

VITA: Edwin K. P. Chong

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Personal Information

Contact Information

Professor Edwin K. P. Chong
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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] Senior Member of the IEEE, 1996
- [24] 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.
- [25] University Faculty Scholar, Purdue University, 1999. Provides \$50,000 in funding over five years.
- [26] IEEE Control Systems Society Distinguished Lecturer, 2001–2003.
- [27] Elected to Full Member of Sigma Xi (The Scientific Research Society), 2002.
- [28] IEEE Communications Society Certificate of Appreciation, 2003.
- [29] Fellow of the IEEE, 2004, “for contributions to communication networks and discrete event systems.”
- [30] 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).
- [31] Professional of the Year in Electrical Engineering, 2006, awarded by the *America’s Registry of Outstanding Professionals*.
- [32] Professional of the Year in Education/Computer Engineering, 2007, awarded by the *Strathmore’s Who’s Who*.

- [33] Professional of the Year in Electrical Engineering, 2007, awarded by the *America's Registry of Outstanding Professionals*.
- [34] Elected to *Strathmore Who's Who Roundtable* (elite group of 50 professionals), 2008.
- [35] George T. Abell Outstanding Faculty Research Award, Colorado State University College of Engineering, 2008.
- [36] Best Editor Award, 2009, *Computer Networks* (journal).
- [37] IEEE Distinguished Member Award from the Control Systems Society, 2010. Citation: To recognize significant technical contributions in the areas of control, optimization, and modeling, and outstanding long-term service to the Society through editorial and conference related activities.

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.

Apr. 2009–present

Information System Technologies, Inc. (ISTI), Fort Collins, 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, 2011, \$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 ONR project (see main contract information below), July 7, 2008 to June 30, 2012, \$192,900. 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 August 31, 2012.

- [41] Principal Investigator: “Information Fusion and Control in Hierarchical Networks,” AFOSR contract FA9550-09-1-0518 (Co-PI: A. Pezeshki), July 1, 2009 to November 30, 2011, \$397,877. Account (at CSU): 5-37218.
- [42] Principal Investigator: “UAV Guidance on GPUs by Nominal Belief-State Optimization,” Apolent Corporation, subcontract for jointly funded AFOSR STTR project under DOD AFOSR STTR Program Solicitation FY09B, Topic AF09-BT06: *Novel Algorithm/Hardware Partnerships for Real-Time Nonlinear Control*, August 12, 2010 to March 20, 2011, \$50,000. Account (at CSU): 5-38387.
- [43] Principal Investigator: “Guidance of Autonomous Air Vehicles with On-Board Sensors for Multi-target Tracking,” Northrop Grumman, Rocky Mountain Aerospace Technology Incubator (RMATI) program, September 2, 2010 to June 30, 2012, \$31,913. Account (at CSU): 5-38389.
- [44] Principal Investigator: “Mathematical Infrastructure for Knowledge Enhanced Compressive Measurement,” Johns Hopkins University Applied Physics Lab contract N66001-11-C-4023 (co-PIs: L. Scharf, R. Luo, A. Pezeshki), subcontract for jointly funded DARPA/DSO project (Knowledge Enhanced Compressive Measurement KECOM BAA-10-38), January 12, 2011 to October 6, 2012, \$397,000. Account (at CSU): 5-34796.
- [45] Principal Investigator: “Student Travel Support for the 2011 IEEE Conference on Decision and Control,” National Science Foundation grant ECCS-1120940 September 1, 2011 to August 31, 2012, \$10,000. Account (at CSU): 5331750.

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: 77)

- [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.
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- [155] H. Li and E. K. P. Chong, "Search on lines and graphs," in *Proceedings of the 48th IEEE Conference on Decision and Control*, Shanghai, China, December 16–18, 2009, pp. 5780–5785.
- [156] R. Zahedi, A. Pezeshki, and E. K. P. Chong, "Robust measurement design for detecting sparse signals: Equiangular uniform tight frames and Grassmannian packings," in *Proceedings of the 2010 American Control Conference*, Baltimore, Maryland, June 30–July 2, 2010, Paper ThC05.1, pp. 4070–4075.
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- [158] S. Ragi and E. K. P. Chong, "Dynamic UAV path planning for multi-target tracking," presented (poster) at the *1st Southwest Workshop on Theory and Applications of Cyber-Physical Systems*, Tucson, Arizona, March 10–11, 2011.
- [159] Z. Zhang, A. Pezeshki, W. Moran, S. Howard, and E. K. P. Chong, "Performance analysis of fusion trees," presented at the *1st Southwest Workshop on Theory and Applications of Cyber-Physical Systems*, Tucson, Arizona, March 10–11, 2011.
- [160] Z. Zhang, A. Pezeshki, W. Moran, S. D. Howard, and E. K. P. Chong, "Error probability bounds for binary relay trees with crummy sensors," in *Proceedings of the 2011 Workshop on Defense Applications of Signal Processing (DASP'11)*, The Hyatt Coolum Resort, Coolum, Queensland, Australia, July 10–14, 2011 (Invited Paper).
- [161] L. Scharf, E. K. P. Chong, A. Pezeshki, and J. R. Luo, "Compressive sensing and sparse inversion in signal processing: Cautionary notes," in *Proceedings of the 2011 Workshop on Defense Applications of Signal Processing (DASP'11)*, The Hyatt Coolum Resort, Coolum, Queensland, Australia, July 10–14, 2011 (Invited Paper).
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- [163] L. Scharf, E. K. P. Chong, A. Pezeshki, and J. R. Luo, "Sensitivity considerations in compressed sensing," in *Proceedings of the Asilomar Conference on Signals, Systems, and Computers*, Asilomar Hotel and Conference Grounds, Pacific Grove, California, November 6–9, 2011, paper MP6b-3, pp. 744–748.

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- [167] E. Liu and E. K. P. Chong, "On greedy adaptive measurements," in *Proceedings of the 46th Annual Conference on Information Sciences and Systems*, Princeton, New Jersey, March 21–23, 2012.
- [168] R. Zahedi, L. W. Krakow, E. K. P. Chong, and A. Pezeshki, "Adaptive compressive sampling using partially observable Markov decision processes," in *Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP 2012)*, Kyoto, Japan, March 25–30, 2012, pp. 5265–5272 (Invited Paper).
- [169] Y. Zhang, E. K. P. Chong, J. Hannig, and D. Estep, "Continuum modeling of large networks," presented (poster) at the *Symposium on Network Science in Biological, Social, and Geographic Systems*, University of Wyoming, Laramie, Wyoming, April 21, 2012.
- [170] Z. Zhang, E. K. P. Chong, and A. Pezeshki, "Convergence rate of Bayesian learning in social networks," presented at the *Symposium on Network Science in Biological, Social, and Geographic Systems*, University of Wyoming, Laramie, Wyoming, April 21, 2012.
- [171] S. Ragi and E. K. P. Chong, "Dynamic UAV path planning for multitarget tracking," in *Proceedings of the 2012 American Control Conference*, Montreal, Canada, June 27–29, 2012, Paper ThC04.3, to appear.
- [172] Z. Zhang, A. Pezeshki, W. Moran, S. D. Howard, and E. K. P. Chong, "Detection performance of M -ary relay trees with non-binary message alphabets," in *Proceedings of the 2012 IEEE Statistical Signal Processing Workshop (SSP)*, Ann Arbor, Michigan, August 5–8, 2012, to appear.
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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.
- [9] E. K. P. Chong and S. H. Žak, “Single-dimensional search methods,” in *Wiley Encyclopedia of Operations Research and Management Science*, 2011, ISBN: 978-0-470-40063-0.

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.).

Other Publications

- [1] Y. Wardi and E. Chong, “Editorial for the SI: Optimization of discrete event dynamic systems,” *Discrete Event Dynamic Systems*, special issue on *Optimization of Discrete Event Dynamic Systems*, vol. 19, no. 3, pp. 283–285, September 2009.
- [2] E. K. P. Chong, “CDC-ECC 2011 in Orlando, Florida: Celebrating 50 Years of Decision and Control,” *IEEE Control Systems Magazine*, vol. 31, no. 3, June 2011.
- [3] E. F. Camacho, E. K. P. Chong, J. A. Farrell, and M. M. Polycarpou, Editorial for the special issue on Fundamental Issues in Control, *European Journal of Control*, vol. 17, no. 5–6, pp. 447–448, September–December 2011.

- [4] E. K. P. Chong, "Report on the 2011 Joint 50th IEEE Conference on Decision and Control and European Control Conference (CDC-ECC 2011), Orlando, Florida," *IEEE Control Systems Magazine*, to appear.

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," Dong-won 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].

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|---------------------|-----------|---|
| 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], [49].
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 [73].
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], [70]. Conference proceedings and presentations [110], [113], [114], [136], [139], [142], [155].
Patricia de Rezende Barbosa	Apr. 2010	“Target Tracking with Distributed Sensing: Information-Theoretic Bounds and Closed-Loop Scheduling for Urban Terrain” Journal articles [60]. Conference proceedings and presentations [136], [144], [149].
Zhi Zhang	Aug. 2011	“Resource Management in QoS-Aware Wireless Cellular Networks” Journal articles [62], [68]. Conference proceedings and presentations [118], [120], [148].

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” Journal articles [68]. Conference proceedings and presentations [148].
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 [66]. Conference proceedings and presentations [131], [135], [137].

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

Yang Zhang	(Ph.D.)	Conference proceedings and presentations [157], [162], [169].
Ramin Zahedi	(Ph.D.)	Journal article [75]. Conference proceedings and presentations [156], [168].
Zhenliang Zhang	(Ph.D.)	Journal article [76]. Conference proceedings and presentations [159], [160], [165], [166], [170], [172].
Lucas Krakow	(Ph.D.)	Journal articles [66]. Conference proceedings and presentations [131], [135], [137], [168].
Shankarachary Ragi	(Ph.D.)	Journal articles [74]. Conference proceedings and presentations [158], [171].
Mark Ritschard	(Ph.D.)	
Sowmya Lolla	(M.S.)	

Courses Developed at PurdueEE 681 *Discrete Event Systems*EE 5XX *Graduate Control Laboratory* (with other members of the Automatic Control Area)

Courses “In Charge Of” at Purdue

- EE 681 *Discrete Event Systems*, Fall 1992–2001.
EE 580 *Optimization Methods for Systems and Control*, Fall 1994–2001.

Undergraduate and Non-Thesis Student Projects at Purdue

- EE 495 *Vehicular Traffic Control* (1 cr.), Spring 1991.
Christopher Omar Gozali
- EE 696 *Fuzzy Computation* (6 cr.), Summer 1993.
Muthucumar Maheswaran
- EE 495 *Statistical Process Control* (3 cr.), Fall 1993.
Cory C. Kihlstrom
- EE 495 *X, Petri Nets, and IMS* (3 cr.), Fall 1993.
Thomas M. Cronin
- EE 495/6 *Genetic Algorithms* (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

¹Supported by the Purdue NSF Engineering Research Center

Courses Developed at CSU

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

ECE 531/ENGR 531 *Engineering Risk Analysis*

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

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)

EE 401 *Automatic Portfolio Management* (3 cr.), Fall 2009.
Abdulla Altunaiji and Yazeed Alruwayti

EE 402 *Automatic Portfolio Management* (3 cr.), Spring 2010.
Abdulla Altunaiji and Yazeed Alruwayti

ECE 401 *Automatic Portfolio Management* (3 cr.), Fall 2010.
Danny Webb and Yijiang Zhou

- ECE 402 *Automatic Portfolio Management* (3 cr.), Spring 2011.
Danny Webb and Yijiang Zhou
- ECE 401 *Automatic Portfolio Management* (3 cr.), Fall 2011.
Greg Burkhart and Frank Willis Turner V
- ECE 402 *Automatic Portfolio Management* (3 cr.), Spring 2012.
Greg Burkhart and Frank Willis Turner V

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).
- [59] Department of Electrical and Electronic Engineering, Universiti Tunku Abdul Rahman (UTAR), Malaysia, May 24, 2010 (How to Model and Simulate a Network with a Billion Nodes).
- [60] Department of Statistics, Colorado State University, August 30, 2010 (Markov Decision Processes with Constraints).
- [61] Center for Vehicular Technology, Universiti Tunku Abdul Rahman (UTAR), Malaysia, January 5, 2011 (Guidance of Autonomous Vehicles with On-Board Sensing).
- [62] MMU Melaka, Malaysia, January 7, 2011 (Guidance of Autonomous Vehicles with On-Board Sensing).
- [63] Universiti Tunku Abdul Rahman (UTAR) Kampar Campus, Malaysia, January 11, 2011 (Guidance of Autonomous Vehicles with On-Board Sensing).
- [64] Keynote, Symposium on Autonomous Vehicular Technology, January 13, 2011 (Guidance of Autonomous Vehicles with On-Board Sensing: A Markov Decision Theoretic Approach).
- [65] Department of Electrical and Computer Engineering, Baylor University, February 24, 2011 (Guidance of Autonomous Aerial Vehicles Using a Partially Observable Markov Decision Process Approximation).
- [66] School of Electrical and Electronic Engineering, The University of Adelaide, Adelaide, South Australia, July 18, 2011 (Guidance of Autonomous Aerial Vehicles with On-Board Sensors).
- [67] Department of Computer Science (CS692 Computer Science Colloquium), Colorado State University, February 13, 2012 (Guidance of Autonomous Aerial Vehicles: Real-time Planning via POMDP).
- [68] Department of Finance and Real Estate, Colorado State University, April 13, 2012 (Bellman's Principle with Constraints).

- [69] School of Electronic and Information Engineering, Xi'an Jiaotong University, Xi'an, China, May 22, 2012 (Real-time Planning via POMDP: Guidance of Autonomous Aerial Vehicles).
- [70] Institute of Systems Science, Academy of Mathematics and Systems Science, Chinese Academy of Sciences, Beijing, China, May 24, 2012 (Bellman's Principle for Multichain Problems with Constraints).

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 2006–2010

Member of Editorial Board, *IEEE Expert Now*.

2007–2010

Guest Editor (with Yorai Wardi), special issue on *Optimization of Discrete Event Systems* in the journal *Discrete Event Dynamic Systems*, vol. 19, no. 3, Sep. 2009 and vol. 20, no. 2, May 2010.

June–December 2011

Guest Editor (with E. F. Camacho, J. A. Farrell, and M. M. Polycarpou), special issue on *Fundamental Issues in Control* in the *European Journal of Control*, vol. 17, no. 5–6, September–December 2011.

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] Member of the International Advisory Panel, *Symposium on Progress in Information and Communication Technology (SPICT 2009)*, Kuala Lumpur, Malaysia, December 7–8, 2009.
- [58] Finance Chair, *Joint 48th IEEE Conference on Decision and Control and 28th Chinese Control Conference*, Shanghai, China, December 16–18, 2009.
- [59] Member of the International Advisory Panel, *Symposium on Progress in Information and Communication Technology (SPICT 2010)*, Kuala Lumpur, Malaysia, November 1–2, 2010.
- [60] General Chair, *Joint 50th IEEE Conference on Decision and Control and European Control Conference*, Orlando, Florida, December 12–15, 2011.
- [61] Chair of session on “Future of Digital Communication,” *FutureVision 2012 Conference*, Fort Collins, April 12, 2012.
- [62] Chair of conference session on “Aerospace Systems II,” *2012 American Control Conference*, Montreal, Canada, June 27–29, 2012.

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
 Member of the Board of Governors, January 2010–December 2012
 Chair of the Conference Finance Board, 2007–2010
 Awarded *Distinguished Member Award*, 2010
 Vice President for Financial Activities, January 2012–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: ASME (founded as the American Society of Mechanical Engineers)
 Activity: Member, 2008–2009.
- 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.
European Journal of Control, since 2011.

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.
Symposium on Progress in Information and Communication Technology (SPICT), since 2009.

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.
Research Council for Natural Sciences and Engineering at the Academy of Finland, since 2010.

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.
Committee: Post-Doctoral Search Committee
Activity: Member, August 2011–present.

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–August 2011.
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–May 2008.
Committee: Mathematics Search Committee

- Activity: Member, September 2007–May 2008.
- Committee: CSU Colorado Grid Computing (COGrid) Initiative
Activity: Chief Scientist, April 2004–2006.
- Committee: University Review Committee for Department of Computer Science
Activity: Member, February–July 2009.
- Committee: Mathematics Chair Search Committee
Activity: Member, October 2010–January 2011.
- Committee: Statistics Search Committee
Activity: Member, October 2010–May 2011.
- Committee: College of Engineering Review Committee for Faculty and Staff Awards
Activity: Member, May 2012.

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.

Spring/Summer 2008

Significant media exposure on Professor Chong's work on urban radar systems: Denver Post, 9 April 2008; CBS Channel 4 (Denver), 11 April 2008; Defense News, 14 April 2008; Coloradoan, 16 April 2008; Defense Technology International, May 2008, p. 44; National Defense Magazine, June 2008. C4ISR Journal: The Magazine of Net-Centric Warfare, June 9, 2008.

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.

June 2009

External Examiner for Ph.D. candidate in Systems Engineering, University of South Australia.

June 2009–present

International Collaborative Partner of UTAR Global Research Network, Universiti Tunku Abdul Rahman (UTAR), Malaysia.

October 2010

External Examiner for M.Phil. candidate in Mathematics, University of Melbourne, Australia.

February 2011

External Examiner for Ph.D. candidate in Electronics and Communication Engineering, Visvesvaraya Technological University, Belgaum, India.

Apr. 2012–present

Faculty Advisor for the CSU Malaysian Student Association.