Conference on Modeling and Analysis of Semiconductor Manufacturing*, pp. 194-199, Tempe, Arizona, 2002.

E. Other Non-Refereed Publications

1. Earl Barnes, J. G. Dai, Shijie Deng, Doug Down, Mark Goh, Hoong Chuin Lau, and Moosa Sharafali, Electronics Manufacturing Service Industry, August 2000,
2. J. G. DAI, Shi-Jie DENG, Jihong OU, Kwok-Leung TSUI, Yang WANG, Huiwen ZHANG, Derong WANG, Xiaohong LIU, Rui LI, 2002 China Logistics Provider Survey, January 2003, School of Industrial and Systems Engineering, Georgia Institute of Technology, and The Logistic Institute–Asia Pacific.
3. J. G. DAI, Yang WANG, Nancy Wong, Derong WANG, Xiaohong LIU, Rui LI, 2003 China Logistics User Survey, August 2003, School of Industrial and Systems Engineering, Georgia Institute of Technology, and The Logistic Institute–Asia Pacific.
4. J. G. DAI, Yuepeng Li, Xiutian Liu, Yang WANG, Nancy Wong, and Chen Zhou, 2004 China Road Transportation Enterprise Survey Report, Feburary 2005, School of Industrial and Systems Engineering, Georgia Institute of Technology, and The Logistic Institute–Asia Pacific.
5. "Beer Distribution in China", The Supply Chain Logistics Institute, The School of Industrial and Systems Engineering, Georgia Institute of Technology, March 2008; this report was written for the Center China Logistics, co-directed then by Professors Jim Dai and Chen Zhou, with numerous collaborators from China and US. `http://www.tli.gatech.edu/research/china/projects.php`

F. Other Intellectual Products

1. J. G. Dai and J. M. Harrison, The QNET software for performance analysis of queueing network, 1989–1994. The software was used for teaching and research at Bell Labs, Texas Instruments Inc., Georgia Institute of Technology, Stanford, MIT, The University of Twente in Netherlands, and others.

V. SIGNIFICANT PROFESSIONAL SERVICES

a. Editorial Positions

1. Series Co-Editor, *Handbooks in Operations Research and Management Science*, co-editing with J. K. Lenstra and G. L. Nemhauser, January 2006– October 2007.
2. Founding Editorial Board Member, *Foundations and Trends in Stochastic Systems*, 2004–present.
3. Founding Associate Editor, *Probability Survey*, 2003–present.
4. Associate Editor, *Queueing Systems*, 1994–December, 2007.
5. Associate Editor, *Mathematics of Operations Research*, 1996–2001, 2004–present
6. Associate Editor, *Operations Research*, 1996–2005.
7. Associate Editor, *Management Science*, 1998–2004.
8. Founding Associate Editor, *Stochastic Systems*, a journal of the Institute for Operations Research and the Management Sciences, published with support from the Institute of Mathematical Statistics, 2009–present.

b. INFORMS Committees

1. Council Member, Applied Probability Society of INFORMS, 1999-2001.
2. Member, INFORMS Lanchester Prize Committee, 2002-2003.
3. Member, search committee for editor-in-chief for *Mathematics of Operations Research*, 2003.
4. Chair, INFORMS Lanchester Prize Committee, 2003-2004.
5. Member, INFORMS Applied Probability Society Prize Committee, 2006–2007.
6. Chair, INFORMS Applied Probability Society Prize Committee, 2008–2009.
7. Member, INFORMS John von Neumann Theory Prize Committee, 2008–2011.

VI. CONFERENCE ORGANIZATIONS

1. Cluster Chair, INFORMS Fall National Meeting, November, 1996.
2. Organizing Committee, IMS third International Probability Symposium, Park City, Utah, July 1997.
3. Co-Organizer, Stanford SIMA Workshop, Stanford, California, April 1999.
4. Organizing Committee, Workshop on Stochastic Networks, June 2000, Madison Wisconsin.
5. Cluster Chair, INFORMS Fall National Meeting, November, 2000.
6. Organizing Chair, Workshop on stochastic models, July 2001, National University of Singapore.
7. Member, Program Committee of International Workshop on Decision Making under Uncertainty, May 27-28, 2002, Beijing, China
8. Member, Program Committee of International Conference on Global Supply Chain Management, August 5-7, 2002, Beijing, China.

9. Member, Program Committee of the 5th International Conference on Management, May 3–5, 2004, Marco, China.
10. Member, Program Committee of Stochastic Networks Conference, June 2004, Montreal, Canada.
11. Member, Program Committee for the 1st Applied Probability Workshop in China, Beijing, July 2005.
12. Member, Program Committee for the First International Conference on Performance Evaluation Methodologies and Tools, Pisa, Italy, October 11–13, 2006.
13. Cluster Chair, Applied Probability Society, INFORMS International, Hong Kong, June 2006.
14. Member, Program Committee for ACM SIGMETRICS 2007, the International Conference on Measurement and Modeling of Computer Systems, San Diego, California, June 12–16, 2007.
15. Member, Program Committee for ACM SIGMETRICS 2008, MAMA 2008 Workshop, Annapolis, Maryland, June 2, 2008.
16. Member, Organizing Committee, Stochastic Processing Network Conference in Honor of J. Michael Harrison August 29-30, Stanford University, CA, USA.
17. Member, Organizing Committee, From Markov Processes to Brownian Motion and Beyond: An International Conference in Memory of Kai Lai Chung, June 13-16, 2010, Peking University, Beijing, China.
18. Member, Program Committee for ACM SIGMETRICS 2007, the International Conference on Measurement and Modeling of Computer Systems, New York City, New York, June 14–18, 2010.
19. Session chairs for numerous INFORMS and IMS meetings since 1997.

VII. PRESENTATIONS

a. Plenary Talks and Tutorials

1. *Tutorial:* INFORMS Fall National Meeting, Atlanta, November 1996.
2. *Plenary talk:* The 26th Conference on Stochastic Processes and their Applications, Beijing, China, June 1999.
3. *Plenary talk:* The 15th INFORMS Applied Probability Society Conference, Cornell University, Ithaca, New York, July 12-15, 2009.

b. Invited Conference and Workshop Presentations

1. SIAM Conference on Applied Probability in Science and Engineering, New Orleans, LA, March 1990.
2. ORSA/TIMS 30th Joint National Meeting, Philadelphia, PA, October 1990.
3. ORSA/TIMS Special Meeting on Applied Probability, Monterey, CA, January 1991.
4. The 4th Southeast Probability Meeting, Lexington, KY, June 1991.
5. Summer School on Scheduling Theory and its Applications, Bonas, France, September 1992.
6. ORSA/TIMS 34th Joint National Meeting, San Francisco, CA, November 1992.
7. The 2nd IMS International Symposium on Probability and its Applications, Bloomington, IN, March 1993.

8. Conference on Applied Probability in Engineering, Computer and Communication Sciences, organized by INRIA/ORSA/TIMS/SMAI, Paris, France, June 1993.
9. Thirty-First Annual Allerton Conference on Communication, Control, and Computing, organized by University of Illinois at Urbana-Champaign, September 1993.
10. The 3rd World Congress of the Bernoulli Society for Mathematical Statistics and Probability, Chapel-Hill, North Carolina, June 1994.
11. ORSA/TIMS 38th Joint National Meeting, Detroit, Michigan, October 1994.
12. The 8th ORSA/TIMS Applied Probability Group Conference, Atlanta, Georgia, June 1995.
13. Stochastic Networks Workshop, Heriot-Watt University, Edinburgh, UK, August 1995.
14. Workshop on Stochastic Networks: Stability and Rare Events, Columbia University, New York, November 1995.
15. IFORS 14th Triennial Conference, Vancouver, July 1996.
16. AMS Southeastern Sectional Meeting, Chattanooga, Tennessee, October 1996.
17. INFORMS Spring National Meeting, San Diego, May 1997.
18. MCAA International Workshop on Networks and Random Structures on Trees, Sandbjerg Manor, Denmark, June 1997.
19. The 9th INFORMS Applied Probability Group Conference, Boston, MA, July 1997.
20. IMS third International Probability Symposium, Park City, Utah, July 1997.
21. INFORMS Fall National Meeting, Dallas, November 1997.
22. INFORMS Spring National Meeting, Montreal, April 1998.
23. Workshop on Stochastic Modelling and Analysis of Communication Networks, Lund University, Lund, October 1998.
24. Workshop on Stochastic Networks: Large Deviations, Stability and Fluid Models, Lorentz Center, Leiden University, Leiden, Netherlands, October 1998.
25. Applied Probability Workshop, Oberwolfach Mathematical Institute, Oberwolfach, Germany, December 1998.
26. Applied Probability Workshop, Chinese University of Hong Kong, June 1999.
27. Stanford SIMA Workshop, Stanford, California, April 1999.
28. 1998 Erlang Prize Recipients Presentation, INFORMS National Meeting, Cincinnati, May 1999.
29. 10th INFORMS Applied Probability Conference, Ulm, Germany, July 1999.
30. The 37th Annual Allerton Conference on Communication, Control, and Computing, organized by University of Illinois at Urbana-Champaign, September 1999.
31. The Stochastic Network Conference, Madison, Wisconsin, June 19 - June 24, 2000.
32. INFORMS Fall National Meeting, San Antonio, Texas, November 2000.
33. Conference on Stochastic Models: Part I, Beijing, June 2001.
34. Conference on Stochastic Models: Part II, Hong Kong, June 2001.
35. The Stochastic Network Conference, Stanford, June 24-29, 2002.
36. INFORMS Fall National Meeting, San Jose, California, November 2002.
37. INFORMS Fall National Meeting, Atlanta, GA, October 2003.

38. INFORMS Applied Probability Society Conference, Beijing, China, June 2004
39. Wuqin Lin and J. G. Dai, Maximum Pressure Policies in Stochastic Processing Networks, INFORMS Fall National Meeting, Denver, CO, October 2004.
40. Melda Ormeci, J. G. Dai and John VandeVate, Impulse Control of Brownian Motion: The Constrained Average Cost Case, INFORMS Fall National Meeting, San Francisco, CA, November 2005.
41. Tolga Tezcan and J. G. Dai, State space collapse in many server diffusion limits of parallel server systems, INFORMS Fall National Meeting, San Francisco, CA, November 2005.
42. Wuqin Lin and J. G. Dai, Asymptotic optimality of maximum pressure policies in stochastic processing networks. Plenary talk at the 2006 Stochastic Network Conference, University of Illinois at Urbana-Champaign, June 2006.
43. Melda Ormeci, J. G. Dai, and John Vande Vate, Inventory Control in a Build-To-Order Environment, M&SOM 2006 Conference, Atlanta, GA, June, 2006.
44. J. G. Dai and Tolga Tezcan, Many-Server Asymptotic Optimality in the N-Model, INFORMS National Meeting, Pittsburgh, November, 2006.
45. Wuqin Lin and J. G. Dai, Asymptotic optimality of maximum pressure policies in stochastic processing networks, INFORMS National Meeting, Pittsburgh, November, 2006.
46. J. G. Dai, John Hasenbein and Bara Kim, Stability of Join-the-Shortest-Queue Networks, INFORMS National Meeting, Seattle, November 2007.
47. Jiheng Zhang, J. G. Dai and Bert Zwart, Fluid and Diffusion Approximation of Limited Processor Sharing Queue, INFORMS National Meeting, Seattle, November 2007.
48. INFORMS National Meeting, Washington DC, October 2008.
49. Fluid models and stability of multiclass queueing networks, Workshop on Flows and Networks in Complex Media April 27-May 1, 2009, Institute for Pure & Applied Mathematics (IPAM), UCLA, Los Angles, California
50. Maximum Pressure Policies in Stochastic Processing Networks,Stochastic Processing Network Conference in Honor of J. Michael Harrison August 29-30, Stanford University, CA, USA

c. Invited Seminar Presentations

1. Bellcore Laboratories, Morristown, NJ, March 1991.
2. The Department of Mathematics, University of Colorado at Denver, Denver, CO, April 1991.
3. The Department of Mathematics, University of Wisconsin, Madison, WI, November 1991.
4. The Center for Mathematical Studies, University of Wisconsin, Madison, WI, July 1992.
5. The Coordinated Science Laboratory, University of Illinois, Urbana, IL, March 1993.
6. Department of Operations Research, Princeton University, Princeton, NJ, November, 1993.
7. The Institute of Applied Mathematics, Academia Sinica, Beijing, China, December 1993.
8. The Department of Mathematics, Nanjing University, Nanjing, China, December 1993.
9. The Institute of Mathematics and Its Applications, University of Minnesota, Minneapolis, MN, February 1994.
10. The OR Center, MIT, Boston, MA, October 1994.

11. The Department of Mathematics, Auburn University, Auburn, AL, January 1995.
12. The Department of IEOR and The School of Business, Columbia University, New York, NY, February 1995.
13. The Graduate School of Business, Stanford University, Stanford, CA, May 1995.
14. The Department of Statistics, East China Normal University, Shanghai, China, November, 1995.
15. Industrial Engineering and Management, Technion, Haifa, Israel, June 1996.
16. Harris Semiconductor, Palm Bay, Florida, August 1996.
17. The Department of Industrial Engineering, Seoul National University, Seoul, South Korea, August 1998.
18. The Department of Mathematics, Korea Advanced Institute for Science and Technology, Jaejon, South Korea, August 1998.
19. The Department of Statistics, Lund University, Lund, Sweden, September, 1999.
20. The Department of Statistics, Aarhus University, Aarhus, Denmark, October, 1998.
21. The Department of Mathematics, Ulm University, Ulm Germany, November, 1998.
22. The Department of Mathematics, University of Rome, Rome, Italy, November 1998.
23. The Probability Seminar, Department of Statistics, Stanford University, California, January, 1999.
24. The Joint Berkeley-Stanford Complex System Seminar, Department of Electrical Engineering and Computer Sciences, University of California, Berkeley, California, February, 1999.
25. Department of Mathematics, University of California, San Diego, California, April, 1999.
26. National Semiconductor, Santa Clara, California, May 1999.
27. INTEL, Santa Clara, California, May 1999.
28. Department of EESOR, Stanford University, California, May 1999.
29. TECH Semiconductor, Singapore, March 2000.
30. The Logistics Institute – Asia Pacific, National University of Singapore, March 2000.
31. MIT OR Center, Boston, March 2000.
32. Department Manufacturing Engineering, Boston University, March 2000.
33. Department of Decision Science, National University of Singapore, May, 2001.
34. Hitachi-Nippon Steel (Semiconductor Division), Singapore, May 2001.
35. Systems on Silicon Mfg. Co. Pte. Ltd., 70 Pasir Ris Drive 1, Singapore, June 2001.
36. Department of Industrial and Operations Engineering, University of Michigan, October 2002.
37. School of Economics & Management, Tsinghua University, May 2005.
38. The Institute of Applied Mathematics, Chinese Academia of Sciences, Beijing, June 2005.
39. School of Management, The University of Texas at Dallas, March 2007.
40. Columbia University, April 2007.
41. IBM Watson Research Center, Leaders in Mathematical Sciences Seminar Series, April 2008.
42. Department of Decision Science, National University of Singapore, Singapore, May 15, 2009.
43. Department of Mathematics, National University of Singapore, May 28, 2009.
44. Lee Kong Chian School of Business, Singapore Management University, May 22, 2009.

45. Maximum pressure policies for stochastic processing networks: throughput optimality, Department of Industrial Engineering, DalHousie University, Halifax, Nova Scotia, Canada, July 28, 2009.

d. Invited Lecture Series

1. One week lectures on stochastic networks in the Nanjing Summer School for graduate students, Nanjing, China, July 1998.
2. Thirteen hour Advanced Concentrated Course on Stochastic Networks at MaPhySto, Aarhus University, Denmark.
3. Ten hour lectures on Stochastic Networks, Beijing, China, June 1999.

VIII. Campus Contributions

a. School Committee

1. Member, ISyE Ph.D. Comprehensive Exam Committee in Stochastic Systems, 1992–1993, 1993–1994, 1994–1995.
2. Member, ISyE Advisory Committee, 1993–1995.
3. Chairman, ISyE Ph.D. Comprehensive Exam Committee in Stochastic Systems, 1995–1996.
4. Member, ISyE Graduate Committee, Fall 1996–present.
5. Member, ISyE Graduate curriculum semester conversion committee, January 1997.
6. Member, ISyE Computer Committee, Winter 1997.
7. Co-Chair, Georgia Tech Probability and Statistics Seminar Series, Center for Applied Probability, September 1996–June 1997.
8. Co-Chair, Georgia Tech Probability and Statistics Seminar Series, Center for Applied Probability, September 1997–June 1998.
9. Member, Math Hiring Committee, 1997–1998.
10. Chair, ISyE Reappointment, Promotion and Tenure Committee, 1999-2000.
11. Member, ISyE Reappointment, Promotion and Tenure Committee, 2000-2002.
12. Member, ISyE Information Technology Committee, 2000–2001.
13. Member, School of Mathematics Chair Search Committee, College of Science, 2000–2001.
14. Member, School of ISyE Chair Search Committee, College of Engineering, 2001.
15. Member, ISyE Post-Tenure Review Committee, 2001–2003.
16. Member, Georgia Tech Faculty Senate, 2003-2006.
17. Member, Georgia Tech Ad Hoc Committee on GIT China Initiative, 2004.
18. Member, ISyE Post-Tenure Review Committee, 2005–2007.
19. Member, ISyE Reappointment, Tenure & Promotion Committee, 2005–2006.
20. Member, ISyE Advisory Committee, 2006 – 2008.
21. Member, ISyE Reappointment, Tenure & Promotion Committee, 2007- 2009.

22. Member, ISyE Advisory Committee, 2009 – present.

b. Thesis Committee

1. Member, Masters thesis oral committee for Deborah Buscher (Math), Spring 1991.
2. Member, Dissertation reading committee for Dong-Ryeol Shin (EE), Spring 1992.
3. Member, Dissertation proposal committee and dissertation reading committee for Akram ElTannir (ISyE), Spring 1992 and Winter 1993.
4. Member, Dissertation proposal committee and dissertation reading committee for Kuo-Hwa Chang (ISyE), Spring 1992 and Fall 1992.
5. Member, Dissertation reading committee for Sungyeol Kang (ISyE), Spring 1992.
6. Co-chairman, Dissertation proposal committee and dissertation reading committee for Din-Horng Yeh (ISyE), Fall 1993 and Summer 1994.
7. Member, Dissertation proposal committee and dissertation reading committee for Ioanis Nikolaidis (CoC), Fall 1993 and Summer 1994.
8. Member, Dissertation Reading Committee for Huaidong Xu (ISyE) Spring 1994.
9. Member, Dissertation proposal committee and dissertation reading committee for Xiaotao Huang (ISyE), Fall 1994 and Summer 1996.
10. Member, Dissertation proposal committee and dissertation reading committee for Binyu Yang (ISyE), Fall 1994 and Summer 1995.
11. Member, Dissertation reading committee for Dan Ockerman (ISyE), Summer 1995.
12. Member, Dissertation proposal committee for Christopher Carothers (CoC), Spring 1996.
13. Chair, Dissertation reading committee for Wanyang Dai (Math), Fall 1996.
14. Member, Dissertation proposal committee for Bruce Shultes (ISyE), Fall 1996.
15. Member, Dissertation reading committee for Bruce Shultes (ISyE), Spring 1997.
16. Member, Dissertation reading committee for Christopher Carothers (CoC), summer 1997.
17. Member, Dissertation proposal committee for Louise Brown (ISyE), Spring 1997.
18. Member, Dissertation proposal committee for Mark Lewis (ISyE), Summer 1997.
19. Co-Chairman, Dissertation reading committee for John Hasenbein (ISyE), Summer 1998.
20. Chair, Dissertation reading committee for Otis Jennings (ISyE), December 1999.
21. Co-Chairman, Dissertation reading committee for Jozo Acksteiner (ISyE), Summer 2001.
22. Chair, Dissertation reading committee for Caiwei Li (ISyE), December 2001.
23. Member, Dissertation proposal committee for Nilay Tanik Argon (ISyE), September 2002.
24. Member, Dissertation proposal committee for Serhan Ziya (ISyE), October 2002.
25. Member, Dissertation reading committee for Nilay Tanik Argon (ISyE), November 2002.
26. Chair, Dissertation proposal committee for Ki-Seok Choi (ISyE), December 2002.
27. Chair, Dissertation reading committee for Ki-Seok Choi (ISyE), July 2003.
28. Member, Dissertation proposal committee for Eda Kemahlioglu (ISyE), November 2003.

29. Co-chair, Dissertation proposal committee for Junxia Chang (ISyE), February 2004.
30. Member, Dissertation proposal committee for Jin Young Choi (ISyE), April 2004.
31. Member, Dissertation proposal committee for Altan Gulcu (ISyE), April 2004.
32. Member, Dissertation reading committee for Eda Kemahlioglu (ISyE), May 2004.
33. Co-Chair, Dissertation reading committee for Junxia Chang (ISyE), December 2004.
34. Chair, Dissertation proposal committee for Wuqin Lin (ISyE), February 2005.
35. Chair, Dissertation reading committee for Wuqin Lin (ISyE), April 2005.
36. Co-Chair, Dissertation proposal committee for Melda Ormeci (ISyE), November 2005.
37. Co-Chair, Dissertation proposal committee for Josh Reed (ISyE), January 2006.
38. Co-Chair, Dissertation proposal committee for Tolga Tezcan (ISyE), April 2006.
39. Co-Chair, Dissertation reading committee for Melda Ormeci (ISyE), April 2006.
40. Co-Chair, Dissertation reading committee for Tolga Tezcan (ISyE), June 2006.
41. Co-Chair, Dissertation reading committee for Josh Reed (ISyE), May 2007.
42. Member, Dissertation reading committee for Jinpyo Lee (ISyE), May 2008.
43. Co-Chair, Dissertation reading committee for Jiheng Zhang (ISyE), April 2009.

IX. GRANTS AND CONTRACTS

1. Developing the QNET Method for Analysis of Manufacturing Response Time. Texas Instruments Inc., Dallas, Texas. $24,000, October 1990–September 1991.
2. Queueing Networks in Heavy Traffic. Division of Mathematical Sciences of National Science Foundation. $45,000, August 1992–July 1995.
3. The QNET Method for analysis of Manufacturing Response Time. Texas Instruments Inc., Dallas, Texas. $24,500, April 1992–March 1993.
4. Stochastic Scheduling of Manufacturing systems (Co-principal Investigator, joint with Gideon Weiss). Division of Design and Manufacturing of National Science Foundation, $150,000, March 1993–February 1995.
5. NSF Young Investigator Award. National Science Foundation, $312,500, July 1994–August 2001.
6. Scheduling and control of manufacturing systems by fluid model heuristics (Co-principal Investigator, joint with Gideon Weiss), US-Israel Binational Science Foundation, Jerusalem, Israel, $66,000, September 1995–August 1998.
7. Avoiding virtual Bottlenecks, Harris Semiconductor, Melbourne, Florida, $20,000, December 1995–November 1996.
8. US-South Korea Cooperative Program, NSF, $12,412, September 1997–August 2001.
9. Avoiding Artificial Bottlenecks in Semiconductor Wafer Fabrication Facilities (Co-principal investigator, joint with John Vande Vate), Division of Design, Manufacturing and Industrial Innovations, National Science Foundation, $335,033, October 1998-September 2002.

10. Electronics Supply Chains (principal investigator, with other two team members), The Logistics Institute–Asia Pacific, $150K, 2000
11. Research Experiences for Undergraduates (REU), National Science Foundation, $6000, 2001.
12. International Logistics (principal investigator, with two team members), The Logistics Institute–Asia Pacific, $300K, 2001-2004.
13. Dynamic Resource Allocation in Stochastic Processing Networks, funded by the Operations Research Program, Division of Design, Manufacturing and Industrial Innovations, National Science Foundation, $300K, June 2003 – October 2006.
14. IBM Faculty Award, $40K, 2003.
15. China Logistics Study (co-principal investigator, joint with Chen Zhou), The Logistics Institute, $100K, 2006.
16. Collaborative Research: CSR—SMA: New Breakthrough in Analyzing Limited Resource Sharing Systems, (co-principal investigator, joint with Bert Zwart in ISyE and Mor Harchol-Balter from Carnegie Mellon University), funded by the Computer and Network Systems Division, National Science Foundation, $50K (Georgia Tech portion), August 1, 2007 - July 31, 2008.
17. Scalable Analysis for Customer Contact Centers, (co-principal investigator, joint with Bert Zwart in ISyE), funded by the Operations Research Program, Division of CMMI, National Science Foundation, $395K, July 1, 2007 - June 30, 2010; Research Experiences for Undergraduates (REU), $6000, 2007.
18. Stochastic Control In Semiconductor Supply Chain, (co-principal investigator, joint with John Vande Vate in ISyE and Melda Ormeci in The Faculty of Economics and Administrative Sciences of Ozyegin University, Istanbul), funded by the Operations Research Program, Division of CMMI, National Science Foundation, $479,955, August 1, 2008 - July 31, 2011.

X. HONORS AND AWARDS

1. NSF Young Investigator Award by National Science Foundation, 1994.
2. Bergmann Memorial Research Grant Award by US-Israel Binational Science Foundation, Jerusalem, Israel, July 1995.
3. The 1996 Sigma Xi best paper award, May 1996.
4. The Best Publication Award, Applied Probability Society of INFORMS, May 1997.
5. The Erlang Prize, Applied Probability Society of INFORMS, April 1998.
6. Overseas Chinese Young Investigator Award, Chinese National Science Foundation, 2001.
7. Elected Fellow of Institute of Mathematical Statistics, July 2003.
8. 2003 IBM Faculty Award.
9. Elected Fellow of INFORMS, 2007.

XI. COURSES TAUGHT

Quarter		School		Course	No. of	Evaluation	
					Students	Q#24	C1, C2, C3
Fa	90	Math	4215	Introduction to Probability	14/23	4.0	3.5, 4.3, 3.8
W	91	Math	4215	Introduction to Probability	14/33	3.0	3.2, 4.1, 3.4
W	91	ISyE	8101	Stochastic Processes II	8/9	4.5	4.4, 4.5, 3.6
Sp	91	Math	4215	Introduction to Probability	17/34	3.9	4.0, 4.1, 4.1
Fa	91	UW-Math	431	Intro–Theory of Probability	29	N/A	
W	92	ISyE/Math	6762	Stochastic Processes II	31/32	4.0	3.9, 4.0, 3.6
Sp	92	ISyE/Math	8100	Brownian Models of Networks	7/14	5.0	4.9, 5.0, 4.9
Fa	92	Math	4215	Introduction to Probability	20/34	3.3	3.4, 3.4, 3.4
Fa	92	ISyE/Math	6761	Stochastic Processes I	34/34	3.5	3.4, 3.8, 3.4
W	93	Math	4225	Computer Usage in Probability	5/6	4.3	4.1, 4.2, 4.4
Sp	93	Math	4216	Introduction to Statistics	17/25	3.9	3.8, 3.9, 3.8
Sp	93	ISyE	6656	Queueing Theory	19/33	3.4	3.6, 3.9, 3.5
Fa	93	Math	3720	Statistics and Applications	19	N/A	
Fa	93	ISyE/Math	8100	Multiclass Queueing Networks	7/12	4.4	4.6, 4.8, 4.5
Sp	94	ISyE	3027	Applications of Probability	40/57	3.2	3.3, 4.0, 3.4
Fa	94	ISyE	6650	Probabilistic Models	22/31	3.2	3.3, 3.7, 3.3
Fa	94	Math	3720	Statistics and Applications	22/35	2.7	2.9, 3.0, 3.1
W	95	ISyE/Math	6762	Stochastic Processes II	14/14	4.9	4.6, 4.5, 4.5
Sp	95	ISyE	6656	Queueing Theory	6/8	4.9	4.7, 4.6, 4.6
Sp	95	Math	8253	Stochastic differential equations	9/10	4.7	4.7, 4.9, 4.8
Fa	95	Math	4215	Introduction to Probability	19/26	4.2	4.1, 4.0, 4.1
W	96	ISyE	3027	Applications of Probability	33/68	3.3	3.3, 3.9, 3.9
W	96	ISyE	8101	Fluid and Brownian Models	8/9	5.0	4.7, 4.8, 4.8
Sp	96	ISyE	4104	ISyE Design I	15		N/A
sp	96	Math	3720	Statistics & Applications	20/35	3.9	3.7, 3.9, 3.8
Su	96	ISyE	4105	ISyE Design II	7/15	4.8	4.8, 4.8, 4.6
Fa	96	Math	4215	Introduction to Probability	18/31	4.5	4.2, 4.1, 4.4
Fa	96	Math/ISyE	6761	Stochastic Processes I	24/23	4.1	4.0, 4.2, 3.9
W	97	ISyE	4104	ISyE Design I	20		N/A
Sp	97	ISyE	4104	ISyE Design II	20		N/A
Sp	97	Math	4221	Probability and Applications II	4		N/A
Fa	97	ISyE	3027	Applications of Probability	36/60	3.4	3.4, 3.6, 3.5
Fa	97	Math	4220	Discrete Time Stochastic Processes	8		N/A

W	98	ISyE	3027	Applications of Probability	38/61	3.9	3.9, 3.5, 3.7
W	98	Math	4281	Intro to Stochastic Processes	8		N/A
Sp	98	ISyE	3232	Probabilistic Operations Research	22/30	3.8	3.7, 3.9, 3.7
Fa	98	Aarhus		Inventory Control (two week module)	30		N/A
W	99	Stanford	374	Queueing Systems Design and Control	9		N/A
F	99	ISyE	3232	Stochastic mfg & service systems	16/35	3.8	3.6, 4.0, 2.5
S	00	ISyE	8861	Topics in Stochastics	3/9	4.8	4.5, 4.7, 4.2
F	00	ISyE	3232	Stochastic mfg & service systems	22/60	4.7	4.4, 4.7, 4.2
S	01	ISyE	6664	Stochastic Optimization	4/12	5.0	4.8, 4.8, 4.4
F	01	ISyE	2027	Probability	18/62		sick leave

						Q#10
S	02	ISyE	8861	Stochastic Processing Networks I	3/8	4.8
F	02	ISyE	8861	Stochastic Processing Networks II	7/8	5.0
S	03	ISyE	3232	Stochastic mfg & service systems	16/38	4.7
F	03	ISyE	3232	Stochastic mfg & service systems	25/56	4.5
S	04	ISyE	3232	Stochastic mfg & service systems	8/22	4.9
S	05	ISyE	3232	Stochastic mfg & service systems	20/41	4.8
S	06	ISyE	3232	Stochastic mfg & service systems	30/75	4.6
F	06	ISyE	8861	Topics in Stochastics	7/13	4.9
S	07	ISyE	3232	Stochastic mfg & service systems	27/80	4.9
F	07	ISyE	3232	Stochastic mfg & service systems	15/50	4.8
S	08	ISyE	4803	Advanced Stochastics	11/24	4.9
F	08	ISyE	8803	Stochastic Processes III	5/10	5.0
S	09	ISyE	3232A	Stochastic mfg & service systems	22/68	4.9
S	09	ISyE	3232B	Stochastic mfg & service systems	21/54	5.0
F	09	ISyE	4803h	Advanced Stochastics	66	
F	09	ISyE/Math	6761	Stochastic Processes I	52	