

VITA: Edwin K. P. Chong

Last updated: June 29, 2009

Personal Information

Contact Information

Professor Edwin K. P. Chong
Dept. of Electrical and Computer Engineering
Colorado State University
1373 Campus Delivery
Fort Collins, CO 80523-1373

Phone: 970-491-7858
Fax: 970-491-2249
E-mail: Edwin.Chong@ColoState.Edu

Education

<i>Degree</i>	<i>Date</i>	<i>School</i>
B.E.(Hons)	Dec. 1987	The University of Adelaide, South Australia
M.A.	Oct. 1989	Princeton University
Ph.D.	June 1991	Princeton University

Doctoral Dissertation:

On-Line Stochastic Optimization of Queueing Systems

Awards and Honors

- [1] The Sacred Heart College Academic Merit Award, 1983
- [2] Four Sacred Heart College Subject Prizes: Mathematics I, Mathematics II, Physics, Chemistry, 1983
- [3] Placed in the South Australian *Matriculation Candidates of Merit* List for four subjects: Mathematics I, Physics, Chemistry, Economics (published in *The Advertiser* newspaper, Adelaide, January 17, 1984), 1984
- [4] Philips Industries Prize in Elements of Electronics, 1985
- [5] E. V. Clark Prize for Electrical Engineering, 1985
- [6] Sir William Goodman Scholarship, 1986
- [7] Gerard Industries Clipsal Prize, 1986
- [8] Chamber of Commerce and Industry Prize in Electronic Engineering, 1986
- [9] Chamber of Commerce and Industry Prize in Electrical Engineering, 1986
- [10] Texas Instruments Australia Certificate of Achievement, 1987. Honors Project "A Token Ring LAN Adaptor for a Speech Node" selected one of best three in Australia in the 1987 Inaugural Australian Technology Awards, 1987 (a description of the project appeared in *Electronics Today International*, August, 1988, p. 69)

- [11] Electricity Trust Prize in Electrical Power Engineering, 1987
- [12] Philips Industries Prize in Electronics, 1987
- [13] George Murray Travel Grant, 1988
- [14] University of Adelaide Scholarship for Postgraduate Research, 1988
- [15] R. W. Parsons Memorial Medal and Prize (I.E.Aust.), 1988
- [16] Academic Merit Fellowship (Princeton), 1988
- [17] IBM Graduate Fellowship, 1990
- [18] Best Paper Presentation in Session Award, *1990 American Control Conference*, 1990
- [19] Outstanding IEEE Branch Counselor and Advisor Award, 1993 (ten awarded worldwide by IEEE; citation appeared in article “Outstanding Branch Counselors” by S. L. DeFilippo, *IEEE Potentials*, pp. 41–42, December 1993)
- [20] Purdue Student Government Leadership Award: Citation of Advisor Excellence, awarded by the Purdue University Student Government in honor of outstanding leadership and dedication to Purdue University as Advisor of the Purdue IEEE Student Branch, 1993
- [21] IEEE Section Recognition Award (IEEE Central Indiana Section), 1994
- [22] National Science Foundation Faculty Early Career Development (CAREER) Award, 1995
- [23] American Society for Engineering Education (ASEE) Frederick Emmons Terman Award, 1998. The Terman Award is bestowed annually upon an outstanding electrical engineering educator under 45 years of age in the United States or Canada, in recognition of the educator’s contributions to the profession.
- [24] University Faculty Scholar, Purdue University, 1999. Provides \$50,000 in funding over five years.
- [25] IEEE Control Systems Society Distinguished Lecturer, 2001–2003.
- [26] Elected to Full Member of Sigma Xi (The Scientific Research Society), 2002.
- [27] IEEE Communications Society Certificate of Appreciation, 2003.
- [28] Fellow of the IEEE, 2004, “for contributions to communication networks and discrete event systems.”
- [29] Elsevier Best Paper Award, 2004, for the paper “A framework for opportunistic scheduling in wireless networks,” *Computer Networks*, vol. 41, no. 4, pp. 451–474, March 2003 (with X. Liu and N. B. Shroff).
- [30] Professional of the Year in Electrical Engineering, 2006, awarded by the *America’s Registry of Outstanding Professionals*.
- [31] Professional of the Year in Education/Computer Engineering, 2007, awarded by the *Strathmore’s Who’s Who*.

[32] Professional of the Year in Electrical Engineering, 2007, awarded by the *America's Registry of Outstanding Professionals*.

[33] Elected to *Strathmore Who's Who Roundtable* (elite group of 50 professionals), 2008.

[34] George T. Abell Outstanding Faculty Research Award, Colorado State University College of Engineering, 2008.

Present Professional Appointments

Aug. 2001–present

Professor, Department of Electrical and Computer Engineering, Colorado State University.

Sep. 2001–present

Professor, Department of Mathematics, Colorado State University.

Sep. 2001–present

Adjunct Professor, School of Electrical and Computer Engineering, Purdue University.

Past Professional Appointments

Dec. 1984–Feb. 1985

Industrial Trainee, Tamco Cutler-Hammer, Malaysia.

Dec. 1985–Feb. 1986

Industrial Trainee, Paramount Computer Engineering, Malaysia.

Dec. 1986–Mar. 1987

Research Assistant, Department of Electrical Engineering, University of Adelaide.

Feb. 1988–Aug. 1988

Tutor and Laboratory Demonstrator, University of Adelaide.

Sep. 1988–June 1991

Research Assistant, Department of Electrical Engineering, Princeton University.

Spring 1989

Assistant Instructor, Princeton University, for a junior level course on Linear System Theory.

Fall 1989

Tutor for a junior course in Probability Theory and Stochastic Processes, Princeton University.

Fall 1990

Tutor for a senior course in Communications, Princeton University.

Spring 1990

Assistant Instructor, Princeton University, for a new senior level course on Image Processing and Transmission.

Summer 1991

Research Associate (Postdoctoral), Department of Electrical Engineering, Princeton University.

Aug. 1991–July 1997

Assistant Professor, School of Electrical and Computer Engineering, Purdue University.

Aug.–Dec. 1998

Visiting Fellow, Department of Electrical Engineering, Princeton University.

Aug. 1997–Aug. 2001

Associate Professor, School of Electrical and Computer Engineering, Purdue University. Promoted to Full Professor effective Aug. 2001.

Consulting Activities

Oct. 1996–Dec. 1998

Caterpillar, Inc., Ungaretti and Harris (Oct. 1996–Oct. 1997; as expert witness), Barnes and Thornburg, and Howrey and Simon (Oct. 1997–Dec. 1998; as expert witness).

Sep.–Dec. 1998

Bell Labs, Lucent Technologies, Holmdel, NJ.

June 2003

Essential Software Solutions, Denver, CO.

Nov. 2003–present

The Johns Hopkins University Applied Physics Laboratory, Laurel, MD.

Sep. 2004–present

Numerica Corporation, Loveland, CO.

Research Activities

Research Grants and Contracts

- [1] Principal Investigator: “Distributed Algorithms for Discrete Event Systems,” 1992 Purdue Research Foundations Summer Faculty Grant, June 1, 1992 to July 31, 1992, \$5,000.
- [2] Project Director: “Distributed Stochastic Optimization of Discrete Event Systems,” 1992-93 Purdue Research Foundation Research Grant 6901955, August 17, 1992 to August 16, 1993, \$9,900. Account (at Purdue): 690 1285-1955
- [3] Principal Investigator: “Manufacturing System Design Tools Based on Efficient Optimization,” National Science Foundation Engineering Research Center for Intelligent Manufacturing, Special Initiative Grant 8803017-ECD, March 1, 1992 to August 15, 1992, \$10,000. Account (at Purdue): 501 1285-0197
- [4] Recipient: 1992-93 Whirlpool Faculty Fellowship, July 1, 1992 to June 30, 1993, \$12,500. Account (at Purdue): 700 1285-0030
- [5] Co-principal Investigator: “Manufacturing Systems Design, Control and Analysis,” National Science Foundation Engineering Research Center for Intelligent Manufacturing Grant 8803017-ECD (PI: R. L. Kashyap, other co-PIs: C. L. Moodie, R. Koubek), August 15, 1992 to August 14, 1993, approximately \$250,000 (Chong’s portion of grant: approximately \$70,000). Account (at Purdue): 501 1285-0197
- [6] Project Director: “Distributed Stochastic Optimization of Discrete Event Systems,” 1993-94 Purdue Research Foundation Research Grant 6901955, August 17, 1993 to August 16, 1994, \$10,200. Account (at Purdue): 690 1285-1955
- [7] Recipient: 1993 Purdue Research Foundation International Travel Grant for participation in the *1993 Conference on Applied Probability in Engineering, Computer and Communication Sciences*, Paris, France, June 16–18, 1993, \$1,060.
- [8] Principal Investigator: “Optimization of Discrete Event Systems,” Engineering Foundation—Engineering Research Initiation Grant RI-A-93-09, September 1, 1993 to August 31, 1994, \$23,000. Account (at Purdue): 670 1285-2664
- [9] Recipient: 1993-94 Whirlpool Faculty Fellowship, July 1, 1993 to June 30, 1994, \$12,500. Account (at Purdue): 700 1285-0030
- [10] Co-principal Investigator: “Manufacturing Systems Design, Control and Analysis,” National Science Foundation Engineering Research Center for Intelligent Manufacturing Grant 8803017-ECD (PI: R. L. Kashyap, other co-PIs: C. L. Moodie, R. Koubek), August 15, 1993 to August 14, 1994, approximately \$300,000 (Chong’s portion of grant: approximately \$75,000). Account (at Purdue): 501 1285-0213
- [11] Co-principal Investigator: “Manufacturing Systems Design, Control and Analysis,” National Science Foundation Engineering Research Center for Intelligent Manufacturing Grant 9402533-EEC (PI: R. L. Kashyap, other co-PIs: C. L. Moodie, R. Koubek), August 15, 1994 to August 14, 1995, renewal (Chong’s portion of grant: approximately \$20,000). Account (at Purdue): 501 1285-0267 (1994) and 501 1285-0319 (1995)

- [12] Principal Investigator: “Parametric and Nonparametric Control in Discrete Event Systems,” National Science Foundation Research Initiation Award (RIA) ECS-9410313, September 1, 1994 to August 31, 1997, \$90,000. Account (at Purdue): 500 1285-2842
- [13] Co-principal Investigator: “Wireless Distributed Multimedia Communications Networks for the Digital Battlefield,” U.S. Army Research Office Grant DAAH04-95-1-0246 (PI: J. S. Lehnert, other co-PI: M. D. Zoltowski; other participants from University of Illinois, Urbana-Champaign, IL, University of Michigan, Ann Arbor, MI, Magnavox Electronic Systems Company, Fort Wayne, IN, Hughes Network Systems, Germantown, MD), July 1, 1995 to December 31, 1998, amount funded originally \$2,013,340 (Chong’s portion of grant: \$111,187). Account (at Purdue): 530 1285-1314.
- [14] Co-principal Investigator: “VIADUCT: A Testbed to Study Video, Image, Audio and Data Traffic on High-Speed Network,” National Science Foundation CISE Research Instrumentation CDA-9422250 (PI: E. J. Coyle, other co-PIs: N. B. Shroff, E. J. Delp, and A. A. Maciejewski), May 1, 1995 to April 30, 1996, \$120,811 (equally shared among all investigators). Account (at Purdue): 500 1285-2891
- [15] Principal Investigator: “Decision, Control, and Optimization in Discrete Event Systems,” National Science Foundation Faculty Early Career Development (CAREER) Award ECS-9501652, September 1, 1995 to August 31, 2000, \$225,000. Account (at Purdue): 500 1285-2990
- [16] Recipient: 1996 Purdue Research Foundation International Travel Grant for participation in the *35th IEEE Conference on Decision and Control (CDC)*, Kobe, Japan, December 11–13, 1996, \$1,036.
- [17] Recipient: 1996 National Grant for Education, DSP Development Corporation, for *DADiSP* data analysis software. Total value: \$70,000.
- [18] Principal Investigator: “Graduate Controls Laboratory,” National Science Foundation grant ECS-9612315 (Co-PI: V. Balakrishnan; Significant contributor: R. A. DeCarlo), September 15, 1996 to August 31, 1997, \$69,774 (\$56,517 from NSF, \$13,257 cost sharing using funds from Alcoa; equipment equally shared between investigators). Account (at Purdue): 502 1285-0996
- [19] Principal Investigator: “Dynamic Channel Allocation in Multimedia Wireless Networks,” AT&T/Lucent Technologies Foundation Special Purpose Grant, November 1, 1996 to October 31, 1997, \$20,000. Account (at Purdue): 671 1285-2787
- [20] Project Director: “Resource Allocation in Wireless Networks,” 1997-98 Purdue Research Foundation Research Grant 6902831, January 1, 1998 to December 31, 1998, \$11,666. Account (at Purdue): 690 1285-2831.
- [21] Co-Principal Investigator “Intel Equipment for Processing and Communication Intensive Tasks that Enable New Networked Video, Image, and Speech Applications,” Intel Corporation (Other Co-PIs: J.P. Allebach, M.R. Bell, C.A. Bouman, E.J. Coyle, E.J. Delp, P.C. Doerschuk, S.B. Gelfand, J.V. Krogmeier, M.P. Harper, L.H. Jamieson, N.B. Shroff, M.D. Zoltowski), July 1, 1997 to June 30, 2000, \$598,000 (Chong’s portion of grant: approximately \$70,000).
- [22] Project Director: “Resource Allocation in Wireless Networks,” 1998-99 Purdue Research Foundation Research Grant 6902831, January 1, 1999 to December 31, 1999, \$11,666. Account (at Purdue): 690 1285-2831.

- [23] Principal Investigator: “Intelligent and Adaptive Management of Multi-Class Networks,” DARPA/ITO (BAA 98-02 Next Generation Internet—Network Engineering) Award No. F19628-98-C-0051 (other PI: R. Givan) August 15, 1998 to September 30, 2000, \$564,000 (Chong’s portion of grant: \$290,909). Account (at Purdue): 530-1285-1554.
- [24] Principal Investigator: “Intelligent MetaNet Framework for the Agile Information Control Environment,” Johns Hopkins University Applied Physics Lab (other PI: H. J. Siegel), subcontract for jointly funded DARPA project (see main contract information below), January 11, 1999 to May 8, 2000, Award no. 810994, \$360,389.00 (Chong’s portion of grant: \$184,849, representing an equal division between Chong and Siegel, with faculty salaries divided in proportion to actual salary levels.) Account (at Purdue): 530-1285-1604.
- Main contract information:* “An Intelligent MetaNet Controller,” DARPA/ISO (BAA 98-26 Agile Information Control Environment) Contract No. DABT63-99-C0012 (PI: S. D. Jones, Johns Hopkins University Applied Physics Lab; co-PIs: E. K. P. Chong, H. J. Siegel, and I. J. Wang, Johns Hopkins University Applied Physics Lab, who was a Ph.D. student of Professor Chong), January 11, 1999 to May 8, 2000, \$1,468,201.
- [25] Principal Investigator: “Dynamic Channel Building and Global QoS Optimization for the Agile Information Control Environment,” Johns Hopkins University Applied Physics Lab (other PI: H. J. Siegel), subcontract for jointly funded DARPA project (see main contract information below), January 11, 1999 to September 1, 2000, Award no. 810993, \$348,140.00 (Chong’s portion of grant: \$128,258, representing an equal division between Chong and Siegel, with faculty salaries divided in proportion to actual salary levels.). Account (at Purdue): 530-1285-1607.
- Main contract information:* “Adaptive Information Control Techniques for the Agile Information Control Environment,” DARPA/ISO (BAA 98-26 Agile Information Control Environment) Contract No. DABT63-99-C0010 (PI: I. J. Wang, Johns Hopkins University Applied Physics Lab, a former Ph.D. student of Professor Chong; co-PIs: E. K. P. Chong, S. D. Jones, Johns Hopkins University Applied Physics Lab, M. Jurczyk, University of Missouri-Columbia, and H. J. Siegel), January 11, 1999 to September 1, 2000, \$1,468,201.
- [26] Principal Investigator: “A Framework for Flexible Secure Network Services,” Center for Education and Research in Information Assurance and Security (CERIAS) (other PI: H. J. Siegel), July 1, 2000 to August 30, 2001, Award no. 1419991431A, \$50,000 (Chong’s portion of grant: approximately \$25,000). Account (at Purdue): 671-1285-3471.
- [27] Principal Investigator: “A Framework for Network Control via Online Simulation,” DARPA/ITO (BAA 00-18 Network Modeling and Simulation) (other PI: R. Givan) Agreement No. F30602-00-2-0552, June 28, 2000 to November 21, 2001, \$345,191 (Chong’s portion of grant: approximately \$180,000). Account (at Purdue): 530-1285-1705.
- [28] Co-Principal Investigator: “Design and Control of Next Generation Networks: A Measurement Analytical Approach,” National Science Foundation grant 0099137-ANI (ANI Special Projects in Networks Research) (PI: N. B. Shroff; other co-PIs: R. R. Mazumdar, C. P. Rosenberg), September 1, 2001 to August 31, 2005, \$783,104 (Chong’s portion of grant: \$195,776). Account (at CSU): 5-33432.
- [29] Principal Investigator: “Control of Communication Networks: Modeling, Simulation, and Optimization,” National Science Foundation grant 0098089-ECS (Co-PI: R. Givan), July 1, 2001 to

June 30, 2004, \$180,774 (Chong's portion of grant: approximately \$90,000). Account (at Purdue): 501-1285-0459 and 501-1285-0615 (reduced overhead).

- [30] Principal Investigator: "A Framework for Flexible Secure Network Services," Center for Education and Research in Information Assurance and Security (CERIAS) (other PI: H. J. Siegel), continuation of previous funding, August 1, 2001 to December 31, 2001, \$30,000 (Chong's portion of grant: approximately \$15,000).
- [31] Principal Investigator: "Collaborative Research: Opportunistic Scheduling for Multimedia Wireless Systems," National Science Foundation grant ANI-0207892 (in collaboration with N. B. Shroff, Purdue University), July 1, 2002 to June 30, 2006, \$199,997. Account (at CSU): 5-33117.
- [32] Co-Principal Investigator: "Integrated Sensing and Processing," Mission Research Corporation contract number SC-1198-02-0001 (PI: L. L. Scharf), subcontract for jointly funded DARPA project (see main contract information below), May 15, 2003 to September 31, 2004, \$374,693 (Chong's portion of grant: approximately 50% of total). Account (at CSU): 5-32632.
- Main contract information:* "A Mathematical Methodology for Managing and Integrating Sensors and Processors in Distributed Systems for Radar and Communication," DARPA/DSO (Integrated Sensing and Processing) Agreement No. F33615-02-C-1198 (PI: M. Clark, Mission Research Corporation; co-PIs: L. L. Scharf, E. K. P. Chong, T. McWhorter), January 1, 2003 to June 30, 2005.
- [33] Principal Investigator: "Integrated Radar Imaging, Sensor Scheduling, and Target Tracking," DARPA contract FA9550-04-1-0371 (Co-PI: L. L. Scharf), May 15, 2004 to May 14, 2006, \$494,288 (Chong's portion of grant: approximately 50% of total). Account (at CSU): 5-32419.
- [34] Principal Investigator: "Sensor Management for Multi-Target Tracking," Sandia National Labs purchase order 305149, June 1, 2004 to September 30, 2004, \$35,117. Account (at CSU): 5-33925.
- [35] Principal Investigator: "Sensor Management for Multi-Target Tracking," Sandia National Labs purchase order 613076, October 1, 2004 to March 31, 2005, \$30,000. Account (at CSU): 5-33925.
- [36] Principal Investigator: "Sensor Management for Multi-Target Tracking," Sandia National Labs purchase order 613076, April 1, 2005 to September 1, 2005, \$20,735. Account (at CSU): 5-33925.
- [37] Principal Investigator: "Waveforms for Active Sensing in Military Operations on Urban Terrains," DARPA contract FA8750-05-2-0285 (Co-PI: L. L. Scharf), September 22, 2005 to December 31, 2007, \$1,572,541. (Chong's portion: approximately \$340,000). Account (at CSU): 5-32583.
- [38] Principal Investigator: "Sensor Management for Multi-Target Tracking," Sandia National Labs purchase order 305149, September 1, 2005 to December 31, 2006, \$30,000. Account (at CSU): 5-33925.
- [39] Principal Investigator: "Partial Differential Equation Models for Large Networks," National Science Foundation grant ECCS-0700559 (Co-PIs: D. Estep and J. Hannig), May 1, 2007 to April 30, 2010, \$276,833. (Chong's portion: approximately half). Account (at CSU): 5-33174.
- [40] Principal Investigator: "Adaptive Compressive Sensing," Princeton University contract 00001604, subcontract for jointly funded DARPA project (see main contract information below), July 7, 2008 to June 30, 2012, \$240,000 Account (at CSU): 5-32632.

Main contract information: "Reed-Muller Sampling Matrices, Fast Reconstruction, and Null Space Properties in Compressive Sensing," Office of Naval Research Award No. N00014-08-1-110 (PI: R.

Calderbank, Princeton University; co-PIs: I. Daubechies, D. Cochran, and E. Chong), July 7, 2008 to June 30, 2012, \$990,500.

Books

- [1] E. K. P. Chong and S. H. Žak, *An Introduction to Optimization*. New York, NY: John Wiley and Sons, Inc., 1996, ISBN 0-471-08949-4, xiii+409 pp. (Complete solutions manual, 129 pp.) Example of published review by Darko Kajfez, *IEEE Antennas and Propagation Magazine*, Volume 38, Issue 2, April 1996, p. 60.
- [2] E. K. P. Chong and S. H. Žak, *An Introduction to Optimization, Second Edition*. New York, NY: John Wiley and Sons, Inc., 2001, ISBN 0-471-39126-3, xvi+477 pp. (Complete solutions manual, 137 pp.)
- [3] E. K. P. Chong and S. H. Žak, *An Introduction to Optimization, Third Edition*. New York, NY: John Wiley and Sons, Inc., 2008, ISBN 0-471-75800-0, xvi+584 pp. (Complete solutions manual, 181 pp.)

Journal Articles (Total: 67)

- [1] W. Zhao and E. K. P. Chong, "Performance evaluation of scheduling algorithms for dynamic imprecise soft real-time computer systems," *Australian Computer Science Communications*, vol. 11, no. 1, pp. 329–340, 1989.
- [2] E. K. P. Chong and W. Zhao, "Performance evaluation of scheduling algorithms for imprecise computer systems," *Journal of Systems and Software*, vol. 15, no. 3, pp. 261–277, July 1991.
- [3] E. K. P. Chong and W. Zhao, "User controlled optimization of task scheduling for imprecise computer systems," *Information and Software Technology*, vol. 34, no. 4, pp. 263–275, August 1992.
- [4] E. K. P. Chong and P. J. Ramadge, "Convergence of recursive optimization algorithms using infinitesimal perturbation analysis estimates," *Discrete Event Dynamic Systems: Theory and Applications*, vol. 1, no. 4, pp. 339–372, June 1992.
- [5] E. K. P. Chong and P. J. Ramadge, "Optimization of queues using an infinitesimal perturbation analysis-based stochastic algorithm with general update times," *SIAM Journal on Control and Optimization*, vol. 31, no. 3, pp. 698–732, May 1993.
- [6] J.-H. Kim, J.-H. Park, S.-W. Lee, and E. K. P. Chong, "Fuzzy precompensation of PD controllers for systems with deadzones," *Journal of Intelligent and Fuzzy Systems*, vol. 1, no. 2, pp. 125–133, August 1993.
- [7] J.-H. Kim, J.-H. Park, S.-W. Lee, and E. K. P. Chong, "A two-layered fuzzy logic controller for systems with deadzones," *IEEE Transactions on Industrial Electronics*, vol. 41, no. 2, pp. 155–162, April 1994.
- [8] E. K. P. Chong and P. J. Ramadge, "Stochastic optimization of regenerative systems using infinitesimal perturbation analysis," *IEEE Transactions on Automatic Control*, vol. 39, no. 7, pp. 1400–1410, July 1994.

- [9] E. K. P. Chong and P. J. Ramadge, "Optimal load sharing in soft real-time systems using likelihood ratios," *Journal of Optimization Theory and Applications*, vol. 82, no. 1, pp. 23–48, July 1994.
- [10] J.-H. Kim, K.-C. Kim, and E. K. P. Chong, "Fuzzy precompensated PID controllers," *IEEE Transactions on Control Systems Technology*, vol. 2, no. 4, pp. 406–411, December 1994.
- [11] Y. Park and E. K. P. Chong, "Distributed inversion in timed discrete event systems," *Discrete Event Dynamic Systems: Theory and Applications*, vol. 5, no. 2/3, pp. 219–241, April/July 1995.
- [12] I.-J. Wang, E. K. P. Chong, and S. R. Kulkarni, "Equivalent necessary and sufficient conditions on noise sequences for stochastic approximation algorithms," *Advances in Applied Probability*, vol. 28, pp. 784–801, 1996.
- [13] C. Chatterjee and E. K. P. Chong, "Efficient algorithms for finding the center of conics and quadrics in noisy data," *Pattern Recognition*, vol. 30, no. 5, pp. 673–684, May 1997.
- [14] C. Chatterjee, V. P. Roychowdhury, and E. K. P. Chong, "A nonlinear Gauss-Seidel algorithm for coplanar and noncoplanar camera calibration with convergence analysis," *Computer Vision and Image Understanding*, vol. 67, no. 1, pp. 58–80, July 1997.
- [15] M. Perry, D. Elmore, F. Rickey, B. Bhukhanwala, and E. Chong, "Reducing the magnet switching time for AMS at PRIME Lab," *Nuclear Instruments and Methods in Physics Research B*, vol. 123, pp. 178–182, 1997.
- [16] I.-J. Wang, E. K. P. Chong, and S. R. Kulkarni, "Weighted averaging and stochastic approximation," *Mathematics of Control, Signals, and Systems*, vol. 10, pp. 41–60, 1997.
- [17] Y. Park and E. K. P. Chong, "On d -inversion in interruptive timed discrete event systems," *IEEE Transactions on Automatic Control*, vol. 42, no. 11, pp. 1550–1554, November 1997.
- [18] C. Chatterjee, V. P. Roychowdhury, and E. K. P. Chong, "On relative convergence properties of principal component analysis algorithms," *IEEE Transactions on Neural Networks*, vol. 9, no. 2, pp. 319–329, March 1998.
- [19] I.-J. Wang and E. K. P. Chong, "A deterministic analysis of stochastic approximation with randomized directions," *IEEE Transactions on Automatic Control*, vol. 43, no. 12, pp. 1745–1749, December 1998.
- [20] J. Li, N. B. Shroff, and E. K. P. Chong, "Channel carrying: A novel handoff scheme for mobile cellular networks," *IEEE/ACM Transactions on Networking*, vol. 7, no. 1, pp. 38–50, February 1999.
- [21] E. K. P. Chong, I.-J. Wang, and S. R. Kulkarni, "Noise conditions for prespecified convergence rates of stochastic approximation algorithms," *IEEE Transactions on Information Theory*, vol. 45, no. 2, pp. 810–814, March 1999.
- [22] E. K. P. Chong, S. Hui, and S. H. Žak, "An analysis of a class of neural networks for solving linear programming problems," *IEEE Transactions on Automatic Control*, special section on *Neural Networks in Control, Identification, and Decision Making*, vol. 44, no. 11, pp. 1995–2006, November 1999.

- [23] J. Li, N. B. Shroff, and E. K. P. Chong, "A reduced-power channel reuse scheme for wireless packet cellular networks," *IEEE/ACM Transactions on Networking*, vol. 7, no. 6, pp. 818–832, December 1999.
- [24] J. Li, N. B. Shroff, and E. K. P. Chong, "A new localized channel sharing scheme for cellular networks," *ACM/Baltzer Wireless Networks*, vol. 5, no. 6, pp. 503–517, December 1999.
- [25] J. D. Herdtner and E. K. P. Chong, "Analysis of a class of asynchronous power control algorithms for cellular wireless systems," *IEEE Journal on Selected Areas in Communications*, Wireless Communications Series, vol. 18, no. 3, pp. 436–446, March 2000.
- [26] J. Zhang and E. K. P. Chong, "CDMA systems in fading channels: Admissibility, network capacity, and power control," *IEEE Transactions on Information Theory*, vol. 46, no. 3, pp. 962–981, May 2000.
- [27] Z. Chen, K. Roy, and E. K. P. Chong, "Estimation of power dissipation under any statistics of primary inputs using a new power macromodeling technique," *IEEE Transactions on Computer Aided Design of Integrated Circuits*, vol. 19, no. 11, pp. 1363–1369, November 2000.
- [28] S. Kalyanasundaram, E. K. P. Chong, and N. B. Shroff, "An efficient scheme to reduce handoff dropping in LEO satellite systems," *ACM/Baltzer Wireless Networks*, vol. 7, no. 1, pp. 75–85, January/February 2001.
- [29] S. Kalyanasundaram, E. K. P. Chong, and N. B. Shroff, "Admission control schemes to provide class-level QoS in multiservice networks," *Computer Networks*, vol. 35, pp. 307–326, 2001.
- [30] J. Zhang, E. K. P. Chong, and D. N. C. Tse, "Output MAI distributions of linear MMSE multiuser receivers in DS-CDMA systems," *IEEE Transactions on Information Theory*, vol. 47, no. 3, pp. 1128–1144, March 2001.
- [31] M. Xiao, N. B. Shroff, and E. K. P. Chong, "Resource management in power-controlled cellular wireless systems," *Wireless Communications and Mobile Computing*, vol. 1, no. 2, pp. 185–199, 2001.
- [32] J. Zhang, E. K. P. Chong, and I. Kontoyiannis, "Unified spatial diversity combining and power allocation schemes for CDMA systems," *IEEE Journal on Selected Areas in Communications*, Wireless Communications Series, vol. 19, no. 7, pp. 1276–1288, July 2001.
- [33] M. D. Theys, H. J. Siegel, and E. K. P. Chong, "Heuristics for scheduling data requests using collective communications in a distributed communication network," *Journal of Parallel and Distributed Computing*, special issue on *Routing in Computer and Communication Systems*, vol. 61, no. 9, pp. 1337–1366, September 2001.
- [34] X. Liu, E. K. P. Chong, and N. B. Shroff, "Opportunistic transmission scheduling with resource-sharing constraints in wireless networks," *IEEE Journal of Selected Areas in Communications*, special issue on *Mobility and Resource Management in Next Generation Wireless Systems*, vol. 19, no. 10, pp. 2053–2064, October 2001.
- [35] M. Xiao, N. B. Shroff, and E. K. P. Chong, "Distributed admission control for power-controlled cellular wireless systems," *IEEE/ACM Transactions on Networking*, vol. 9, no. 6, pp. 790–800, December 2001.

- [36] S. Kalyanasundaram, E. K. P. Chong, and N. B. Shroff, "Optimal resource allocation in multi-class networks with user-specified utility functions," *Computer Networks*, vol. 38, no. 5, pp. 613–630, April 2002.
- [37] J. Zhang and E. K. P. Chong, "Correction to 'CDMA systems in fading channels: Admissibility, network capacity, and power control'," *IEEE Transactions on Information Theory*, vol. 48, no. 4, p. 1000, April 2002.
- [38] G. Wu, E. K. P. Chong, and R. L. Givan, "Burst-level congestion control using hindsight optimization," *IEEE Transactions on Automatic Control*, special issue on *Systems and Control Methods for Communication Networks*, vol. 47, no. 6, pp. 979–991, June 2002.
- [39] R. L. Givan, E. K. P. Chong, and H. S. Chang, "Scheduling multiclass packet streams to minimize weighted loss," *Queueing Systems: Theory and Applications (QUESTA)*, vol. 41, no. 3, pp. 241–270, July 2002.
- [40] J. Zhang and E. K. P. Chong, "Linear MMSE multiuser receivers: MAI conditional weak convergence and network capacity," *IEEE Transactions on Information Theory*, vol. 48, no. 7, pp. 2114–2122, July 2002.
- [41] X. Liu, E. K. P. Chong, and N. B. Shroff, "A framework for opportunistic scheduling in wireless networks," *Computer Networks*, vol. 41, no. 4, pp. 451–474, March 2003. Awarded *Best Paper Award* for 2003.
- [42] M. Xiao, N. B. Shroff, and E. K. P. Chong, "A utility-based power control scheme in wireless cellular systems," *IEEE/ACM Transactions on Networking*, vol. 11, no. 2, pp. 210–221, April 2003.
- [43] J. Park, E. K. P. Chong, and H. J. Siegel, "Efficient multicast stream authentication using erasure codes," *ACM Transactions on Information and System Security (TISSEC)*, vol. 6, no. 2, pp. 258–285, May 2003.
- [44] H. S. Chang, R. L. Givan, and E. K. P. Chong, "Parallel rollout for online solution of partially observable Markov decision processes," *Discrete Event Dynamic Systems*, vol. 14, no. 3, pp. 309–341, 2004.
- [45] U. Savagaonkar, E. K. P. Chong, and R. L. Givan, "Online pricing for bandwidth provisioning in multi-class networks," *Computer Networks*, vol. 44, no. 6, pp. 835–853, April 2004.
- [46] S. Kalyanasundaram, E. K. P. Chong, and N. B. Shroff, "Markov decision processes with uncertain transition rates: Sensitivity and max-min control," *Asian Journal of Control*, special issue on *Control of Discrete Event Systems*, vol. 6, no. 2, pp. 253–269, June 2004.
- [47] M. Veeraraghavan, X. Zheng, W.-C. Feng, H. Lee, E. K. P. Chong, and H. Li, "Scheduling and transport for file transfers on high-speed optical circuits," *Journal of Grid Computing*, special issue on *High Performance Networking*, vol. 1, no. 4, pp. 395–405, 2003 (published September 2004).
- [48] X. Liu, N. B. Shroff, and E. K. P. Chong, "Opportunistic scheduling: An illustration of cross-layer design," *Telecommunications Review*, vol. 14, no. 6, pp. 947–959, December 2004.
- [49] J. Park, U. R. Savagaonkar, E. K. P. Chong, H. J. Siegel, and S. D. Jones, "Allocation of QoS connections in MF-TDMA satellite systems: A two-phase approach," *IEEE Transactions on Vehicular Technology*, vol. 54, no. 1, pp. 177–190, January 2005.

- [50] A. Bashandy, E. K. P. Chong, and A. Ghafoor, "Generalized quality of service routing protocol using intelligent resource allocation scheme," *IEEE Journal on Selected Areas in Communications*, special issue on *Intelligent Services and Applications in Next Generation Networks*, vol. 23, no. 2, pp. 450–463, February 2005.
- [51] S. Kalyanasundaram, J. Li, E. K. P. Chong, and N. B. Shroff, "Channel sharing scheme for packet-switched cellular networks," *ACM/Baltzer Wireless Networks*, vol. 11, no. 6, pp. 661–676, November 2005.
- [52] J. Hannig, E. K. P. Chong, and S. R. Kulkarni, "Relative frequencies of generalized simulated annealing," *Mathematics of Operations Research*, vol. 31, no. 1, pp. 199–216, February 2006.
- [53] J. Lee, C. Rosenberg, and E. K. P. Chong, "Energy efficient schedulers in wireless networks: Design and optimization," *Mobile Networks and Applications*, special issue on *Modeling and Optimization in Mobile, Ad Hoc and Wireless Networks*, vol. 11, no. 3, pp. 377–389, June 2006.
- [54] Y. He and E. K. P. Chong, "Sensor scheduling for target tracking: A Monte Carlo sampling approach," *Digital Signal Processing*, vol. 16, no. 5, pp. 533–545, September 2006.
- [55] G. Wu, E. K. P. Chong, and R. L. Givan, "Predictive buffer control in delivering remotely stored video using proxy servers," *Computer Networks*, vol. 50, no. 18, pp. 3721–3742, December 2006.
- [56] H. S. Chang and E. K. P. Chong, "Solving controlled Markov set-chains with discounting via multi-policy improvement," *IEEE Transactions on Automatic Control*, vol. 52, no. 3, pp. 564–569, March 2007.
- [57] E. K. P. Chong and B. E. Brewington, "Decentralized rate control for tracking and surveillance networks," *Ad Hoc Networks*, special issue on *Recent Advances in Wireless Sensor Networks*, vol. 5, no. 6, pp. 910–928, August 2007.
- [58] V. Shestak, E. K. P. Chong, A. A. Maciejewski, L. Benmohamed, I.-J. Wang, and R. Daley, "A hybrid Branch-and-Bound and evolutionary approach for allocating strings of applications to heterogeneous distributed computing systems," *Journal of Parallel and Distributed Computing*, vol. 68, no. 4, pp. 410–426, April 2008.
- [59] Z. Ali, W. Sheikh, E. K. P. Chong, and A. Ghafoor, "A scalable call admission control algorithm," *IEEE/ACM Transactions on Networking*, vol. 16, no. 2, pp. 424–434, April 2008.
- [60] H. Li, P. R. Barbosa, E. K. P. Chong, J. Hannig, and S. R. Kulkarni, "Zero-error target tracking with limited communication," *IEEE Journal on Selected Areas in Communications*, special issue on *Control and Communications*, vol. 26, no. 4, pp. 686–694, May 2008.
- [61] E. K. P. Chong, J. Hannig, and D. Estep, "Continuum modeling of large networks," *International Journal of Numerical Modeling: Electronic Networks, Devices and Fields*, vol. 21, no. 3, pp. 169–186, May/June 2008.
- [62] Z. Zhang, Y. He, and E. K. P. Chong, "Opportunistic scheduling for OFDM systems with fairness constraints," *EURASIP Journal on Wireless Communications and Networking*, special issue on *Cognitive Radio and Dynamic Spectrum Sharing Systems*, vol. 2008, Article ID 215939, 12 pages, 2008. doi:10.1155/2008/215939

- [63] L. L. Scharf, E. K. P. Chong, M. D. Zoltowski, J. S. Goldstein, and I. S. Reed, "Subspace expansion and the equivalence of conjugate direction and multistage Wiener filters," *IEEE Transactions on Signal Processing*, vol. 56, no. 10, pp. 5013–5019, October 2008.
- [64] S. A. Miller, Z. A. Harris, and E. K. P. Chong, "A POMDP framework for coordinated guidance of autonomous UAVs for multitarget tracking," *EURASIP Journal on Applied Signal Processing*, special issue on *Signal Processing Advances in Robots and Autonomy*, vol. 2009, Article ID 724597, 17 pages, 2009. doi:10.1155/2009/724597
- [65] E. K. P. Chong, C. Kreucher, and A. O. Hero III, "Partially observable Markov decision process approximations for adaptive sensing," *Discrete Event Dynamic Systems*, special issue on *Optimization of Discrete Event Dynamic Systems*, vol. 19, no. 3, pp. 377–422, 2009.
- [66] D. Shin, E. K. P. Chong, and H. J. Siegel, "Multi-postpath-based lookahead multiconstraint QoS routing," *International Journal of Advanced Electronic Communications*, to appear.
- [67] Y. Li, L. W. Krakow, E. K. P. Chong, and K. N. Groom, "Approximate stochastic dynamic programming for sensor scheduling to track multiple targets," *Digital Signal Processing*, to appear.

Conference Proceedings and Presentations (Total: 152)

- [1] W. Zhao and E. K. P. Chong, "Performance evaluation of scheduling algorithms for dynamic imprecise soft real-time computer systems," presented at *Twelfth Australian Computer Science Conference*, Wollongong, NSW, Australia, February 8–10, 1989. Paper published in *Australian Computer Science Communications*, vol. 11, no. 1, 1989, pp. 329–340.
- [2] E. K. P. Chong and W. Zhao, "Task scheduling for imprecise computer systems with user controlled optimization," presented at *1989 International Conference on Computing and Information*, Toronto, Canada, May 23–27, 1989; also in *Computing and Information*, R. Janicki and W. W. Koczkodaj, Eds., Amsterdam, Netherlands: North Holland, 1989, pp. 441–446.
- [3] E. K. P. Chong and P. J. Ramadge, "Recursive stochastic optimization of queues using IPA derivative estimates," presented at *SIAM Conference on Applied Probability in Science and Engineering*, New Orleans, Louisiana, March 5–7, 1990.
- [4] E. K. P. Chong and P. J. Ramadge, "Convergence of recursive optimization algorithms using IPA derivative estimates," in *Proceedings of the 1990 American Control Conference*, San Diego, California, May 23–25, 1990, pp. 1022–1027, (Invited Paper; Awarded *Best Paper Presentation Award*).
- [5] E. K. P. Chong and P. J. Ramadge, "On a stochastic optimization algorithm using IPA which updates after every customer," in *Proceedings of the 28th Annual Allerton Conference on Communication, Control and Computing*, Monticello, Illinois, October 3–5, 1990, pp. 658–667.
- [6] E. K. P. Chong and P. J. Ramadge, "Optimal load sharing in soft real-time systems: An on-line algorithm using likelihood ratio estimates," in *Proceedings of the 29th IEEE Conference on Decision and Control*, Honolulu, Hawaii, December 5–7, 1990, pp. 652–657.
- [7] E. K. P. Chong and P. J. Ramadge, "On regenerative stochastic approximations with applications to optimization using IPA," in *Proceedings of the 25th Annual Conference on Information Sciences and Systems*, Baltimore, Maryland, March 20–22, 1991, pp. 743–748.

- [8] E. K. P. Chong and P. J. Ramadge, "Stochastic optimization algorithms using IPA with general update times," in *Proceedings of the 1991 Discrete Event Systems Workshop*, Amherst, Massachusetts, June 21-23, 1991 (Abstract only).
- [9] E. K. P. Chong and P. J. Ramadge, "Optimization algorithms with general update times using IPA estimates," presented at *2nd ORSA Telecommunications Conference*, Boca Raton, Florida, March 9-11, 1992 (Invited Paper).
- [10] Y. Park and E. K. P. Chong, "Optimal design of discrete event systems," presented at *10th Annual Ohio State University Control Workshop*, Columbus, Ohio, April 11, 1992.
- [11] E. K. P. Chong, "Optimization of tandem networks using a distributed asynchronous algorithm with IPA estimators," in *Proceedings of the 1992 American Control Conference*, Chicago, Illinois, June 24-26, 1992, pp. 3196-3200.
- [12] E. K. P. Chong, "Gradient optimization using infinitesimal perturbation analysis," presented at *SIAM Conference on Control and its Applications*, Minneapolis, Minnesota, September 17-19, 1992 (Invited Paper).
- [13] E. K. P. Chong, "Distributed asynchronous optimization using IPA," presented at *2nd Perturbation Analysis Workshop*, Amherst, Massachusetts, October 10-11, 1992.
- [14] E. K. P. Chong, "On distributed stochastic optimization of regenerative systems using IPA," in *Proceedings of the 31st IEEE Conference on Decision and Control*, Tucson, Arizona, December 16-18, 1992, pp. 3203-3208.
- [15] I.-J. Wang and E. K. P. Chong, "Acceleration of stochastic approximation algorithms," presented at *11th Annual Ohio State University Control Workshop*, Columbus, Ohio, April 24, 1993.
- [16] Y. Park and E. K. P. Chong, "Inversion of timed Petri nets," presented at *11th Annual Ohio State University Control Workshop*, Columbus, Ohio, April 24, 1993.
- [17] S. Bavishi and E. K. P. Chong, "Automated fault diagnosis of manufacturing systems," presented at *11th Annual Ohio State University Control Workshop*, Columbus, Ohio, April 24, 1993.
- [18] E. K. P. Chong, "Inversion of GSMPs," presented at *Institute for Mathematics and Its Applications Workshop on Discrete Event Systems*, University of Minnesota, Minneapolis, Minnesota, May 10-14, 1993 (Invited Paper).
- [19] Y. Park and E. K. P. Chong, "Structural sensitivity analysis of discrete event systems by inversion," in *Proceedings of the 1993 American Control Conference*, San Francisco, California, June 2-4, 1993, pp. 1214-1218.
- [20] E. K. P. Chong and Y. Park, "Perturbation analysis for structural changes," presented at *Conference on Applied Probability in Engineering, Computer and Communication Sciences*, sponsored by INRIA/ORSA/TIMS/SMIAI, Paris, France, June 16-18, 1993 (Invited Paper).
- [21] Y. Park and E. K. P. Chong, "On the eventual invertibility of timed Petri nets," in *Proceedings of the 36th IEEE Midwest Symposium on Circuits and Systems*, Detroit, Michigan, August 16-18, 1993, pp. 336-339 (Invited Paper).
- [22] Y. Park and E. K. P. Chong, "Inversion of timed Petri nets," in *Proceedings of the 8th IEEE International Symposium on Intelligent Control*, Chicago, Illinois, August 25-27, 1993, pp. 285-290.

- [23] J.-H. Kim, J.-H. Park, S.-W. Lee, and E. K. P. Chong, "Control of systems with deadzones using PD controllers with fuzzy precompensation," in *Proceedings of the of the 8th IEEE International Symposium on Intelligent Control*, Chicago, Illinois, August 25–27, 1993, pp. 451–456.
- [24] J.-H. Kim, S.-W. Lee, K.-C. Kim, and E. K. P. Chong, "Fuzzy precompensation of PID controllers," in *Proceedings of the 2nd IEEE Conference on Control Applications*, Vancouver, B.C., Canada, September 13–16, 1993, pp. 183–188.
- [25] I.-J. Wang and E. K. P. Chong, "On acceleration of stochastic approximation for optimization of discrete event systems," in *Proceedings of the 31st Annual Allerton Conference on Communication, Control and Computing*, Monticello, Illinois, September 29–October 1, 1993, pp. 948–957 (Invited Paper).
- [26] E. K. P. Chong, "Distributed asynchronous stochastic optimization using infinitesimal perturbation analysis," presented at the *ORSA/TIMS Joint National Meeting*, Phoenix, Arizona, October 31–November 3, 1993 (Invited Paper).
- [27] Y. Park and E. K. P. Chong, "On the eventual invertibility of discrete event systems and its applications," in *Proceedings of the 32nd IEEE Conference on Decision and Control*, San Antonio, Texas, December 15–17, 1993, pp. 680–685.
- [28] E. K. P. Chong, "On the construction of sample paths of discrete event systems in parallel," in *Proceedings of the 32nd IEEE Conference on Decision and Control*, San Antonio, Texas, December 15–17, 1993, pp. 2205–2210 (Invited Paper).
- [29] I.-J. Wang and E. K. P. Chong, "Continuous binary search with noisy information using bisection algorithms," *Proceedings of the 28th Annual Conference on Information Sciences and Systems*, Princeton, New Jersey, March 16–18, 1994, pp. 758–762.
- [30] J.-H. Kim, S.-W. Lee, and E. K. P. Chong, "Some experiments with a fuzzy precompensated PD controller," in *Proceedings of the 1994 American Control Conference*, Baltimore, Maryland, June 29–July 1, 1994, pp. 981–982.
- [31] T. W. Then and E. K. P. Chong, "Genetic algorithms in noisy environments," in *Proceedings of the 9th IEEE International Symposium on Intelligent Control*, Columbus, Ohio, August 16–18, 1994, pp. 225–230.
- [32] L. G. Sison and E. K. P. Chong, "Fuzzy modeling by induction and pruning of decision trees," in *Proceedings of the 9th IEEE International Symposium on Intelligent Control*, Columbus, Ohio, August 16–18, 1994, pp. 166–171.
- [33] Y. Park and E. K. P. Chong, "Sensor assignment for invertibility in interruptive timed discrete event systems," in *Proceedings of the 9th IEEE International Symposium on Intelligent Control*, Columbus, Ohio, August 16–18, 1994, pp. 207–212.
- [34] S. Bavishi and E. K. P. Chong, "Automated fault diagnosis using a discrete event systems framework," in *Proceedings of the 9th IEEE International Symposium on Intelligent Control*, Columbus, Ohio, August 16–18, 1994, pp. 213–218.
- [35] I.-J. Wang, E. K. P. Chong, and S. R. Kulkarni, "Necessity of Kushner-Clark condition for convergence of stochastic approximation algorithms," in *Proceedings of the 32nd Annual Allerton Conference on Communication, Control and Computing*, Monticello, Illinois, September 28–30, 1994, pp. 167–175.

- [36] Y. Park and E. K. P. Chong, "Sensor assignment for invertibility of timed Petri nets," in *Proceedings of the 32nd Annual Allerton Conference on Communication, Control and Computing*, Monticello, Illinois, September 28–30, 1994, pp. 719–727 (Invited Paper).
- [37] E. K. P. Chong, "A recursive approach to stochastic optimization via infinitesimal perturbation analysis," in *Proceedings of the 33rd IEEE Conference on Decision and Control*, Lake Buena Vista, Florida, December 14–16, 1994, pp. 1984–1989 (Invited Paper).
- [38] I.-J. Wang, E. K. P. Chong, and R. W. Quong, "Sample complexity of continuous binary search with noisy information," in *Proceedings of the 33rd IEEE Conference on Decision and Control*, Lake Buena Vista, Florida, December 14–16, 1994, pp. 650–651.
- [39] E. K. P. Chong and S. H. Žak, "Neurofuzzy adaptive controllers for nonlinear dynamic systems," presented at *Neural Adaptive Control Technology Workshop: NACT I*, Glasgow, Scotland, May 18–19, 1995.
- [40] S. Bavishi and E. K. P. Chong, "Testability analysis using a discrete event systems framework," in *Proceedings of the 1995 American Control Conference*, Seattle, Washington, June 21–23, 1995, pp. 2621–2625.
- [41] Y. Park and E. K. P. Chong, "Fault detection and identification in communication networks: A discrete event systems approach," in *Proceedings of the 33rd Annual Allerton Conference on Communication, Control and Computing*, Monticello, Illinois, October 4–6, 1995, pp. 126–135 (Invited Paper).
- [42] E. K. P. Chong, S. Hui, and S. H. Žak, "On dynamic gradient systems for solving linear programs: A sliding mode analysis," in *Proceedings of the 34th IEEE Conference on Decision and Control*, New Orleans, Louisiana, December 13–15, 1995, pp. 2109–2114.
- [43] I.-J. Wang, E. K. P. Chong, and S. R. Kulkarni, "On equivalence of some noise conditions for stochastic approximation algorithms," in *Proceedings of the 34th IEEE Conference on Decision and Control*, New Orleans, Louisiana, December 13–15, 1995, pp. 3849–3854 (One of five finalists for the *Best Student Paper Award*).
- [44] B. Bhukhanwala, E. K. P. Chong, and D. Elmore "A bilevel control architecture for rapid magnet cycling," in *Proceedings of the 34th IEEE Conference on Decision and Control*, New Orleans, Louisiana, December 13–15, 1995, pp. 1726–1731.
- [45] Y. Park and E. K. P. Chong, "On d -inversion in timed discrete event systems with interruption," in *Proceedings of the 34th IEEE Conference on Decision and Control*, New Orleans, Louisiana, December 13–15, 1995, pp. 2592–2597.
- [46] I.-J. Wang and E. K. P. Chong, "A deterministic analysis of simultaneous perturbation stochastic approximation," in *Proceedings of the 30th Annual Conference on Information Sciences and Systems*, Princeton, New Jersey, March 20–22, 1996, pp. 918–922.
- [47] E. K. P. Chong, "Discussions on simultaneous perturbation stochastic approximation," presented at *INFORMS (Institute for Operations Research and Management Science) National Meeting*, Washington, DC, May 5–8, 1996 (Invited Paper).

- [48] C. Chatterjee and E. K. P. Chong, "An efficient algorithm for finding the center of conics and quadrics in noisy data," in *Proceedings of the 35th IEEE Conference on Decision and Control*, Kobe, Japan, December 11–13, 1996, pp. 3735–3736.
- [49] I.-J. Wang, E. K. P. Chong, and S. R. Kulkarni, "Weighted averaging and stochastic approximation," in *Proceedings of the 35th IEEE Conference on Decision and Control*, Kobe, Japan, December 11–13, 1996, pp. 1071–1076.
- [50] L. G. Sison and E. K. P. Chong, "No-reset iterative learning control," in *Proceedings of the 35th IEEE Conference on Decision and Control*, Kobe, Japan, December 11–13, 1996, pp. 3062–3063.
- [51] J. Li, N. B. Shroff, and E. K. P. Chong, "Channel carrying: A novel handoff scheme for mobile cellular networks," in *Proceedings of the 1997 IEEE INFOCOM (16th Annual Joint Conference of the IEEE Computer and Communication Societies)*, Kobe, Japan, April 9–11, 1997, pp. 909–917.
- [52] C. Chatterjee, V. P. Roychowdhury, and E. K. P. Chong, "Convergence study of principal component analysis algorithms," in *Proceedings of the IEEE International Conference on Neural Networks (ICNN'97)*, Houston, Texas, June 8–12, 1997, pp. 1798–1803.
- [53] E. K. P. Chong, "Adaptive parameter tuning in discrete event systems," presented at *IEEE Robotics and Automation Conference, Workshop on Discrete Event and Hybrid Systems*, Albuquerque, NM, April 20–25, 1997 (Invited Paper).
- [54] L. G. Sison and E. K. P. Chong, "Design of repetitive learning controllers," in *Proceedings of the 36th IEEE Conference on Decision and Control*, San Diego, California, December 10–12, 1997, pp. 3763–3764.
- [55] E. K. P. Chong, I.-J. Wang, and S. R. Kulkarni, "On conditions for convergence rates of stochastic approximation algorithms," in *Proceedings of the 36th IEEE Conference on Decision and Control*, San Diego, California, December 10–12, 1997, pp. 2279–2280.
- [56] J. Li, N. B. Shroff, and E. K. P. Chong, "A channel sharing scheme to improve system capacity and quality of service in wireless cellular networks," in *Proceedings of the Third IEEE Symposium on Computers and Communications (ISCC'98)*, Athens, Greece, June 30–July 2, 1998, pp. 700–704.
- [57] J. Zhang and E. K. P. Chong, "Admissibility and network capacity of power-controlled CDMA systems in fading channels," in *Proceedings of the 36th Annual Allerton Conference on Communication, Control and Computing*, Monticello, Illinois, September 23–25, 1998, pp. 282–291.
- [58] J. Herdtner and E. K. P. Chong, "Analysis of a simple distributed power control algorithm," in *Proceedings of the 36th Annual Allerton Conference on Communication, Control and Computing*, Monticello, Illinois, September 23–25, 1998, pp. 296–297.
- [59] S. Kalyanasundaram, E. K. P. Chong, and N. B. Shroff, "An efficient scheme to reduce handoff dropping in LEO satellite systems," in *Proceedings of the Workshop on Multimedia Networking*, part of *Proceedings of the 17th IEEE Symposium on Reliable Distributed Systems*, Purdue University, West Lafayette, Indiana, October 20–23, 1998, pp. 431–437.
- [60] Z. Chen, K. Roy, and E. K. P. Chong, "Estimation of power sensitivity for sequential circuits with application to power macromodeling," in *Proceedings of the IEEE/ACM International Conference on Computer-Aided Design (ICCAD98)*, San Jose, California, November 8–12, 1998, pp. 468–472.

- [61] L. G. Sison and E. K. P. Chong, "Repetitive learning control for linear periodic plants," in *Proceedings of the 37th IEEE Conference on Decision and Control*, Tampa, Florida, December 16–18, 1998, pp. 1244–1247.
- [62] J. Zhang and E. K. P. Chong, "CDMA systems with random spreading in fading channels: Network capacity and power control," in *Proceedings of the 1999 IEEE INFOCOM*, New York, New York, March 21–25, 1999, pp. 940–947.
- [63] S. Kalyanasundaram, J. Li, E. K. P. Chong, and N. B. Shroff, "Channel sharing scheme for packet-switched cellular networks," in *Proceedings of the 1999 IEEE INFOCOM*, New York, New York, March 21–25, 1999, pp. 609–616.
- [64] J. Li, N. B. Shroff, and E. K. P. Chong, "The study of a channel sharing scheme in wireless cellular networks including handoffs," in *Proceedings of the 1999 IEEE INFOCOM*, New York, New York, March 21–25, 1999, pp. 1179–1186.
- [65] J. Li, N. B. Shroff, and E. K. P. Chong, "A static power control scheme for wireless cellular networks," in *Proceedings of the 1999 IEEE INFOCOM*, New York, New York, March 21–25, 1999, pp. 932–939.
- [66] A. Bashandy, E. Chong, and A. Ghafoor, "Network modeling and jitter control for multimedia communication over broadband network," in *Proceedings of the 1999 IEEE INFOCOM*, New York, New York, March 21–25, 1999, pp. 559–566.
- [67] E. K. P. Chong, "Stochastic search and optimization in discrete event systems: An overview of parametric and nonparametric methods," in *Proceedings of the 1999 American Control Conference*, San Diego, California, June 2–4, 1999, pp. 378–382.
- [68] S. Chatterjea, E. K. P. Chong, H. J. Siegel, S. D. Jones, M. Jurczyk, and I.-J. Wang, "Quality of service attributes in a hierarchical system for global information dissemination: A preliminary study," in *Proceedings of the 1999 International Conference on Parallel and Distributed Processing Technologies and Applications (PDPTA '99)*, Special Session on Quality of Service in High-Performance Distributed Systems, Las Vegas, Nevada, June 28–July 1, 1999, pp. 1076–1082.
- [69] J. Herdtner and E. K. P. Chong, "A class of distributed asynchronous power control algorithms for cellular wireless systems," in *Proceedings of the 37th Annual Allerton Conference on Communication, Control and Computing*, Monticello, Illinois, September 22–24, 1999, pp. 485–494.
- [70] M. Xiao, N. B. Shroff, and E. K. P. Chong, "Distributed connection admission control for power-controlled cellular wireless systems," in *Proceedings of the 37th Annual Allerton Conference on Communication, Control and Computing*, Monticello, Illinois, September 22–24, 1999, pp. 495–504.
- [71] Z. Ali, E. K. P. Chong, and A. Ghafoor, "A scalable call admission control algorithm for ATM networks," in *Proceedings of the 1999 IEEE Global Telecommunications Conference (GLOBECOM 1999)*, Rio de Janeiro, Brazil, December 5–9, 1999, pp. 1648–1654.
- [72] H. S. Chang, R. Givan, and E. K. P. Chong, "On-line scheduling via sampling," in *Proceedings of The Fifth International Conference on Artificial Intelligence Planning and Scheduling (AIPS2000)*, Breckenridge, CO, April 14–17, 2000, pp. 62–71.

- [73] J. Zhang, E. K. P. Chong, and D. N. C. Tse, "Distributions of the output MAI of linear MMSE multiuser receivers in DS-CDMA systems," in *Proceedings of the 2000 IEEE International Symposium on Information Theory*, Sorrento, Italy, June 25–30, 2000, p. 382.
- [74] M. D. Theys, H. J. Siegel, and E. K. P. Chong, "A model and heuristics for scheduling data traffic at the application level in a distributed computing environment," in *Proceedings of the 2000 International Conference on Parallel and Distributed Processing Technologies and Applications (PDPTA 2000)*, Vol. III, Las Vegas, Nevada, June 26–29, 2000, pp. 1239–1245.
- [75] J. Zhang and E. K. P. Chong, "Power control for spread spectrum networks in fading channels," in *Proceedings of the 6th IEEE International Symposium on Spread-Spectrum Techniques and Applications (ISSSTA 2000)*, Newark, NJ, September 6–8, 2000, pp. 790–794.
- [76] J. Zhang and E. K. P. Chong, "MAI conditional weak convergence and network capacity in wireless networks with MMSE receivers," in *Proceedings of the 38th Annual Allerton Conference on Communication, Control and Computing*, Monticello, Illinois, October 4–6, 2000, pp. 287–296 (Invited Paper).
- [77] S. Kalyanasundaram, E. K. P. Chong, and N. B. Shroff, "Admission control schemes to provide class-level QoS in multiservice networks," in *Proceedings of the 38th Annual Allerton Conference on Communication, Control and Computing*, Monticello, Illinois, October 4–6, 2000, pp. 113–122.
- [78] J. Park, U. R. Savagaonkar, E. K. P. Chong, H. J. Siegel, and S. D. Jones, "Efficient resource allocation for QoS channels in MF-TDMA satellite systems," in *Proceedings of 2000 IEEE Military Communications Conference (MILCOM 2000)*, Los Angeles, California, October 22–25, 2000, pp. U19.6.1–U19.6.5.
- [79] X. Liu, E. K. P. Chong, and N. B. Shroff, "Efficient network utilization for multimedia wireless networks," in *Proceedings of International Workshop on Mobile and Wireless Communications Networks (MWCN 2000)*, part of the *IFIP-TC6/European Commission NETWORKING 2000 International Conference*, Paris, France, May 16–17, 2000, pp. 108–122.
- [80] J. Zhang, E. K. P. Chong, and I. Kontoyiannis, "Unified spatial diversity combining and power allocation schemes for CDMA systems," in *Proceedings of the 2000 IEEE Global Telecommunications Conference (GLOBECOM 2000)*, San Francisco, California, November 27–December 1, 2000, pp. 114–118.
- [81] E. K. P. Chong, R. L. Givan, and H. S. Chang, "A framework for simulation-based network control via hindsight optimization," in *Proceedings of the 39th IEEE Conference on Decision and Control*, Sydney, Australia, December 12–15, 2000, pp. 1433–1438 (Invited Paper).
- [82] M. Xiao, N. B. Shroff, and E. K. P. Chong, "Utility-based power control in cellular wireless systems," in *Proceedings of the 2001 IEEE INFOCOM*, Anchorage, Alaska, April 22–26, 2001, pp. 412–421.
- [83] X. Liu, E. K. P. Chong, and N. B. Shroff, "Transmission scheduling for efficient wireless network utilization," in *Proceedings of the 2001 IEEE INFOCOM*, Anchorage, Alaska, April 22–26, 2001, pp. 776–785.
- [84] G. Wu, E. K. P. Chong, and R. L. Givan, "Congestion control via online sampling," in *Proceedings of the 2001 IEEE INFOCOM*, Anchorage, Alaska, April 22–26, 2001, pp. 1271–1280.

- [85] P. Dharwadkar, H. J. Siegel, and E. K. P. Chong, "A heuristic for dynamic bandwidth allocation with preemption and degradation for prioritized requests," in *Proceedings of the 21st International Conference on Distributed Computing Systems (ICDCS 2001)*, Phoenix, Arizona, April 16–19, 2001, pp. 547–556 (nominated for *Best Paper Award*).
- [86] D. Shin, E. K. P. Chong, and H. J. Siegel, "A multiconstraint QoS routing scheme using the depth-first search method with limited crankbacks," in *Proceedings of the 2001 IEEE Workshop on High Performance Switching and Routing (HPSR 2001)*, Dallas, Texas, May 29–31, 2001, pp. 385–389.
- [87] J. Zhang and E. K. P. Chong, "A unified study on the MAI Gaussianity in large CDMA systems with MMSE receivers," in *Proceedings of the 2001 IEEE International Symposium on Information Theory*, Washington, DC, June 24–29, 2001, p. 305.
- [88] A. Naik, H. J. Siegel, and E. K. P. Chong, "Dynamic resource allocation for classes of prioritized session and data requests in preemptive heterogeneous networks," in *Proceedings of the 2001 International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA 2001)*, Vol. II, Las Vegas, Nevada, June 25–28, 2001, pp. 787–796.
- [89] M. Xiao, N. B. Shroff, and E. K. P. Chong, "Power control for wideband cellular wireless systems with link adaptation," in *Proceedings of SPIE ITCOM 2001 (International Symposium and Exhibit on the Convergence of Information Technology and Communications)*, Vol. 4526 (Scalability and Traffic Control in IP Networks), Denver, Colorado, August 20–24, 2001.
- [90] S. Kalyanasundaram, E. K. P. Chong, and N. B. Shroff, "Optimal resource allocation in multiclass networks with user-specified utility functions," in *Proceedings of the 17th International Teletraffic Congress (ITC)*, Salvador da Bahia, Brazil, September 24–28, 2001, pp. 1175–1186.
- [91] X. Liu, E. K. P. Chong, and N. B. Shroff, "Transmission scheduling with QoS constraints in wireless systems with time-varying channels," in *Proceedings of the 2001 IEEE Vehicular Technology Conference (VTC Fall 2001)*, Atlantic City, New Jersey, October 7–11, 2001, pp. 824–828.
- [92] S. D. Jones, I.-J. Wang, E. K. P. Chong, and H. J. Siegel, "A MetaNet architecture for end-to-end quality of service (QoS) over disparate networks," in *Proceedings of 2001 IEEE Military Communications Conference (MILCOM 2001)*, Tysons Corner, Virginia, October 28–31, 2001, paper 285.
- [93] U. Savagaonkar, R. Givan, and E. K. P. Chong, "Dynamic pricing for bandwidth provisioning," in *Proceedings of the 36th Annual Conference on Information Sciences and Systems*, Princeton, New Jersey, March 20–22, 2002, pp. 177–182.
- [94] J. Park, E. K. P. Chong, and H. J. Siegel, "Efficient multicast packet authentication using signature amortization," in *Proceedings of the 2002 IEEE Symposium on Security and Privacy (SSP 2002)*, Oakland, California, May 12–15, 2002, pp. 227–240.
- [95] D. Shin, E. K. P. Chong, and H. J. Siegel, "A multiconstraint QoS routing scheme using a modified Dijkstra's algorithm," in *Networks: Proceedings of the Joint International Conference on Wireless LANs and Home Networks (ICWLHN 2002) and Networking (ICN 2002)*, *Networks 2002*, B. Bing and P. Lorenz, Eds., Atlanta, Georgia, August 26–29, 2002, pp. 65–76.
- [96] X. Liu, E. K. P. Chong, and N. B. Shroff, "Joint scheduling and power-allocation for interference management in wireless networks," in *Proceedings of the 2002 IEEE Vehicular Technology Conference (VTC Fall 2002)*, Vancouver, Canada, September 24–28, 2002, pp. 1892–1896.

- [97] U. Savagaonkar, R. Givan, and E. K. P. Chong, "Sampling techniques for zero-sum, discounted Markov games," in *Proceedings of the 40th Annual Allerton Conference on Communication, Control and Computing*, Monticello, Illinois, October 2–4, 2002, pp. 285–294.
- [98] E. K. P. Chong, X. Liu, and N. B. Shroff, "Optimal transmission scheduling," presented at the *17th IEEE Annual Computer Communications Workshop (CCW 2002)*, Santa Fe, New Mexico, October 13–16, 2002 (Invited Paper).
- [99] S. Kalyanasundaram, E. K. P. Chong, and N. B. Shroff, "Markov decision processes with uncertain transition rates: Sensitivity and robust control," in *Proceedings of the 41st IEEE Conference on Decision and Control (CDC'02)*, Las Vegas, Nevada, December 10–13, 2002, pp. 3799–3804.
- [100] G. Wu, E. K. P. Chong, and R. L. Givan, "Streaming stored video over AIMD transport protocols," in *Proceedings of the IEEE Fourth International Symposium on Multimedia Software Engineering (MSE'2002)*, Newport Beach, California, December 11–13, 2002, pp. 304–311 (Invited Paper).
- [101] L. L. Scharf, L. T. McWhorter, E. K. P. Chong, J. S. Goldstein, and M. D. Zoltowski, "Algebraic equivalence of conjugate direction and multistage Wiener filters," in *Proceedings of the Eleventh Annual Workshop on Adaptive Sensor Array Processing (ASAP)*, Lexington, Massachusetts, March 11–13, 2003. (Session I: STAP and ABF, Paper #10, CD ROM ESC-TR-2002-088.)
- [102] R. S. Tupelly, J. Zhang, and E. K. P. Chong, "Opportunistic scheduling for streaming video in wireless networks," in *Proceedings of the 37th Annual Conference on Information Sciences and Systems*, Baltimore, Maryland, March 12–14, 2003.
- [103] J. Park, E. K. P. Chong, H. J. Siegel, and I. Ray, "Constructing fair-exchange protocols for e-commerce via distributed computation of RSA signatures," in *Proceedings of the Twenty-Second ACM Symposium on Principles of Distributed Computing (PODC 2003)*, Security in Distributed Computing Special Track, Boston, Massachusetts, July 13–16, 2003, pp. 172–181.
- [104] L. L. Scharf, E. K. P. Chong, and L. T. McWhorter, "Iterative filtering in expanding subspaces for radar, sonar, and data communication," presented at *Lake Louise Workshop on New Directions for Statistical Signal Processing in the 21st Century*, Lake Louise, Alberta, October 5–10, 2003 (Invited Paper).
- [105] N. B. Shroff, X. Liu, and E. K. P. Chong, "Optimal opportunistic scheduling in wireless networks," in *Proceedings of the 2003 IEEE Vehicular Technology Conference (VTC Fall 2003)*, Orlando, Florida, October 6–9, 2003, pp. 1417–1421.
- [106] H. Abu-Amara, J. Lee, C. Rosenberg, and E. K. P. Chong, "Efficient roaming over heterogeneous wireless networks," in *Proceedings of the 2003 WNCG Wireless Networking Symposium*, University of Texas at Austin, October 22–24, 2003.
- [107] J. Park, I. Ray, E. K. P. Chong, and H. J. Siegel, "A certified e-mail protocol suitable for mobile environments," in *Proceedings of the 2003 IEEE Global Communications Conference (GLOBECOM 2003)*, Communications Security Symposium, San Francisco, CA, December 1–5, 2003, pp. 1394–1398.
- [108] G. Wu, E. K. P. Chong, and R. L. Givan, "Buffer control at video-streaming proxy servers," in *Proceedings of the 2003 IEEE Global Communications Conference (GLOBECOM 2003)*, San Francisco, CA, December 1–5, 2003, pp. 3558–3563.

- [109] G. Wu, E. K. P. Chong, and R. L. Givan, "Congestion control using policy rollout," in *Proceedings of the 42nd IEEE Conference on Decision and Control (CDC'03)*, Maui, Hawaii, December 9–12, 2003, pp. 4825–4830 (Invited Paper).
- [110] M. Veeraraghavan, X. Zheng, W.-C. Feng, H. Lee, E. K. P. Chong, and H. Li, "Scheduling and transport for file transfers on high-speed optical circuits," in *Proceedings of the Second International Workshop on Protocols for Fast Long-Distance Networks (PFLDnet 2004)*, Argonne National Laboratory, Argonne, Illinois, February 16–17, 2004, www-didc.lbl.gov/PFLDnet2004/program.htm.
- [111] J. Lee, C. Rosenberg, and E. K. P. Chong, "Energy efficient scheduler design in wireless networks," in *Proceedings of the 2nd Workshop on Modeling and Optimization in Mobile, Ad Hoc and Wireless Networks (WiOpt'04)*, Cambridge, UK, March 24–26, 2004, pp. 237–246.
- [112] D. Shin, E. K. P. Chong, and H. J. Siegel, "Survivable multipath routing using link penalization," in *Proceedings of the 23rd IEEE International Performance, Computing, and Communications Conference (IPCCC 2004)* (edited by H. Hassanein, R. L. Oliver, G. G. Richard III, and L. F. Wilson), Phoenix, Arizona, April 14–17, 2004, pp. 115–122.
- [113] M. Veeraraghavan, H. Lee, H. Li, and E. K. P. Chong, "Lambda scheduling algorithm for file transfers on high-speed optical circuits," in *Proceedings of the Workshop on Grids and Advanced Networks (GAN04)*, part of the *IEEE International Symposium on Cluster Computing and the Grid (CCGrid 2004)*, Chicago, Illinois, April 19–22, 2004, pp. 617–624.
- [114] M. Veeraraghavan, H. Lee, E. K. P. Chong, and H. Li, "A varying-bandwidth list scheduling heuristic for file transfers," in *Proceedings of the 2004 International Conference on Communications (ICC 2004)*, Paris, France, June 20–24, 2004, pp. 1050–1054.
- [115] E. K. P. Chong, "Dynamic resource management," presented at the *3rd International Symposium on Parallel and Distributed Computing (ISPDC'04)*, in association with *HeteroPar'04*, University College Cork, Ireland, July 5–8, 2004 (Invited talk presented to entire symposium).
- [116] E. K. P. Chong, "Online pricing for bandwidth provisioning in multi-class networks," presented at the *Internet Economics Workshop*, Montreal, Canada, July 16–17, 2004 (George Kesidis, organizer), part of the *2004 Stochastic Networks Conference (SNC'04)* (Invited Paper).
- [117] E. K. P. Chong, "Analysis and simulation of large networks," presented at the *2nd DoE Workshop on Multiscale Mathematics*, Broomfield, Colorado, July 22–24, 2004 (Invited talk presented to entire workshop).
- [118] L. L. Scharf, E. K. P. Chong, and Z. Zhang, "Algebraic equivalence of matrix conjugate direction and matrix multistage filters for estimating random vectors," in *Proceedings of the 43rd IEEE Conference on Decision and Control (CDC'04)*, Atlantis Resort, Paradise Island, Bahamas, December 14–17, 2004, pp. 4175–4179.
- [119] Y. He and E. K. P. Chong, "Sensor scheduling for target tracking in sensor networks," in *Proceedings of the 43rd IEEE Conference on Decision and Control (CDC'04)*, Atlantis Resort, Paradise Island, Bahamas, December 14–17, 2004, pp. 743–748.
- [120] Z. Zhang, Y. He, and E. K. P. Chong, "Opportunistic downlink scheduling for Multiuser OFDM systems," in *Proceedings of the 2005 IEEE Wireless Communications and Networking Conference (WCNC'05)*, New Orleans, LA, March 13–17, 2005, pp. 1206–1212 (Invited Paper).

- [121] J. Herdtner and E. K. P. Chong, "Throughput-storage tradeoff in ad hoc networks," in *Proceedings of the 2005 IEEE INFOCOM*, Miami, FL, March 13–17, 2005, pp. 2536–2542.
- [122] Y. He and E. K. P. Chong, "Sensor scheduling for target tracking: A Monte Carlo sampling approach," in *Proceedings of the 2005 Workshop on Defense Applications of Signal Processing (DASP'05)*, The Homestead Resort, Midway, Utah, March 27–April 1, 2005 (Invited Paper).
- [123] V. Shestak, E. K. P. Chong, A. A. Maciejewski, H. J. Siegel, L. Benmohamed, I.-J. Wang, and R. Daley, "Resource allocation for periodic applications in a shipboard environment," presented at the *14th Heterogeneous Computing Workshop (HCW 2005)* (cosponsors: IEEE Computer Society, INRIA, and Office of Naval Research), in the *Proceedings of the 19th IEEE International Parallel and Distributed Processing Symposium (IPDPS'05)*, Denver, Colorado, April 4–8, 2005.
- [124] E. K. P. Chong, "A Monte Carlo method for dynamic sensor management," presented at the *NSF Active Sensing and Sensor Management Workshop*, Ann Arbor, Michigan, May 26–27, 2005 (Invited Paper).
- [125] J. Lee, C. Rosenberg, and E. K. P. Chong, "Power-saving mode parameter optimization," in *Proceedings of the IEEE International Conference on Wireless Networks, Communications, and Mobile Computing (WIRELESSCOM)*, Maui, Hawaii, June 13–16, 2005, pp. 686–691.
- [126] E. K. P. Chong, "Adaptive sensor management," presented at the *ARO-MURI Adaptive Sensing Workshop*, Atlanta, Georgia, August 1–3, 2005 (Invited Paper).
- [127] E. K. P. Chong and B. E. Brewington, "Distributed communications resource management for tracking and surveillance networks," in *Proceedings of the Conference on Signal and Data Processing of Small Targets 2005* (SPIE Vol. 5913), part of the *SPIE Symposium on Optics & Photonics*, San Diego, California, July 31–August 4, 2005, pp. 280–291.
- [128] J. Hannig, E. K. P. Chong, and S. R. Kulkarni, "Relative frequencies of non-homogeneous Markov chains in simulated annealing and related algorithms," in *Proceedings of the Joint 44th IEEE Conference on Decision and Control and European Control Conference (CDC-ECC'05)*, Seville, Spain, December 12–15, 2005 (Invited Paper), pp. 6626–6631.
- [129] A. Pezeshki, L. L. Scharf, M. Lundberg, and E. K. P. Chong, "Constrained quadratic minimizations for signal processing and communications," in *Proceedings of the Joint 44th IEEE Conference on Decision and Control and European Control Conference (CDC-ECC'05)*, Seville, Spain, December 12–15, 2005, pp. 7949–7953.
- [130] H. S. Chang and E. K. P. Chong, "On solving controlled Markov set-chains via multi-policy improvement," in *Proceedings of the Joint 44th IEEE Conference on Decision and Control and European Control Conference (CDC-ECC'05)*, Seville, Spain, December 12–15, 2005, pp. 8058–8063.
- [131] Y. Li, L. W. Krakow, E. K. P. Chong, and K. N. Groom, "Dynamic sensor management for multi-sensor multitarget tracking," *Proceedings of the 40th Annual Conference on Information Sciences and Systems*, Princeton, New Jersey, March 22–24, 2006 (Invited Paper), pp. 1397–1402.
- [132] J. Lee, C. Rosenberg, and E. K. P. Chong, "An opportunistic power-saving mode and scheduler design for wireless local area networks," in *Proceedings of the 2006 IEEE Wireless Communications and Networking Conference (WCNC'06)*, Las Vegas, Nevada, April 3–6, 2006, pp. 926–933.

- [133] R. Daley, R. Holder, I.-J. Wang, J. Pistole, M. Dale, C. Pascale, H. J. Siegel, E. K. P. Chong, A. A. Maciejewski, V. Shestak, and D. Marinescu, "Representation and evaluation of complex options within mission plans and contingency plans," presented at *74th Military Operations Research Society Symposium (MORSS)*, Colorado Springs, Colorado, June 13–15, 2006.
- [134] J. Hannig, E. K. P. Chong, and D. J. Estep, "Continuum models for large stochastic networks," presented at *Conference on Stochastic Networks (SNC'06)*, Urbana, Illinois, June 19–24, 2006.
- [135] L. W. Krakow, E. K. P. Chong, K. N. Groom, J. Harrington, Y. Li, and B. Rigdon, "Control of perimeter surveillance wireless sensor networks via partially observable Markov decision process," in *Proceedings of the 2006 40th Annual IEEE International Carnahan Conference on Security Technology (ICCST)*, Lexington, Kentucky, October 17–20, 2006, pp. 261–268.
- [136] P. R. Barbosa, H. Li, E. K. P. Chong, J. Hannig, and S. R. Kulkarni, "Zero-error target tracking through limited querying of binary sensors," in *Proceedings of the 44th Annual Allerton Conference on Communication, Control and Computing*, Monticello, Illinois, September 27–29, 2006, pp. 1424–1431.
- [137] Y. Li, L. W. Krakow, E. K. P. Chong, and K. N. Groom, "Approximate stochastic dynamic programming for sensor scheduling to track multiple targets," in *Proceedings of the 2006 Workshop on Defense Applications of Signal Processing (DASP'06)*, The Kingfisher Bay Resort, Fraser Island, Queensland, Australia, December 10–14, 2006 (Invited Paper).
- [138] E. K. P. Chong, "Adaptive sensing: Formulation, approximation, and application," presented at *Workshop on Signals, Sensors, and Scheduling*, The University of Melbourne and The University of Adelaide, December 18–20, 2006 (Invited Paper).
- [139] H. Li and E. K. P. Chong, "On connections between group homomorphisms and the Ingleton inequality," in *Proceedings of the 2007 IEEE International Symposium on Information Theory*, Nice, France, June 24–29, 2007, pp. 1996–2000.
- [140] S. A. Miller and E. K. P. Chong, "Flow-rate control for managing communications in tracking and surveillance networks," in *Proceedings of the Conference on Signal and Data Processing of Small Targets 2007* (SPIE Vol. 6699), part of the *SPIE Symposium on Optics & Photonics*, San Diego, California, August 26–30, 2007.
- [141] D. Shin, E. K. P. Chong, and H. J. Siegel, "Multi-postpath-based lookahead multiconstraint QoS routing," presented at *Minisymposium on Advanced Topics in Communications*, part of the *8th Hellenic European Research on Computer Mathematics and its Applications Conference*, Athens, Greece, September 20–22, 2007.
- [142] H. Li and E. K. P. Chong, "Information lattices and subgroup lattices: Isomorphisms and approximations," in *Proceedings of the 45th Annual Allerton Conference on Communication, Control and Computing*, Monticello, Illinois, September 26–28, 2007.
- [143] K. D. Wong, C. W. Gin, R. Rajeswari, W. L. Woon, and E. K. P. Chong, "Feasibility of a PDE-based teletraffic model for cellular networks," in *Proceedings of the International Conference on Intelligent & Advanced Systems (ICIAS2007)*, Kuala Lumpur, Malaysia, November 25–28, 2007.
- [144] P. R. Barbosa, E. K. P. Chong, S. Suvorova, and W. Moran, "Multitarget multisensor tracking in an urban environment: A closed-loop approach," in *Proceedings of the Conference on Signal and Data*

- Processing of Small Targets 2008* (SPIE Vol. 6969), part of the *SPIE Symposium on Defense and Security*, Orlando, Florida, March 16–20, 2008, Paper 6969-27.
- [145] E. K. P. Chong, C. Kreucher, and A. O. Hero III, “Monte-Carlo-based partially observable Markov decision process approximations for adaptive sensing,” in *Proceedings of the 9th International Workshop on Discrete Event Systems (WODES’08)*, Göteborg, Sweden, May 28–30, 2008, pp. 173–180 (Invited Paper).
- [146] E. K. P. Chong, “Approximate Stochastic Dynamic Programming for Resource Management with Partial Observations,” *INFORMS Annual Meeting*, Washington, DC, October 12–15, 2008 (Invited Paper).
- [147] Z. Zhang, S. Moola, and E. K. P. Chong, “Approximate stochastic dynamic programming for opportunistic fair scheduling in wireless networks,” in *Proceedings of the 47th IEEE Conference on Decision and Control*, Cancun, Mexico, December 9–11, 2008, pp. 1404–1409.
- [148] P. R. Barbosa and E. K. P. Chong, “Adaptive sensing for target tracking in covert operations,” in *Proceedings of the Conference on Signal Processing, Sensor Fusion, and Target Recognition XVIII* (SPIE Vol. 7336), part of the *SPIE Symposium on Defense, Security + Sensing*, Orlando, Florida, April 13–17, 2009, Paper 7336-10.
- [149] J. A. Gubner, L. L. Scharf, and E. K. P. Chong, “Exponential error bounds for binary detection using arbitrary binary sensors and an all-purpose fusion rule in wireless sensor networks,” in *Proceedings of the 2009 IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP 2009)*, Taipei, Taiwan, April 19–24, 2009, to appear.
- [150] V. Shestak, E. K. P. Chong, A. A. Maciejewski, and H. J. Siegel, “Robust sequential resource allocation in heterogeneous distributed systems with random compute node failures,” presented at the *18th International Heterogeneity in Computing Workshop (HCW 2009)* (cosponsors: IEEE Computer Society and Office of Naval Research), in the *Proceedings of the 23rd IEEE International Parallel and Distributed Processing Symposium (IPDPS’09)*, Rome, Italy, May 25–29, 2009.
- [151] S. A. Miller, Z. A. Harris, and E. K. P. Chong, “Coordinated guidance of autonomous UAVs via nominal belief-state optimization,” in *Proceedings of the 2009 American Control Conference*, St. Louis, Missouri, June 10–12, 2009, Paper ThB06.6, to appear.
- [152] J. T. Smith, E. K. P. Chong, A. A. Maciejewski, and H. J. Siegel, “Stochastic-based robust dynamic resource allocation in a heterogeneous computing system,” in *Proceedings of the 38th International Conference on Parallel Processing (ICPP-2009)*, Vienna, Austria, September 22–25, 2009, to appear.

Research Book Contributions

- [1] E. K. P. Chong and W. Zhao, “Task scheduling for imprecise computer systems with user controlled optimization,” in *Computing and Information*, R. Janicki and W. W. Koczkodaj, Eds., Amsterdam, Netherlands: Elsevier Science Publishers (North Holland), Chapter 7, 1989, ISBN: 0-444-880550, pp. 441–446.
- [2] E. K. P. Chong, “On-line optimization of queues using infinitesimal perturbation analysis,” in *Discrete Event Systems, Manufacturing Systems, and Communication Networks*, P. R. Kumar and P. P. Varaiya, Eds., Vol. 73 of Institute for Mathematics and its Applications (IMA) Volumes in Mathematics and its Applications, Springer-Verlag, 1995, ISBN: 0-387-97987-5, pp. 41–57.

- [3] E. K. P. Chong, “Discrete-event systems and their optimization,” in *Perspectives in Control Engineering: Technologies, Applications, and New Directions*, Chapter 2, T. Samad, Ed., IEEE Press, 2000, ISBN: 0-7803-5356-0, pp. 20–41.
- [4] X. Liu, E. K. P. Chong, and N. B. Shroff, “Efficient network utilization for multimedia wireless networks,” in *Mobile and Wireless Communication Networks*, C. G. Omidyar, Ed., Vol. 1818 of Lecture Notes in Computer Science, Springer Verlag, 2000, ISBN: 3-540-67543-4, pp. 108–122. This volume constitutes the refereed proceedings of the *International Workshop on Mobile and Wireless Communications Networks (MWCN 2000)*, held as part of the IFIP-TC6/European Union *NETWORKING 2000* Conference in Paris, France, in May 2000 (see Conference Proceedings and Presentations, item [79]). The revised full papers presented were carefully reviewed and selected for inclusion in the volume.
- [5] *Modeling and Design of Wireless Networks*, E. K. P. Chong, Ed., Proc. of SPIE Vol. 4531, 2001.
- [6] Y. Park and E. K. P. Chong, “Monitoring of automata discrete event systems,” in *Discrete Event and Hybrid Systems in Robotics and Automation*, T. Sobh, Ed., Chapter 5, Nova Science Publishers, Inc., 2006, ISBN: 1-59454-463-8, pp. 111–190.
- [7] E. K. P. Chong, C. Kreucher, and A. O. Hero III, “POMDP approximation using simulation and heuristics,” Chapter 8 in *Foundations and Applications of Sensor Management*, A. Hero, D. Castañón, D. Cochran, and K. Kastella, Eds., Springer, 2008, ISBN: 978-0-387-27892-6, pp. 95–120.
- [8] E. K. P. Chong, “Markov Processes,” Chapter 12, Section 2, in *Foundations and Applications of Sensor Management*, A. Hero, D. Castañón, D. Cochran, and K. Kastella, Eds., Springer, 2008, ISBN: 978-0-387-27892-6, pp. 273–278.

Published Reviews

- [1] E. K. P. Chong, “Review of *Discrete Event Systems: Modeling and Performance Analysis*, by Christos G. Cassandras; Richard D. Irwin, Inc., and Aksen Associates, Inc., Homewood, IL, 1993, xix + 790 pp., ISBN 0-256-11212-6,” *Discrete Event Dynamic Systems: Theory and Applications*, vol. 4, pp. 113–116, 1994.
- [2] E. K. P. Chong, “Book review: *Discrete Event Systems: Modeling and Performance Analysis*, by Christos G. Cassandras; Richard D. Irwin, Inc., and Aksen Associates, Inc., Homewood, IL, 1993, xix + 790 pp., ISBN 0-256-11212-6,” *IEEE Transactions on Automatic Control*, vol. 40, no. 9, pp. 1682–1683, September 1995.

Technical Reports

- [1] E. K. P. Chong, “A fast active subharmonic transponder,” Tech. Rep., Department of Electrical and Electronic Engineering, University of Adelaide, South Australia, May 1987 (92 pp.).
- [2] E. K. P. Chong, “A token ring LAN adaptor for a speech node,” Tech. Rep., Department of Electrical and Electronic Engineering, University of Adelaide, South Australia, October 1987; also Texas Instruments Australia, Sydney, New South Wales (81 pp.).

- [3] E. K. P. Chong, "Control of queues in soft real-time imprecise computer systems," Tech. Rep., Department of Electrical and Electronic Engineering, University of Adelaide, South Australia, August 1988 (20 pp.).
- [4] J.-H. Kim, J.-H. Park, S.-W. Lee, and E. K. P. Chong, "A novel approach to fuzzy logic controller design for systems with deadzones," Tech. Rep. TR-EE 92-44, School of Electrical Engineering, Purdue University, October 1992 (25 pp.).
- [5] J.-H. Kim, J.-H. Park, S.-W. Lee, and E. K. P. Chong, "A fuzzy precompensator design for PD control of systems with deadzones," Tech. Rep. TR-EE 93-16, School of Electrical Engineering, Purdue University, April 1993 (23 pp.).
- [6] T. W. Then and E. K. P. Chong, "Genetic algorithms in noisy environments," Tech. Rep. TR-EE 93-36, School of Electrical Engineering, Purdue University, November 1993 (24 pp.).
- [7] P. Dharwadkar, H. J. Siegel, and E. K. P. Chong, "A study of dynamic bandwidth allocation with preemption and degradation for prioritized requests," Tech. Rep. TR-ECE 00-9, School of Electrical and Computer Engineering, Purdue University, July 2000 (108 pp.).
- [8] A. D. Naik, H. J. Siegel, and E. K. P. Chong, "Dynamic bandwidth allocation for requests with classes and priorities in preemptive distributed networks," Tech. Rep. TR-ECE 00-10, School of Electrical and Computer Engineering, Purdue University, July 2000 (100 pp.).
- [9] X. Liu, E. K. P. Chong, and N. B. Shroff, "An access protocol to provide QoS in wireless networks," Tech. Rep. TR-ECE 00-14, School of Electrical and Computer Engineering, Purdue University, November 2000 (44 pp.).
- [10] U. Savagaonkar, R. L. Givan, and E. K. P. Chong, "Sampling techniques for zero-sum, discounted Markov games," Tech. Rep. TR-ECE 02-??, School of Electrical and Computer Engineering, Purdue University, June 2002 (vi+38 pp.).

Purdue Electrical and Computer Engineering Industrial Affiliates Workshops

- Spring 92: Presentation, "Intelligent Optimization and Simulation," Edwin K. P. Chong
- Fall 92: Poster, "A Performance Improvement Methodology for Manufacturing Systems," Yongseok Park and Edwin K. P. Chong
- Spring 93: Poster, "Automated Fault Diagnosis of Manufacturing Systems," Sanjiv Bavishi and Edwin K. P. Chong
- Spring 93: Poster, "Optimal Sensor Configuration for Manufacturing Systems," Yongseok Park and Edwin K. P. Chong (second place winner in the student poster competition)
- Spring 93: Poster, "An Adaptive Algorithm for Optimization of Uncertain Manufacturing Systems," I-Jeng Wang and Edwin K. P. Chong
- Spring 94: Poster, "Fault Diagnosis of Manufacturing Systems," Sanjiv Bavishi and Edwin K. P. Chong
- Spring 95: Poster, "System Design Under Uncertainty: Machine Learning and Complexity," I-Jeng Wang and Edwin K. P. Chong

- Spring 97: Vice-Chair of PEEII Workshop, *Emerging Technologies: Microelectronics, Optics, Communications, Networking, and Multimedia*.
- Spring 97: Presentation, "Improving Performance of Cellular Systems," Edwin K. P. Chong.
- Spring 97: Poster, "Repetitive Learning Control," Luis G. Sison and Edwin K. P. Chong.
- Spring 97: Poster, "Resource Allocation in Wireless Networks," Jeff Herdtner and Edwin K. P. Chong.
- Spring 98: Chair of PEEII Workshop, *Engineering Systems in the Information Age*.
- Spring 98: Poster, "Channel Sharing Scheme for Hotspot Alleviation in Packet-Switched Cellular Networks," Suresh Kalyanasundaram, Edwin K. P. Chong, and Ness B. Shroff.
- Spring 98: Poster, "Network Capacity of Power Controlled CDMA Systems in Fading Channels," Junshan Zhang and Edwin K. P. Chong.
- Spring 00: Poster, "Resource Allocation in Preemptive Networks with Multiple QoS Measures," Uday Savagaonkar and Edwin K. P. Chong.
- Spring 00: Poster, "Utility-Based Power Control in Cellular Wireless Systems," Mingbo Xiao, Ness B. Shroff, and Edwin K. P. Chong.
- Spring 00: Poster, "Intelligent Network Control via Online Simulation," Hyeong Soo Chang, Robert Givan, and Edwin K. P. Chong.
- Spring 01: Poster, "Congestion Control via Online Sampling," Gang Wu, Edwin K. P. Chong, and Robert Givan.
- Spring 01: Poster, "State-based Pricing in Electronic Marketplaces," Uday Savagaonkar, Edwin K. P. Chong, and Robert Givan.
- Spring 01: Poster, "Efficient Resource Allocation for QoS Channels in MF-TDMA Satellite," Jung-Min Park, Uday Savagaonkar, Edwin K. P. Chong, H. J. Siegel, and Steven D. Jones.
- Spring 01: Poster, "A QoS Routing Scheme Using the DFS Method with Limited Crankbacks," Dongwon Shin, Edwin K. P. Chong, and H. J. Siegel.
- Spring 01: Poster, "Online Sampling Algorithms for Network Queueing Problems," Hyeong Soo Chang, Robert Givan, and Edwin K. P. Chong.

Purdue Center for Education and Research in Information Assurance and Security (CERIAS) Annual Research Symposium

- April 01: Poster, "Survivable Multipath Routing Schemes for Connection-Oriented Communications," Dongwon Shin, Edwin K. P. Chong, and Howard Jay Siegel.
- April 01: Poster, "Efficient Source Authentication Schemes for Multicast Communications," Jung Min Park, Howard Jay Siegel, and Edwin K. P. Chong.

CSU Information Science and Technology Research Colloquium

- April 05: Poster, "Opportunistic Transmission Scheduling in Wireless Networks," Zhi Zhang and Edwin K. P. Chong.
- April 05: Poster, "Scheduling File Transfers over Highspeed Networks," Hua Li and Edwin K. P. Chong.
- April 05: Poster, "Markov Decision Processes with Action Fairness Constraints," Sudhir Moola, Zhi Zhang, and Edwin K. P. Chong.
- April 05: Poster, "Markov Decision Processes and Particle Filters for Sensor Management," Lucas W. Krakow, Yun Li, and Edwin K. P. Chong.
- April 05: Poster, "Target Tracking with Limited Communication in Sensor Networks," Patricia R. Barbosa and Edwin K. P. Chong.
- April 05: Poster, "Optimization Techniques in Portfolio Management," Ramin Zahedi and Edwin K. P. Chong.
- April 05: Poster, "Resource Allocation for Periodic Applications in a Shipboard Environment," Vladimir Shestak, Edwin K. P. Chong, Anthony A. Maciejewski, and H. J. Siegel.
- April 05: Invited talk, "Network Modeling, Analysis, Control, and Simulation."
- April 05: Invited panel speaker, "Colorado Grid Computing (CoGrid) Initiative."
- November 06: Poster, "Radar Processing for Target Tracking in Urban Environments," Sowmya Lolla and Edwin K. P. Chong.
- November 06: Poster, "Portfolio Management using Partially Observable Markov Decision Process," Ramin Zahedi and Edwin K. P. Chong. (Winner of Second Prize in the Poster Contest.)
- November 06: Poster, "Active Sensing in an Urban Environment: Closing the Loop," Patricia R. Barbosa, Yun Li, and Edwin K. P. Chong. (Winner of Lockheed Martin Prize and also Third Prize in the Poster Contest.)
- November 06: Poster, "Dynamic Sensor Management For Multisensor Multitarget Tracking," Yun Li, Edwin K. P. Chong, and Lucas W. Krakow.
- November 06: Poster, "Opportunistic Scheduling for Wireless Networks," Zhi Zhang and Edwin K. P. Chong. (Winner of First Prize in the Poster Contest.)

Pending Publications

- [1] [Other recent manuscripts.]

Educational Activities

Ph.D. Dissertation Supervision Completed at Purdue

<i>Name</i>	<i>Date</i>	<i>Dissertation Title</i>
Yongseok Park	May 1996	“Model-Based Monitoring of Discrete Event Systems” Journal articles [11], [17]. Conference proceedings and presentations [10], [16], [19], [20], [21], [22], [27], [33], [36], [41], [45]. Research book contributions [6].
I-Jeng Wang	Aug. 1996	“Analysis of Stochastic Approximation and Related Algorithms” Journal articles [12], [16], [19], [21], [58]. Conference proceedings and presentations [15], [25], [29], [35], [38], [43], [46], [49], [55], [68], [92].
Junyi Li	Feb. 1998	“Intercellular Coordination Schemes for Improving Spectrum Utilization in Wireless Cellular Networks” (jointly supervised with N. B. Shroff) Journal articles [20], [23], [24], [46]. Conference proceedings and presentations [51], [56], [64], [65], [63].
Luis G. Sison	Feb. 1998	“Repetitive Learning Control of Linear Periodic Plants” Conference proceedings and presentations [32], [50], [54], [61].
Suresh Kalyanasundaram	May 2000	“Call-Level and Class-Level Quality-of-Service in Multi-service Networks” (jointly supervised with N. B. Shroff) Journal articles [28], [29], [36], [46], [51]. Conference proceedings and presentations [59], [63], [77], [90], [99].
Junshan Zhang	Aug. 2000	“Design and Performance Analysis of Power-Controlled CDMA Wireless Networks with Linear Receivers and Antenna Arrays” Journal articles [26], [30], [32], [37], [40]. Conference proceedings and presentations [57], [62], [73], [75], [76], [80], [87], [102].
Hyeong Soo Chang	May 2001	“On-line Sampling-based Control for Network Queueing Problems” (jointly supervised with R. Givan) Journal articles [39], [44], [56]. Conference proceedings and presentations [72], [81], [130].

- | | | |
|---------------------|-----------|---|
| Mingbo Xiao | May 2002 | “Resource Management in Power-controlled Cellular Wireless Networks” (jointly supervised with N. B. Shroff)
Journal articles [31], [35], [42].
Conference proceedings and presentations [70], [82], [89]. |
| Xin (Mandy) Liu | Aug. 2002 | “Opportunistic Scheduling in Wireless Communication Networks” (jointly supervised with N. B. Shroff)
Journal articles [34], [41].
Conference proceedings and presentations [79], [83], [91], [96], [98], [105].
Research book contributions [4]. |
| Uday Savagaonkar | Sep. 2002 | “Dynamic Network Pricing using Sampling Techniques for Markov Games” (jointly supervised with R. Givan)
Journal articles [45].
Conference proceedings and presentations [78], [93], [97]. |
| Jung Min Park | Aug. 2003 | “Efficient Primitives for Ensuring Security in E-Commerce Transactions” (jointly supervised with H. J. Siegel)
Journal articles [43].
Conference proceedings and presentations [78], [94], [103], [107]. |
| Dong-Won Shin | Aug. 2003 | “Multicriteria Routing for Guaranteed Performance Communications” (jointly supervised with H. J. Siegel)
Journal articles [66].
Conference proceedings and presentations [86], [95], [112], [141]. |
| Gang Wu | Oct. 2003 | “Model-Based Analysis and Control in Stochastic Networks” (jointly supervised with R. Givan)
Journal articles [38], [55].
Conference proceedings and presentations [84], [100], [108], [109]. |
| Jeffrey D. Herdtner | May 2004 | “Power Control and Capacity in Wireless Networks
Journal articles [25].
Conference proceedings and presentations [58], [69], [121]. |
| Jeongjoon Lee | Sep. 2005 | “Energy Efficient Schedulers in Wireless Networks: Design and Optimization” (jointly supervised with C. Rosenberg)
Journal articles [53].
Conference proceedings and presentations [106], [111], [125], [132]. |

Ph.D. Dissertation Supervision Completed at CSU

<i>Name</i>	<i>Date</i>	<i>Dissertation Title</i>
Hua Li	Oct. 2007	“Information Theoretic Problems in Networks and Active Sensing” Journal articles [47], [60]. Conference proceedings and presentations [110], [113], [114], [136], [139].

M.S. Thesis Supervision Completed at Purdue

<i>Name</i>	<i>Date</i>	<i>Thesis Title</i>
Binal M. Bhukhanwala	Aug. 1994	“Dual Controller Scheme for Rapid Magnet Cycling” Journal article [15]. Conference proceedings and presentations [44].
Surjamukhi Chatterjea	Nov. 1999	“Quality of Service Attributes at Multiple Levels of an Information Dissemination System” (jointly supervised with H. J. Siegel) Conference proceedings and presentations [68].
Amit Naik	Aug. 2000	“Bandwidth Allocation for Prioritized Session and Data Requests in Preemptive Communication Networks” (jointly supervised with H. J. Siegel) Conference proceedings and presentations [88].
Pranav Dharwadkar	Aug. 2000	“Dynamic Bandwidth Allocation with Preemption and Degradation for Prioritized Requests” (jointly supervised with H. J. Siegel) Conference proceedings and presentations [85].

M.S. Thesis Supervision Completed at CSU

Sudhir Moola	Mar. 2006	“Temporal Fair Scheduling Over a Wireless Channel” Conference proceedings and presentations [147].
Ramin Zahedi	Oct. 2007	“Stochastic Dynamic Programming Approximation Techniques for the Portfolio Management Problem”
Lucas W. Krakow	Mar. 2009	“Sensor Resource Management via Partially Observable Markov Decision Processes” Journal articles [67]. Conference proceedings and presentations [131], [135], [137].

M.S. and Ph.D. Students Currently Being Supervised

Patricia de Rezende Barbosa	(Ph.D.) Journal articles [60]. Conference proceedings and presentations [136], [144], [148].
Zhi Zhang	(Ph.D.) Journal articles [62]. Conference proceedings and presentations [118], [120], [147].
Yang Zhang	(Ph.D.)
Ramin Zahedi	(Ph.D.)
Mark Ritschard	(Ph.D.)
Sowmya Lolla	(M.S.)

Courses Developed at Purdue

EE 681	<i>Discrete Event Systems</i>
EE 5XX	<i>Graduate Control Laboratory</i> (with other members of the Automatic Control Area)

Courses “In Charge Of” at Purdue

EE 681	<i>Discrete Event Systems</i> , Fall 1992–2001.
EE 580	<i>Optimization Methods for Systems and Control</i> , Fall 1994–2001.

Undergraduate and Non-Thesis Student Projects at Purdue

EE 495	<i>Vehicular Traffic Control</i> (1 cr.), Spring 1991. Christopher Omar Gozali
EE 696	<i>Fuzzy Computation</i> (6 cr.), Summer 1993. Muthucumaru Maheswaran
EE 495	<i>Statistical Process Control</i> (3 cr.), Fall 1993. Cory C. Kihlstrom
EE 495	<i>X, Petri Nets, and IMS</i> (3 cr.), Fall 1993. Thomas M. Cronin
EE 495/6	<i>Genetic Algorithms</i> (495: 2cr.; 496: 1cr.), Fall 1993. Thai Wei Then

- EE 495/6 *Interior Point Methods* (495: 2cr.; 496: 1cr.), Fall 1993.
Wan Ning Fu
- EE 495 *Intelligent Manufacturing* (2 cr.), Summer 1994.
Hartarto Ciputra
- EE 495 *Discrete Event Systems* (3 cr.), Fall 1994.
Choon-Teng Loh
- EE 495 *Industrial Survey Proj.* (2 cr.), Fall 1996.
Shawn M. Bruns
- EE 496 *Peripheral Controls* (1 cr.), Spring 1998.
Richard Pettys
- EE 496 *Peripheral Controls* (2 cr.), Spring 1998.
D. Hamilton Radcliffe
- EE 696 *Bay Command Console (BCC) – Automated Testing* (1 cr.), Summer 1998.
Siddharth Vajirkar

Summer Undergraduate Research Internship¹ (SURI) supervision at Purdue

- 1993: Thai Wey Then, Cory C. Kihlstrom, Wan-Ning Fu, Thomas M. Cronin, Yin Chan, Mark Penny
- 1994: Choon-Teng Loh

Courses Developed at CSU

- EE 520/M 520 *Optimization Methods for Control and Communication*

Undergraduate and Non-Thesis Student Projects at CSU

- EE 401 *Target Tracking with Sensor Networks* (3 cr.), Fall 2003.
Jeremy D. West
- EE 495 *Location Aware Computing in a Wireless Local Area Network* (3 cr.), Spring 2004.
Borys E. Senyk
- EE 695 *Voice over Internet Protocol* (3 cr.), Spring 2004.
Sanket Bajaj
- EE 402 *Target Tracking with Sensor Networks* (3 cr.), Spring 2004.
Jeremy D. West
- EE 401 *Location Aware Computing in a Wireless Local Area Network* (3 cr.), Fall 2004.
Borys E. Senyk
- EE 402 *Wireless Sniffer Development on a Xilinx Vertex-II Pro ML300 Evaluation Platform* (3 cr.),
Fall 2004.
Micaela Nofsinger

¹Supported by the Purdue NSF Engineering Research Center

- EE 695 *Web Authentication for CoGrid Using a WebISO* (3 cr.), Spring 2005.
Michael Raskey
- *** *PDE Models of Networks*, Summer 2007.
Nagarjuna Duvvuru (Department of Electrical Engineering, Indian Institute of Technology,
Madras)
- *** *Opportunistic Scheduling with Heterogeneous Fairness Constraints for Wireless Networks*,
Summer 2008.
Shankarachary Ragi (Department of Electrical Engineering, Indian Institute of Technology,
Madras)
- *** *PDE Models of Nonuniform Networks*, Summer 2009.
Sujay Prasad Srivastava (Department of Electrical Engineering, Indian Institute of Technol-
ogy, Madras)

Professional Activities

Invited Lectures

- [1] *Student Papers Evening*, Institution of Engineers, Australia, Adelaide, October 1987 (A Token Ring LAN Adaptor for a Speech Node).
- [2] *Inaugural Australian Technology Awards*, Texas Instruments Australia, Sydney, November 1987 (A Token Ring LAN Adaptor for a Speech Node).
- [3] Department of Electrical and Electronic Engineering, University of Adelaide, June 1988 (Control of Queues in Soft Real-Time Systems).
- [4] Research Seminar, Department of Electrical Engineering, Princeton University, August 1989 (Convergence of Optimization Algorithms using IPA).
- [5] Corporate Affiliates Meeting, Princeton University, November 1989 (Recursive Optimization of Queues).
- [6] Corporate Affiliates Meeting, Princeton University, November 1990 (Optimization Algorithms for Communication/Computer Networks).
- [7] Department of Electrical Engineering, Princeton University, November 1990 (On Algorithms using IPA that Update After Every Customer).
- [8] Department of Computer Science, Texas A&M University, December 9, 1991 (On-Line Optimization Algorithms for Queueing Systems).
- [9] *Purdue IEEE Student Branch Meeting*, School of Electrical and Computer Engineering, Purdue University, October 6, 1992 (If Only Traffic Lights Have More Than Just A Yellow Signal).
- [10] Department of Electrical and Computer Engineering, C&SRL, University of Illinois at Urbana-Champaign, November 17, 1992 (On-Line Optimization of Queues).
- [11] Department of Electrical and Computer Engineering, University of Massachusetts, Amherst, April 30, 1993 (Inversion of Timed Discrete Event Systems).
- [12] Département d'I.R.O., Université de Montréal, Montréal, Canada, May 26, 1993 (Discrete Event Simulation of Structural Changes).
- [13] Département de Génie Électrique et de Génie Informatique, École Polytechnique, Montréal, Canada, May 27, 1993 (On-Line Optimization of Queues).
- [14] Department of Electrical Engineering, Indiana University Purdue University Indianapolis (IUPUI), October 22, 1993 (Discrete Event Systems: A New Challenge for Engineers).
- [15] Department of Electrical Engineering, University of Notre Dame, September 10, 1996 (On-Line Parametric Tuning of Networks).
- [16] EE 694 Graduate Seminar Series, School of Electrical and Computer Engineering, Purdue University, October 10, 1996 (On-Line Parameter Tuning of Networks).

- [17] INFORMS Student Chapter (Purdue) Seminar Series, April 24, 1997 (On-Line Performance Optimization).
- [18] CS 690P Advanced Topics in Networking Seminar, Department of Computer Science, Purdue University, Fall 1997 (On-line parametric tuning of networks).
- [19] Performance Analysis Department, Bell Labs, Lucent Technologies, Holmdel, NJ, June 29, 1998 (A Localized Channel Sharing Scheme for Wireless Cellular Networks).
- [20] Mathematics of Networks and Systems Research Department, Bell Labs, Lucent Technologies, Murray Hill, NJ, October 9, 1998 (On Optimal Throughput with Static Reduced Power).
- [21] Department of Electrical Engineering, Princeton University, November 19, 1998 (Channel Reuse with Reduced Power in Cellular Systems).
- [22] Wireless Information Network Laboratory (WINLAB), Rutgers, The State University of New Jersey, December 9, 1998 (Channel Reuse with Reduced Power in Cellular Systems).
- [23] Department of Electrical and Computer Engineering, New Jersey Institute of Technology December 11, 1998 (Channel Reuse with Reduced Power in Cellular Systems).
- [24] Performance Analysis Department, Bell Labs, Lucent Technologies, Holmdel, NJ, December 22, 1998 (On Channel Reuse with Reduced Power).
- [25] School of Chemical Engineering, Purdue University, January 19, 1999 (Repetitive Learning Control of Linear Periodic Plants).
- [26] Department of Electrical Engineering, Ohio State University, November 18, 1999 (A Reduced-Power Channel Reuse Scheme for Cellular Systems).
- [27] Department of Computer Science, Purdue University, April 20, 2000 (Simulation-based Network Control).
- [28] Department of Electrical and Computer Engineering, University of Massachusetts, Amherst, February 22, 2001 (Transmission Scheduling for Wireless Data Services).
- [29] United Technologies Seminar Series in Manufacturing and Systems Engineering, Department of Manufacturing Engineering, Boston University, February 23, 2001 (Transmission Scheduling for Wireless Data Services).
- [30] Applied Physics Laboratory, The Johns Hopkins University, June 12, 2001 (How to Use Traffic Models to Help Make Network Control Decisions).
- [31] Department of Mathematics, Colorado State University, September 4, 2001 (Sampling-based Approximation Methods for Markov Decision Processes: Application to Network Control).
- [32] Department of Electrical Engineering, University of Wyoming, September 14, 2001 (Transmission Scheduling for Wireless Data Services).
- [33] Department of Statistics, Colorado State University, September 17, 2001 (Sampling-based Approximation Methods for Markov Decision Processes: Application to Network Control).
- [34] Department of Interdisciplinary Telecommunications, University of Colorado, Boulder, February 15, 2002 (Network Control via Online Sampling of Traffic Models).

- [35] Computer Science Colloquium, Department of Computer Science, University of Denver, May 24, 2002 (Efficient Multicast Packet Authentication Using Signature Amortization).
- [36] Joint Stochastic Models and Optimization Seminar, Department of Mathematics, University of Colorado, Denver, September 20, 2002 (Network Control aided by Stochastic Traffic Models).
- [37] Department of Computer Science, Colorado School of Mines, January 30, 2004 (What is a dynamic decision problem, and what can we do if we encounter one?).
- [38] Faculty of Electrical Engineering, Polytechnic University of Tirana, Albania, March 17, 2004 (Optimal Opportunistic Scheduling in Wireless Networks).
- [39] University of New York at Tirana, Albania, March 18, 2004 (The Convergence of Computing, Communication, and Control).
- [40] IBM, Boulder, Colorado, June 3, 2004 (Dynamic Resource Allocation).
- [41] University College Cork, Ireland, July 7, 2004 (Dynamic Resource Management). Invited talk presented to entire symposium at the *3rd International Symposium on Parallel and Distributed Computing (ISPDC'04)*, in association with *HeteroPar'04*, July 5–8, 2004
- [42] Centre de Recherche Mathématiques (CRM), Université de Montréal, Montréal, Canada, July 17, 2004 (Online Pricing for Bandwidth Provisioning in Multi-Class Networks). Invited talk presented at the *Internet Economics Workshop*.
- [43] *2nd DoE Workshop on Multiscale Mathematics*, Broomfield, Colorado, July 24, 2004 (Analysis and Simulation of Large Networks).
- [44] Malaysia University of Science and Technology, January 4, 2005 (A Monte Carlo Approach to Dynamic Resource Management).
- [45] Centre for Telecommunications Value-Chain-Driven Research (CTVR), Trinity College, Dublin, Ireland, August 12, 2005 (Decentralized Communication Resource Management for Tracking and Surveillance Networks).
- [46] Computer Science Department, University College Dublin, Ireland, August 13, 2005 (Decentralized Communication Resource Management for Tracking and Surveillance Networks).
- [47] Malaysia University of Science and Technology, January 5, 2006 (Decentralized Flow Control for Sensor Networks).
- [48] Faculty of Engineering and Faculty of Information Technology, Multimedia University, Malaysia, January 6, 2006 (Decentralized Flow Control for Sensor Networks).
- [49] Department of Electrical and Computer Engineering, University of Colorado, Boulder, April 14, 2006 (Decentralized Rate Control for Sensor Networks).
- [50] Department of Electrical and Computer Engineering, Arizona State University, and the IEEE Phoenix Section Communications and Signal Processing Chapter, Phoenix, April 21, 2006 (Decentralized Rate Control for Sensor Networks).
- [51] Department of Electrical and Computer Engineering, United States Air Force Academy, Colorado Springs, April 28, 2006 (Decentralized Flow Control for Networked Tracking and Surveillance).

- [52] School of Electrical and Electronic Engineering, The University of Adelaide, Adelaide, South Australia, December 20, 2006 (Decentralized Flow Control for Networked Tracking and Surveillance).
- [53] The Center for Information and Systems Engineering, Boston University, Boston, April 20, 2007 (Duality-Based Optimization Method for Decentralized Flow Control in Sensor Networks).
- [54] Malaysia University of Science and Technology, May 29, 2007 (Continuum Modeling of Large Networks). Co-sponsored by IEEE Malaysia Communication Society.
- [55] Department of Electrical and Computer Engineering, University of Wyoming, September 7, 2007 (Decentralized Flow Control for Sensor Networks).
- [56] Plenary Talk, American Scientific Affiliation, Annual Rocky Mountain Section Conference, Colorado State University, February 23, 2008 (Technology: Control and Responsibility).
- [57] Department of Statistics, Colorado State University, November 10, 2008 (Continuum Models of Large Networks).
- [58] Department of Electrical and Electronic Engineering, Universiti Tunku Abdul Rahman (UTAR), Malaysia, May 20, 2009 (Coordinated Guidance of Autonomous UAVs).

Editorial Activities

1994

Member of Conference Editorial Board, IEEE Control Systems Society.

1994–June 1999

Editor of the IEEE Control Systems Society Discrete Event Systems Working Group Newsletter.

January 1995–December 1997

Associate Editor, *IEEE Transactions on Automatic Control*.

June 1999–January 2001

Editor of the IEEE Control Systems Society Discrete Event Systems Technical Committee Newsletter.

September 2001–present

Member of Editorial Board, *Computer Networks* (The International Journal of Computer and Telecommunications Networking, Elsevier).

July 2004–present

Member of the International Advisory Committee, *Hellenic Aerospace Industry Journal on Advanced Electronic Communications: Research & Education*.

March 2006–present

Member of Editorial Board, *Journal of Control Science and Engineering*.

September 2006–present

Member of Editorial Board, *IEEE Expert Now*.

2007–present

Guest Editor (with Yorai Wardi), special issue on *Optimization of Discrete Event Systems* in the journal *Discrete Event Dynamic Systems*.

January–March 2009

Associate Editor At Large, *IEEE Transactions on Automatic Control*.

April 2009–present

Senior Editor (inaugural), *IEEE Transactions on Automatic Control*.

Conference Committees and Chair Positions

- [1] Organizer and Chair of invited session on “Discrete Event Systems,” *26th Conference on Information Sciences and Systems*, Princeton, New Jersey, March 18–20, 1992.
- [2] Member of Panel for Student Best Paper Award, *31st IEEE Conference on Decision and Control*, Tucson, Arizona, December 16–18, 1992.
- [3] Chair of conference session on “Discrete Manufacturing Systems,” *1993 American Control Conference*, San Francisco, California, June 16–18, 1993.
- [4] Chair of conference session on “Discrete Event Systems,” *31st Annual Allerton Conference on Communication, Control, and Computing*, Monticello, Illinois, September 29–October 1, 1993.
- [5] Member of the Program Committee, *32nd IEEE Conference on Decision and Control*, San Antonio, Texas, December 15–17, 1993.
- [6] Advisor to organizing committee, *IEEE Student Professional Awareness Conference*, Purdue University, West Lafayette, Indiana, October 27, 1993.
- [7] Organizer and Chair of invited session on “Advances in Discrete Event Systems,” *28th Conference on Information Sciences and Systems*, Princeton, New Jersey, March 16–18, 1994.
- [8] Chair of conference session on “Fuzzy Control—Robotics Applications,” *1994 American Control Conference*, Baltimore, Maryland, June 29–July 1, 1994.
- [9] Associate Editor, *33rd IEEE Conference on Decision and Control*, Lake Buena Vista, Florida, December 14–16, 1994.
- [10] Member of the Program Committee, *33rd IEEE Conference on Decision and Control*, Lake Buena Vista, Florida, December 14–16, 1994.
- [11] Chair of conference session on “Fuzzy Identification,” *9th IEEE International Symposium on Intelligent Control*, Columbus, Ohio, August 16–18, 1994.
- [12] Co-chairman of conference session on “Architecture and Machine Learning,” *9th IEEE International Symposium on Intelligent Control*, Columbus, Ohio, August 16–18, 1994.
- [13] Member of Panel for Student Best Paper Award, *33rd IEEE Conference on Decision and Control*, Lake Buena Vista, Florida, December 14–16, 1994.
- [14] Co-chairman of conference session on “Manufacturing Systems,” *1995 American Control Conference*, Seattle, Washington, June 21–23, 1995.
- [15] Member of the Program Committee, *34th IEEE Conference on Decision and Control*, New Orleans, Louisiana, December 13–15, 1995.

- [16] Chair of conference session on “Discrete Event Systems,” *34th IEEE Conference on Decision and Control*, New Orleans, Louisiana, December 13–15, 1995.
- [17] Organizer and chairman of conference session on “Stochastic Approximation and Optimization,” *INFORMS (Institute for Operations Research and Management Science) National Meeting*, Washington, DC, May 5–8, 1996.
- [18] Co-chairman of conference session on “Automated System Design with Petri Nets,” *13th World Congress of the International Federation on Automatic Control (IFAC)*, San Francisco, California, June 30–July 5, 1996.
- [19] Member of the Program Committee, *11th IEEE International Symposium on Intelligent Control*, Dearborn, Michigan, September 15–18, 1996.
- [20] Chair of conference session on “Control Issues in ATM and Communication Networks,” *35th IEEE Conference on Decision and Control*, Kobe, Japan, December 11–13, 1996.
- [21] Co-chairman of conference session on “Stochastic Approximation Algorithms,” *9th INFORMS Applied Probability Conference*, Boston, Massachusetts, June 30–July 2, 1997.
- [22] Co-chairman of conference session on “Stochastic Optimization Algorithms,” *9th INFORMS Applied Probability Conference*, Boston, Massachusetts, June 30–July 2, 1997.
- [23] Co-chairman of conference session on “Stochastic Modeling and Control,” *1997 American Control Conference*, Albuquerque, New Mexico, June 4–6, 1997.
- [24] Chair of Panel Discussion Session, *Workshop on Future Directions in Systems and Control*, Allerton Park, Illinois, September 28–29, 1997.
- [25] Member of the Technical Program Committee, *Third IEEE Symposium on Computers and Communications (ISCC’98)*, Athens, Greece, June 30–July 2, 1998.
- [26] Registration Chair, *1998 American Control Conference*, Philadelphia, Pennsylvania, June 24–26, 1998.
- [27] Member of the Program Committee, *37th IEEE Conference on Decision and Control*, Tampa, Florida, December 16–18, 1998.
- [28] Co-chairman of conference session on “Repetitive and Learning Control,” *37th IEEE Conference on Decision and Control*, Tampa, Florida, December 16–18, 1998.
- [29] Member of the Technical Program Committee, *1999 American Control Conference*, San Diego, California, June 2–4, 1999.
- [30] Co-chairman of invited conference session on “Stochastic Optimization,” *1999 American Control Conference*, San Diego, California, June 2–4, 1999.
- [31] Finance/Registration Chair, *14th IEEE Annual Computer Communications Workshop (CCW)*, Estes Park, Colorado, October 17–20, 1999.
- [32] Member of Panel for Student Best Paper Award, *38th IEEE Conference on Decision and Control*, Phoenix, Arizona, December 7–10, 1999.

- [33] Chair of conference session on “Wireless Communications IV: Networking,” *38th Annual Allerton Conference on Communication, Control and Computing*, Monticello, Illinois, October 4–6, 2000.
- [34] Member of the Technical Program Committee, *GLOBECOM 2000 — 2000 IEEE Global Telecommunications Conference*, San Francisco, California, November 27–December 1, 2000.
- [35] Member of the Program Committee, *39th IEEE Conference on Decision and Control*, Sydney, Australia, December 12–15, 2000.
- [36] Conference (General) Chair, *Conference on Modeling and Design of Wireless Networks*, Denver, August 21–23, 2001. Part of *SPIE ITCOM 2001 — International Symposium and Exhibit on the Convergence of Information Technology and Communications*, Denver, Colorado, August 20–24, 2001.
- [37] Registration Chair, *40th IEEE Conference on Decision and Control*, Orlando, Florida, December 4–7, 2001.
- [38] Member of the Program Committee and International Advisory Committee, *International Conference on Industrial Electronics, Technology & Automation (IETA 2001)*, Cairo, Egypt, December 19–21 2001.
- [39] Vice-Chair for Application Sessions and Panels, *2003 IEEE International Conference on Communications (ICC 2003)*, Anchorage, Alaska, 2003.
- [40] Registration Chair, *42nd IEEE Conference on Decision and Control*, Maui, Hawaii, December 9–12, 2003.
- [41] Member of the Program Committee, Workshop on Provisioning and Transport for Hybrid Networks (PATHNets), part of *BroadNets 2004, First International Conference on Broadband Networks*, San Jose, California, October 25–29, 2004.
- [42] Technical Program Vice-Chair (for invited sessions), *43rd IEEE Conference on Decision and Control*, Paradise Island, The Bahamas, December 14–17, 2004.
- [43] Chair of conference session on “Target Tracking,” *43rd IEEE Conference on Decision and Control*, Paradise Island, The Bahamas, December 14–17, 2004.
- [44] Co-Chair of conference session on “Modeling and Approximation,” *43rd IEEE Conference on Decision and Control*, Paradise Island, The Bahamas, December 14–17, 2004.
- [45] Member of the Steering Committee, IEEE International Workshop on Selected Areas in Distributed Computing (SADC 2005), held in conjunction with the *International Parallel and Distributed Processing Symposium (IPDPS’05)*, Denver, Colorado, April 4–8, 2005.
- [46] Organizer and chair of session on “Interoperable Networks: Wired and Wireless,” *FutureVision 2010 Conference*, Fort Collins, September 9, 2005.
- [47] Member of the International Advisory Committee, *International Joint Conferences on Computer, Information, and Systems Sciences, and Engineering (CIS²E 05)*, December 10–20, 2005.
- [48] Member of the Technical Program Committee, *International Conference on Systems, Computing Sciences and Software Engineering (SCS² 05)*, December 10–20, 2005.

- [49] Chair of invited session on “Waveforms for Adaptive Sensing,” *40th Annual Conference on Information Sciences and Systems*, Princeton, New Jersey, March 22–24, 2006.
- [50] Member of the Program Committee, *25th IEEE International Performance Computing and Communications Conference (IPCCC 2006)*, Phoenix, Arizona, April 10–12, 2006.
- [51] Member of the International Program Committee, *IEEE International Conference on Networking, Sensing and Control (ICNSC)*, Miami, Florida, April 23–25, 2006.
- [52] Finance Chair, *45th IEEE Conference on Decision and Control*, San Diego, California, December 11–15, 2006.
- [53] Moderator of session on “The Future of Information and Communication Technology,” *FutureVision Conference*, Fort Collins, September 14, 2007.
- [54] Finance Chair, *47th IEEE Conference on Decision and Control*, Cancun, Mexico, December 9–11, 2008.
- [55] Co-chair of conference session on “Information Fusion and Networks,” *2009 American Control Conference*, St. Louis, Missouri, June 10–12, 2009.
- [56] Member of the Program Committee, *Symposium on Adaptive Sensing, Control, and Optimization in Sensor Networks*, part of the *Fifth International Conference on Intelligent Sensors, Sensor Networks and Information Processing (ISSNIP 2009)*, Melbourne, Australia, December 7–9, 2009.
- [57] Finance Chair, *Joint 48th IEEE Conference on Decision and Control and 28th Chinese Control Conference*, Shanghai, China, December 16–18, 2009.
- [58] General Chair, *Joint 50th IEEE Conference on Decision and Control and European Control Conference*, Orlando, Florida, December 13–16, 2011.

Professional Society Activities

- Organization: IEEE
- Activity: Student Member, 1986–1991
Member, 1991–1996
Senior Member, 1996–2003
Fellow, 2004–present
- Organization: IEEE Signal Processing Society
- Activity: Member, 1987–1988
- Organization: IEEE Computer Society
- Activity: Member, 1989–1990
- Organization: IEEE Control Systems Society
- Activity: Member, 1989–present
Member of Conference Editorial Board, 1994
Associate Editor, *IEEE Transactions on Automatic Control*, January 1995–December 1997
Associate Editor At Large, *IEEE Transactions on Automatic Control*, January—March

2009

Senior Editor, *IEEE Transactions on Automatic Control*, April 2009—present

Member of the Board of Governors, January 2006–December 2008

Chair of the Conference Finance Board, 2007–present

Organization: IEEE Information Theory Society

Activity: Member, 1991–present

Organization: IEEE Communications Society

Activity: Member, 1998–present

Organization: IEEE Communications Society Technical Committee on Comm. Theory

Activity: Member, 1998–present

Organization: IEEE Purdue Student Branch

Activity: Counselor/Faculty Advisor, August 1992–August 1996

Awarded: Outstanding IEEE Branch Counselor and Advisor Award, 1993; Purdue Student Government Leadership Award, 1993; IEEE Section Recognition Award, 1994.

Branch Accomplishments: Second largest student branch in the world, 1993 (citation appeared in *Branch News*, January 1994); Exemplary Branch Award, 1993 (citation appeared in *IEEE Pulse*, April 1994); Second Prize in the Vicki Michelson Award, 1993; Exemplary Branch Award, 1995.

Organization: IEEE Control Systems Society Technical Committee on Control Theory

Activity: Member, 1990–June 1999

Chairman, 1997–June 1999.

Organization: IEEE Control Systems Society Working Group on Discrete Event Systems

Activity: Member, 1990–June 1999

Chairman, 1994–June 1999

Editor of the DES WG Newsletter, 1994–June 1999.

Organization: IEEE Control Systems Society Technical Committee on Discrete Event Systems

Activity: Member, June 1999–present

Chairman, June 1999–January 2001

Editor of the DES TC Newsletter, June 1999–January 2001.

Organization: IEEE Purdue Student Branch

Activity: Organizer and chairman of the Purdue IEEE Student Paper Contest, sponsored by IEEE and Sprint, February 1994.

Organization: IEEE Student Activities Committee

Activity: Coordinator and chairman of the panel of judges, IEEE Regional Student Paper Contest, Region 4. Papers received and judged in March, 1994. Oral presentations held at the *American Power Conference*, Chicago, April 25–27, 1994.

Organization: IEEE Educational Activities Board

Activity: Member of Editorial Board, *Expert Now IEEE*, September 2006–present.

Organization: Institute for Operations Research and the Management Sciences (INFORMS) Telecommunications Section

- Activity: Member, 1994–2000.
- Organization: American Society for Engineering Education (ASEE)
Activity: Member, 1998–2000.
- Organization: American Society for Engineering Education (ASEE), ECE Division
Activity: Chairman, 1999 ASEE Terman Award Selection Committee, 1999.
- Organization: Sigma Xi (The Scientific Research Society)
Activity: Member, 2002–2003.
- Organization: Institute for Operations Research and the Management Sciences (INFORMS)
Activity: Member, 2009.

Referee/Reviewer Activities

Journals:

- IEEE Transactions on Automatic Control*, since 1989.
Discrete Event Dynamic Systems: Theory and Applications, since 1990.
IEEE Software, since 1991.
IEEE Transactions on Computers, since 1992.
Management Science, since 1992.
Mathematics of Operations Research, since 1993.
ASME Journal of Dynamic Systems, Measurement, and Control, since 1993.
Journal of Optimization Theory and Applications, since 1993.
Stochastic Models, since 1994.
IEEE Transactions on Control Systems Technology, since 1994.
Journal of Intelligent and Fuzzy Systems, since 1994.
IIE Transactions, since 1994.
Mathematical and Computer Modelling, since 1995.
IEEE Expert, since 1995. *SIAM Journal on Control and Optimization*, since 1995.
Computers in Mathematics and Simulation (IMACS Transactions), since 1995.
IEEE Control Systems Magazine, since 1995.
Computer Journal, since 1997.
IEEE Communications Letters, since 1999.
IEEE/ACM Transactions on Networking, since 1999.
IEEE Transactions on Communications, since 1999.
IEEE Journal on Selected Areas in Communications, since 1999.
IEEE Transactions on Wireless Communications, since 1999.
ACM/Baltzer Journal of Wireless Networks, since 2001.
IEEE Transactions on Information Theory, since 1999.
EURASIP Journal on Applied Signal Processing, since 2005.
Artificial Intelligence, since 2005.
ACM Computer Communication Review (CCR), since 2006.
IEEE Transactions on Signal Processing, since 2006.
Bernoulli Journal, since 2007.

Conferences:

IEEE Real-Time Systems Symposium (RTSS), since 1989.
IEEE Conference on Decision and Control (CDC), since 1990.
IEEE Conference on Control Applications (CCA), since 1992.
American Control Conference (ACC), since 1992.
ASME Winter Annual Meeting, since 1993.
IEEE INFOCOM, since 1993.
IEEE International Conference on Distributed Computing Systems (ICDCS), since 1993.
IEEE International Symposium on Circuits and Systems (ISCAS), since 1993.
IFAC Symposium on System Identification (SYSID), since 1996.
IEEE International Conference on Communications (ICC), since 1999.
Networking 2000, 1999.
IFAC World Congress, since 2001.
IEEE Vehicular Technology Conference (VTC), since 2002.
IEEE Wireless Communications and Networking Conference (WCNC), since 2004.
Annual Conference of the IEEE Industrial Electronics Society (IECON), since 2006.

Funding Agencies:

The Engineering Foundation, 1991.
The National Science Foundation, Electrical and Communications Systems, since 1995.
The National Science Foundation, Production Systems, since 2000.
Research Grants Council of Hong Kong, since 1997.
FCT - Fundação para a Ciência e a Tecnologia, Ministry of Science and Technology, Portugal, 1999.
U.S. Civilian Research and Development Foundation (CRDF), Cooperative Grants Program, 2001. (CRDF is a charitable foundation established in 1995, authorized by the U.S. Congress to provide productive research opportunities for scientists and engineers in the former Soviet Union (FSU), to promote the conversion of its defense science resources to civilian use, and to foster industrial R&D cooperation.)
Energy Innovations Small Grant (EISG) Program, a program of the California Energy Commission, since 2002.
Natural Sciences and Engineering Research Council of Canada (NSERC), since 2007.
NASA Postdoc Program, since 2007.
Air Force Office of Scientific Research (AFOSR), since 2007.
American Institute of Biological Sciences, since 2009.

Book Publishers:

Aksen Associates Incorporated Publishers, 1992.
Kluwer Academic Publishers, 1992.
John Wiley and Sons, since 1996.
SPIE Press, SPIE—The International Society for Optical Engineering, since 2001.
Princeton University Press, since 2002.
Cambridge University Press, since 2003.

University Committee/Administrative Activities

School (Departmental) Committee Activities at Purdue

- Committee: Automatic Control Area
Activity: Member, August 1991–2001
Chairman, August 1992–January 1995.
- Committee: Computer Engineering Area
Activity: Member, August 1991–2001
- Committee: Communications and Signal Processing Area
Activity: Member, August 1991–2001
- Committee: Purdue IEEE Student Branch
Activity: Counselor/Faculty Advisor, August 1992–August 1996
- Committee: Curriculum Committee Standing Committee On Faculty/Student Activities
Activity: Member, August 1992–November 1994
- Committee: Ph.D. (Qualifying) Exam Committee
Activity: Member, August 1993–August 1995
- Committee: Graduate Committee
Activity: Member, August 1999–August 2001
- Committee: Curriculum Committee
Activity: Member, August 1994–August 1997
- Committee: Graduate Recruiting Committee
Activity: Member, January 1997–January 2000.
- Committee: Graduate Admissions Committee
Activity: Nonmember volunteer, January 2000–2001.
- Committee: ECE Head Review Committee (elected)
Activity: Member, Spring 2000.

Extra-departmental Committee Activities at Purdue

- Committee: Campus Appeals Board
Activity: Member, September 1993–August 1994
- Committee: Faculty Fellows Program
Activity: Faculty Fellow for Tarkington Hall, August 1996–August 1997
- Committee: Freshman Engineering Industrial Partner Scholarship Interviews
Activity: Interviewer, Spring 2000

Departmental Committee Activities at CSU

- Committee: Graduate Committee
Activity: Chairman, August 2001–July 2005.
- Committee: Systems Area

- Activity: Member, August 2001–present.
Committee: Head Search/Recruiting Committee
Activity: Member, May 2002–May 2003.
Committee: Head’s Advisory Committee
Activity: Member, April 2002–2007.
Committee: BSIST Steering Committee
Activity: Member, April 2003–December 2003.
Committee: Scholarships Committee
Activity: Assistant to Head, March 2004–2005.
Committee: Ad Hoc Committee on Teaching Schedule
Activity: Chair, September 2004–August 2005.

Extra-departmental Committee Activities at CSU

- Committee: Mathematics Head Search Committee
Activity: Member, August 2002–May 2003.
Committee: IStEC Education Advisory Committee
Activity: Member, April 2003–present.
Committee: IStEC Education Advisory Committee Task Force on Techno-Ethics
Activity: Chair, January 2004–August 2006.
Committee: Colorado State University Public Policy Institute, Organizational Planning Committee.
Activity: Member, October 2003–September 2004.
Committee: Computer Science Faculty Search Committee
Activity: Member, September 2003–May 2004.
Committee: College of Engineering Internal Advisory Committee
Activity: Member, January 2004–present.
Committee: College of Engineering Evaluation Committee
Activity: Member, August 2007–present.
Committee: University Honorary Degree Committee
Activity: Member, January 2004–present.
Committee: Engineering Scholarships Committee
Activity: ECE Representative, March 2004–present.
Committee: Statistics Faculty Search Committee
Activity: Member, September 2004–May 2005.
Committee: Search Committee for the Vice President for Research position
Activity: Member, September 2005–May 2006.
Committee: Faculty Council Committee on Teaching and Learning
Activity: Member (Elected), May 2006–present.
Committee: Mathematics Search Committee
Activity: Member, September 2007–May 2008.
Committee: CSU Colorado Grid Computing (COGrid) Initiative

Activity: Chief Scientist, April 2004–present.

Committee: University Review Committee for Department of Computer Science

Activity: Member, February 2009–present.

Other Information

Biographical Lists

1997–present

Listed in *Who's Who in Science and Engineering*.

1997–present

Listed in *American Men and Women of Science*.

1999–present

Listed in *Who's Who in the World*.

2001–present

Listed in *Who's Who in Engineering Education*.

2004–present

Listed in *AcademicKeys Who's Who in Sciences Higher Education*.

2005–present

Listed in *America's Registry of Outstanding Professionals*.

2005–present

Listed in *Strathmore's Who's Who*.

2006–present

Listed in *Who's Who in America*.

2007–present

Listed in *Who's Who Among American Teachers & Educators*.

2007–present

Listed in *Madison Who's Who*.

Other Activities

Oct. 1990

Invited participant, *Office of Naval Research (ONR) Third Annual Workshop on Foundations of Real-Time Computing Research Initiative*, Washington, D.C., October 25–26, 1990.

Aug. 1991–Aug. 1994

Created and led “NODES” (New Opportunities in Discrete Event Systems) research group at Purdue University. The weekly NODES group meetings consist of presentations on topics relevant to discrete event systems, and operates as an open forum for various faculty and students interested in the subject.

Aug. 1992–July 1998

Organizer/coordinator for the Automatic Control Area seminars, School of Electrical and Computer Engineering.

Aug. 1992–2001

Member of the Purdue School of Electrical Engineering Career Counseling Program.

June 1993–2001

Faculty Advisor for the Purdue Singapore Students' Association.

Sept. 1993

Invited participant, *IEEE Region 4 Student Leadership Conference*, at Motorola, Schaumburg, Illinois, September 10–11, 1993.

Aug. 1996–2001

Faculty Mentor for Beering Scholar.

1996–2001

Faculty Advisor for the Purdue Graduate Interservice Christian Fellowship.

Dec. 1996

Invited participant, *HKUST Minisymposium on Robust Control and Identification*, Hong Kong University of Science and Technology, Clear Water Bay, Kowloon, Hong Kong, December 16, 1996 (travel funding provided by HKUST).

Jan. 1997–Jan. 2000

Control area graduate recruiting coordinator.

Mar. 1997

Invited participant, *ARO/DARPA Workshop on Mobile Ad Hoc Networking*, at the University of Maryland, College Park, March 14, 1997.

Fall 1998

Sabbatical at Bell Laboratories, Department of Performance Analysis, Lucent Technologies, Holmdel, NJ.

Spring/Summer 2000

Significant media exposure on Professor Chong's work on wireless systems: *Financial Times*, March 30, 2000; *United Press International (UPI)* (Stories of modern science: Better hands-off keep cell phone talking - Edwin K.P. Chong), April 3, 2000; *Le Monde*, April 5, 2000 (Influential French daily newspaper); *Microelectronics Technology Alert*, April 10, 2000; *WLFI-TV18* (Channel 18 News, 6pm and 11pm, April 23, 2000); *WASK* (April 28, 2000); *Indianapolis Business Journal*, May 29–June 4, June 28–July 4, and July 10–16, 2000.

Dec. 2001–present

Faculty Advisor for the CSU International Students Incorporated.

Dec. 2001–2003

Faculty Advisor for the CSU International Student Fellowship.

May 2003

Invited participant, *AFOSR Workshop on Optimization and Discrete Mathematics*, Estes Park, CO, May 25–28, 2003.

June 2003

External Examiner for Ph.D. candidate in Electrical & Computer Engineering, National University of Singapore.

December 2004

Invited participant, *Multiscale Mathematics Initiative: A Roadmap*, a report prepared for the U.S. Department of Energy, Office of Science, December 2004.

July 2005

External Examiner for M.Phil. candidate in Electrical & Computer Engineering, Hong Kong University.

September 2007

External Examiner for Ph.D. candidate in Electrical & Computer Engineering, The University of British Columbia.

June 2008

External Examiner for Ph.D. candidate in Electrical & Computer Engineering, Hong Kong University.

June 2008

External member of Promotion Committee in Electrical & Computer Engineering, University of Cyprus.