

CURRICULUM VITAE

Christos G. Cassandras

Division of Systems Engineering
and
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Education

1974-77 - B.S. *Yale University*, New Haven, Connecticut
1977-78 - M.S.E.E. *Stanford University*, Stanford, California
1978-79 - S.M. *Harvard University*, Cambridge, Massachusetts
1979-82 - Ph.D. *Harvard University*, Cambridge, Massachusetts
Ph.D. Thesis: "Sample Path Analysis of Discrete
Event Dynamic Systems"

Professional Experience

9/14 - present Boston University, Boston, Massachusetts.
Distinguished Professor of Engineering
7/08 - present Boston University, Boston, Massachusetts.
Head, Division of Systems Engineering, and
Professor of Electrical and Computer Engineering
11/14 - present Tsinghua University, Beijing, China.
Chair Professor, Center for Intelligent and Networked
Systems, Department of Automation
1/97 - 6/08 Boston University, Boston, Massachusetts.
Professor of Manufacturing Engineering, and
Professor of Electrical and Computer Engineering
9/93 - 12/97 University of Massachusetts, Amherst, Massachusetts.
Professor of Electrical and Computer Engineering.
9/89 - 8/93 University of Massachusetts, Amherst, Massachusetts.
Associate Professor of Electrical and Computer Engineering.

- 2/84 - 8/89 University of Massachusetts, Amherst, Massachusetts.
Assistant Professor of Electrical and Computer Engineering.
- 9/82 - 1/84 ITP Boston, Inc., Cambridge, Massachusetts.
Senior Systems Engineer.
- 6/79 - 9/82 Harvard University, Cambridge, Massachusetts.
Research Assistant, Decision and Control Group, Division
of Applied Sciences.
- 11/80 - 9/82 C.S. Draper Laboratory, Cambridge, Massachusetts.
Participated in industrial automation projects as part of
Ph.D. Thesis research.

Visiting Appointments

- 9/90 - 1/91 Harvard University, Cambridge, Massachusetts.
Visiting Scholar (on sabbatical), Division of Applied Sciences.
- 3/93 - 7/93 Universite Catholique de Louvain, Louvain-la-Neuve, Belgium.
Visiting Professor (on sabbatical).
- 9/03 - 10/03 Tsinghua University, Beijing, China.
Visiting Professor (on sabbatical), Center for Intelligent
and Networked Systems.
- 7/10 - 8/10 Universidad de los Andes, Bogota, Colombia.
Visiting Professor (on sabbatical).
- 2/18 - 3/18 Nanyang Technological University, Singapore.
Visiting Professor (on sabbatical).

Consulting

- 2/84 - 6/87 ITP Boston, Inc., Cambridge, Massachusetts.
Development of advanced software tools for computer
integrated systems; capacity and production planning of
manufacturing systems.
- 1/88 - present Network Dynamics, Inc., Natick, Massachusetts.
Development of decision support systems for manufacturing
systems and computer/communication networks.
- 9/99 - 11/03 Alphatech, Inc., Burlington, Massachusetts.
Modeling and decision support for command-control

systems.

9/03 - 12/08

The Mathworks, Inc., Natick, Massachusetts.
Development of discrete event simulation tools.

Research Interests

- Analysis and control of discrete event and hybrid systems
- Stochastic control and optimization
- Distributed systems and cooperative control
- Dynamic control of computer/communication and sensor networks
- Performance analysis and production control of manufacturing systems
- Computer simulation
- Performance analysis and control of transportation systems
- Smart Cities

Honors/Awards

- 2011 IEEE CSS Control Systems Technology Award
- Distinguished Member Award, IEEE Control Systems Society, 2006
- Harold Chestnut Prize (IFAC Best Control Engineering Textbook), 1999
- Fellow, IFAC (Intl. Federation of Automatic Control), elected 2008
- Fellow, IEEE (Institute of Electrical and Electronic Engineers), elected 1996
- Fellow, IETI (Intl. Engineering and Technology Institute), elected 2018
- IEEE Distinguished Lecturer, 2001-2004
- 2014 Engineering Distinguished Scholar Award, Boston University
- 2014 IBM/IEEE Smarter Planet Challenge competition, 2nd prize (student team led by Theodora Brisimi)
- 2011 IBM/IEEE Smarter Planet Challenge competition, 2nd prize (student team led by Yanfeng Geng)
- Zhu Kezhen Award, 2012
- Kern Fellow, 2012
- Lilly Fellow, 1991-92
- Best Interactive Paper Award (with Chen Yao), 48th IEEE Conference on Decision and Control, 2009
- Best Student Paper Award Finalist (Julia Fleck), 2014 Workshop on Discrete Event Systems
- Best Student Paper Award Finalist (Yanfeng Geng), 2011 IEEE Multi-Conference on Systems and Control
- Poster Prize, Third place (with Yanfeng Geng), INFORMS 2011 Northeastern Conference
- Honorary Professor, Huazhong University of Science and Technology, 2003
- Honorary Professor, Wuhan University of Science and Technology, 2003
- Best Session Paper Presentation Award, American Control Conf., 1988

- National Science Foundation Research Initiation Award, 1985
- Harvard University Fellowship, 1978-79
- *Summa Cum Laude* Graduate, Yale University, 1977
- Distinction in Engineering and Applied Science, Yale University, 1977
- *Phi Beta Kappa*, Yale University, 1977
- *Tau Beta Pi*, Yale University, 1977
- Yale University Scholarship, 1974-77
- Scholastic Achievement Award of the Greek Ministry of Education, 1972, 1973

Editorial Activities

Editor-in-Chief,

IEEE Transactions on Automatic Control (1998 - 2009)

Editor, Technical Notes and Correspondence,

IEEE Transactions on Automatic Control (1994 - 1998)

Department Editor,

Journal of Discrete Event Dynamic Systems (2008 - present)

Editor,

Automatica (2015 - present)

Senior Editor,

Journal of Control and Decision (2013 - present)

Section Editor,

Encyclopedia on Systems and Control, 2013 - 2014

Advisory Editorial Board,

IEEE Transactions on Control of Network Systems (2013 - present)

Consulting Editorial Board,

Annual Reviews in Control (2014 - present)

Steering Committee,

IEEE Control Systems Letters (2017 - present)

Other Editorial Boards:

- *IEEE Transactions on Automatic Control* (1991 - 1993)
- *Automatica* (1993 - 2002)
- *Journal of Discrete Event Dynamic Systems* (1989 - 2008)
- *IEEE Control Systems Society Conference Edit. Board* (1994)
- *Encyclopedia of Systems and Control* (2013 - present)
- *Intl. Journal of Intelligent Computing and Cybernetics* (2007 - present)
- *Intl. Journal of BioSciences and Technology* (2008 - present)
- *Foundations and Trends in Systems and Control* (2014 - present)

Guest Editor:

- *Proceedings of the IEEE* (with G. Bettis, C.A. Nucci), Special Issue on Smart Cities, April 2018.
- *Journal on Discrete Event Dynamic Systems* (with A. Giua), Special Issue on Performance Analysis and Optimization of Discrete Event Systems, March 2018.
- *IEEE Trans. on Automation Science and Engineering* (with M. Fanti, C. Hadjicostis, S. Reveliotis, C. Seatzu), Special Issue on Advances in Discrete Event Systems for Automation, 2014.
- *Control Engineering Practice* (with J. Zaytoon), Special Issue on Discrete Event Systems, October 2006.
- *Journal of Mathematical and Computer Modeling* (with L. Dai), Special Issue on Advances in Discrete Event Systems, July 1996.
- *Journal on Discrete Event Dynamic Systems*, Special Issue on Parallel Simulation and Optimization, April 1995
- *IEEE Control Systems Magazine* (with P. Ramadge), Special Issue on Discrete Event Systems, June 1990

Plenary/Keynote Lectures

- *15th IFAC Symposium on Control in Transportation Systems*, June 2018
- *1st International School on Discrete Event Systems*, May 2018
- *20th IFAC World Congress*, July 2017
- *38th Intl. Petri Nets Conference*, June 2017
- *7th oCPS School on Cyber-Physical Systems*, June 2017
- *Winter School on Intelligent Transportation*, January 2017
- *55th IEEE Conf. Decision and Control (CDC)*, December 2016
- *First Intl. Conference on Event-Based Control, Communication, and Signal Processing*, June 2015
- *First Workshop on Emerging Trends in Event-Based Systems*, June 2015
- *ACM/IEEE 6th Intl. Conference on Cyber-Physical Systems*, April 2015
- *33rd Benelux Meeting on Systems and Control*, March 2014
- *32nd Chinese Control Conference*, July 2013
- *2013 IEEE CIS School for Computational Intelligence and Automation*, July 2013
- *2012 Brazil Automation Conference*, September 2012
- *2012 Society of Instrument and Control Engineers (SICE) Annual Conference*, August 2012
- *24th Chinese Control and Decision Conference*, May 2012
- *4th HYCON2 School on Control of Networked and Large-Scale Systems*, June 2011
- *7th Intl. Conference on Electrical Engin., Computing Science, and Automatic Control*, September 2010
- *18th IEEE Medit. Conference on New Directions in Control and Automation*, June 2010

- *2009 MIT LIDS Student Conference*, January 2009
- *2008 UK Automatic Control Conference*, September 2008
- *3rd International Conference on Innovative Computing, Information and Control*, June 2008
- *8th International Conference on Cooperative Control and Optimization*, January 2008
- *2005 IEEE Intl. Symposium on Intelligent Control (ISIC)*, June 2005
- *41st IEEE Conf. Decision and Control (CDC)*, December 2002
- *17th Intl. Symposium on Computer and Information Sciences*, October 2002
- *6th Intl. Workshop on Discrete Event Systems*, October 2002
- *9th IFAC Intl. Symposium on Large Scale Systems*, July 2001
- *2001 American Control Conference (ACC)*, June 2001
- *8th IEEE Medit. Conference on New Directions in Control and Automation*, July 2000
- *Formal Methods in Performance Analysis Summer School*, July 2000
- *11th SPIE Intl. Symposium*, April 1997
- *11th Intl. Conf. on Control and Optim. of Systems*, June 1994
- *Discrete Event System Summer School*, June 1993
- *1st Intl. Workshop on Discrete Event Systems*, August 1992

Distinguished Lectures

- Kwan Chao-Chih Distinguished Lecture, Chinese Academy of Sciences, May 2019
- University of Cyprus, KIOS Center Distinguished Lecture, April 2018
- Pacific Northwest National Laboratory, Distinguished Lecture on Control of Complex Systems, January 2018
- Boston University, College of Engineering Distinguished Scholar Award Lecture, March 2014
- Zhu Kezhen Distinguished Lecture, Zhejiang University, January 2013
- Colorado State University, Information Science and Technology Center Distinguished Lecture, October 2010

Professional Affiliations

Fellow, Institute of Electrical and Electronics Engineers (IEEE)
 Fellow, International Federation of Automatic Control (IFAC)
 Fellow, Intl. Engineering and Technology Institute (IETI)
 Member, Institute for Operations Research and
 Management Science (INFORMS)

Professional and Organizational Activities

President, 2012, IEEE Control Systems Society

Vice President, Publication Activities, IEEE Control Systems Society (2010)

Board of Governors, IEEE Control Systems Society (1996 - 2013)

Board of Directors, American Automatic Control Council (2011 – 2017)

Co-Founder, Center for Information and Systems Engineering,
Boston University, 2002

Chair, IEEE Control Systems Society Technical Committee on Control Theory
(1994)

Chair, IEEE Control Systems Society Working Group on *Discrete Event
Systems* (1989 - 1993)

Chair, IFAC Technical Committee on *Discrete Event and Hybrid Systems*
(2002 - 2005)

IEEE Periodicals Committee, 2014-2015

IEEE Fellow Evaluation Committee, 2014-2017

IFAC Fellow Evaluation Committee, 2014-2017

Conference Chair:

- *13th IFAC-IEEE Intl. Workshop on Discrete Event Systems (WODES)*, 2016 (Co-Chair)
- *Workshop on Smart Cities*, December 2015 (sponsored by NSF)
- *2nd Intl. Conf. on Performance Evaluation, Methodologies, and Tools*, Oct. 2007 (Program Chair with A. Proutiere, K. Trivedi)
- *1st IFAC Workshop on Dependable Control of Discrete Systems*, June 2007 (Vice Chair)
- *2nd IFAC Conf. on Analysis and Design of Hybrid Systems (ADHS)*, June 2006 (Co-Chair)
- *43rd IEEE Conf. Decision and Control (CDC)*, December 2004 (General Chair)
- *7th Intl. Workshop on Discrete Event Systems (WODES)*, September 2004 (Co-Chair)
- *Symposium on Complex Systems Modeling and Optimization in the Information Age*, Boston, MA, June 2001 (Co-Chair)
- *38th IEEE Conf. Decision and Control (CDC)*, December 1999 (Program Chair)
- *9th INFORMS Applied Prob. Conf.*, June 1997 (with M. Caramanis)
- *Workshop on Discrete Event Systems*, June 1991 (sponsored by NSF)
- *2nd IEEE Workshop on Computer-Aided Modeling, Analysis and Design of Comm. Links and Networks*, October 1988 (Co-Chair)

Conference Organizing Committees:

- *5th IEEE Conf. on Industrial Electronics and Applications*, June 2010 (Intl. Adv. Committee)
- *Dynamics of Information Systems*, February 2010
- *37th IEEE Conf. Decision and Control*, December 1998 (Vice Chair)
- *36th IEEE Conf. Decision and Control*, December 1997 (Vice Chair)
- *35th IEEE Conf. Decision and Control*, December 1996 (Registr. Co-Chair)
- *32nd IEEE Conf. Decision and Control*, December 1993 (Workshop Chair)

Conference Program Committees:

- *6th IFAC Conf. on Analysis and Design of Hybrid Systems*, June 2018
- *2016 International Conference on System and Control*, May 2016
- *23rd IEEE Mediterranean Conf. on Control and Automation*, June 2015
- *22nd IEEE Mediterranean Conf. on Control and Automation*, June 2014
- *12th Intl. Workshop on Discrete Event Systems*, May 2014
- *18th IEEE Intl. Conf. on Emerging Technologies and Factory Automation*, September 2013
- *8th IFIP/IEEE Intl. Workshop on Feedback Control Implementation and Design in Computing Systems and Networks*, June 2013
- *12th Intl. Conf. on Control, Automation, Robotics and Vision*, December 2012
- *20th IEEE Mediterranean Conf. on Control and Automation*, July 2012
- *7th IFIP/IEEE Intl. Workshop on Feedback Control Implementation and Design in Computing Systems and Networks*, June 2012
- *4th IFAC Conf. on Analysis and Design of Hybrid Systems*, June 2012
- *2nd Intl. Conf. on Systems and Control*, June 2012
- *6th IFIP/IEEE Intl. Workshop on Feedback Control Implementation and Design in Computing Systems and Networks*, June 2011
- *19th IEEE Mediterranean Conf. on Control and Automation*, June 2011
- *3rd Intl. Workshop on Dependable Control of Discrete Systems*, June 2011
- *6th IEEE Conf. on Industrial Electronics and Applications*, June 2011
- *2011 Chinese Control and Decision Conference*, June 2011
- *18th IEEE Mediterranean Conf. on Control and Automation*, June 2010
- *ACM/SIGSIM Symposium on Theory of Modeling and Simulation (DEVS 2010)*, April 2010
- *3rd IFAC Conf. on Analysis and Design of Hybrid Systems*, September 2009
- *6th Intl. Conf. on Informatics in Control, Automation and Robotics*, July 2009
- *2009 Chinese Control and Decision Conference*, June 2009
- *4th IFIP/IEEE Intl. Workshop on Feedback Control Implementation and Design in Computing Systems and Networks*, April 2009
- *47th IEEE Conf. Decision and Control*, December 2008
- *9th Intl. Workshop on Discrete Event Systems*, May 2008
- *3rd IFIP/IEEE Intl. Workshop on Feedback Control Implementation and Design in Computing Systems and Networks*, May 2008
- *5th Intl. Conf. on Informatics in Control, Automation and Robotics*, December 2008
- *2nd IFIP/IEEE Intl. Workshop on Feedback Control Implementation and Design in Computing Systems and Networks*, May 2007
- *3rd Intl. Conf. on Informatics in Control, Automation and Robotics*, August 2006

- *8th Intl. Workshop on Discrete Event Systems*, July 2006
- *1st IFAC Conf. on Analysis and Control of Chaotic Systems*, June 2006
- *Workshop on Feedback Control Implementation and Design in Computing Systems and Networks*, April 2006
- *Intl. Symp. on Automatic Systems for Building Infrastructure in Developing Countries*, October 2004
- *Intl. Conf. on Informatics in Control, Automation and Robotics*, August 2004
- *SPIE Defense and Security Symposium*, April 2004
- *IMACS/IEEE Conference on Computational Engineering in Systems Applications*, July 2003
- *IFAC Conference on Analysis and Design of Hybrid Systems*, June 2003
- *17th SPIE Intl. Symposium*, April 2003
- *6th Intl. Workshop on Discrete Event Systems*, October 2002
- *Intl. Conf. on Control, Automation, Robotics and Vision*, June 2002
- *16th SPIE Intl. Symposium*, April 2002
- *5th Intl. Workshop on Hybrid Systems: Computation and Control*, March 2002
- *15th SPIE Intl. Symposium*, April 2001
- *4th Intl. Workshop on Hybrid Systems: Computation and Control*, March 2001
- *IEEE Intl. Symposium on Intelligent Control*, July 2000
- *14th SPIE Intl. Symposium*, April 2000
- *IEEE Symposium on Robotics and Control*, July 1999
- *13th SPIE Intl. Symposium*, April 1999
- *IMACS 2nd Intl. Conf. on Circuits, Systems, and Computers*, October 1998
- *7th IEEE Conf. on Control Applications*, September 1998
- *3rd Intl. Workshop on Discrete Event Systems*, August 1998
- *12th SPIE Intl. Symposium*, April 1998
- *5th IEEE Medit. Conference on New Directions in Control and Automation*, July 1997
- *1997 European Control Conference*, June 1997
- *11th SPIE Intl. Symposium*, April 1997
- *2nd Intl. Workshop on Discrete Event Systems*, August 1996
- *IMACS/IEEE Conf. on Computational Engineering in Systems Applications*, July 1996
- *INRIA/IEEE Conf. on Emerging Technologies and Factory Automation*, October 1995
- *3rd IEEE Medit. Conference on New Directions in Control and Automation*, July 1995
- *1994 Intl. Workshop on New Directions in Control and Manufacturing*, November 1994
- *1994 American Control Conf.*, June 1994
- *11th International Conf. on Control and Optim. of Systems*, June 1994
- *12th IFAC World Congress*, July 1993 (Co-Chair of Target Area Program)
- *1993 American Control Conf.*, June 1993
- *3rd Intl. Computer Integrated Manuf. Conf.*, May 1992
- *30th IEEE Conf. Decision and Control*, December 1991
- *IFAC Workshop on Discrete Event System Theo. and Applic.*, June 1991

- *3rd IEEE Workshop on Computer-Aided Modeling, Analysis and Design of Comm. Links and Networks*, September 1990
- *11th IFAC World Congress*, August 1990

Developer or Co-Developer of Short Courses/Workshops:

- One-day workshop on *Five Decades of Control and Optimization*, 48th *IEEE Conference on Decision and Control*, December 2010
- Tutorial workshop on *Hybrid Dynamical Systems: Modeling and Optimal Control*, 5th *Intl. Workshop on Discrete Event Systems*, August 2000
- One-day workshop on *Discrete Event Dynamic Systems: The State of the Art and New Directions*, 14th *IFAC World Congress*, July 1999 and 36th *IEEE Conf. on Decision and Control*, December 1997
- Short course on *Perturbation Analysis and its Application in Manufacturing Systems*, *INRIA/IEEE Conf. on Emerging Technologies and Factory Automation*, October 1995
- Short course on *Discrete Event Systems*, 3rd *European Control Conf.*, September 1995
- One-day workshop on *Discrete Event Systems: Modeling, Performance Analysis and Optimization*, 33rd *IEEE Conf. on Decision and Control*, December 1994
- One-day workshop on *Discrete Event Systems: The State-of-the-Art, Theory and Applications*, *Amer. Control Conf.*, June 1991
- One-day workshop on *Discrete Event Systems: Modeling, Analysis and Applications*, *Amer. Control Conf.*, June 1988

Organizer/Moderator of Conference Panel Sessions:

- *When the Hype hits the Fan: Reining in the Expectations of Modeling and Simulation*, 16th *SPIE Intl. Symposium*, April 2002
- *Discrete Event Systems*, 29th *IEEE Conf. Decision and Control*, December 1990

Organizer or Co-Organizer of Conference Technical Sessions:

- *Systems and Control Methods for Smart Cities – from Mobility to Social Networks*, 2017 *IEEE Conf. on Control Technology and Applications*, August 2017
- *Systems and Control Methods for Smart Cities as Cyber-Physical Systems*, 54th *IEEE Conf. Decision and Control*, December 2015
- *Systems and Control Methods for Cybersecurity*, 52nd *IEEE Conf. Decision and Control*, December 2013
- *Persistent Monitoring*, 51st *IEEE Conf. Decision and Control*, December 2012
- *Mobile Sensor Networks and Cooperative Control*, 49th *IEEE Conf. Decision and Control*, December 2010
- *Sensor Networks and Cooperative Control*, 48th *IEEE Conf. Decision and Control*, December 2009
- *Sensor Networks and Cooperative Control*, 47th *IEEE Conf. Decision and Control*, December 2008

- *Sensor Networks and Cooperative Control, 46th IEEE Conf. Decision and Control, December 2007*
- *Sensor Networks and Cooperative Control, Tutorial Session, 44th IEEE Conf. Decision and Control, December 2005*
- *Control of Wireless Sensor Networks, 43rd IEEE Conf. Decision and Control, December 2004*
- *Cooperative, Dynamic Mission Control for Uncertain, Multi-Vehicle Autonomous Systems, 41st IEEE Conf. Decision and Control, December 2002*
- *Recent Advances in Stochastic Networks, 39th IEEE Conf. Decision and Control, December 2001*
- *Optimal Control of Hybrid Systems, 39th IEEE Conf. Decision and Control, December 2000*
- *Recent Advances in Manufacturing Systems Research, 38th IEEE Conf. Decision and Control, December 1999*
- *Control and Performance Analysis of Computer Communication Networks, 34th IEEE Conf. Decision and Control, December 1995*
- *Parallel Processing in the Control and Optimization of Discrete Event Systems, 32nd IEEE Conf. Decision and Control, December 1993*
- *Beyond Perturbation Analysis of Discrete Event Systems, ORSA/TIMS/INRIA/SMAI Conf. on Applied Probability, June 1993.*
- *Performance Analysis of Discrete Event Dynamic Systems, 29th IEEE Conf. Decision and Control, December 1990*
- *Discrete Event Systems, 28th IEEE Conf. Decision and Control, December 1989*
- *Discrete Event Systems, 26th IEEE Conf. Decision and Control, December 1987*

Invited Speaker at numerous Universities, Industrial Organizations, Research Institutes, Government Laboratories/Agencies

Chair or Co-Chair of numerous Conference Technical Sessions

Member of various Panels and Award Committees

Reviewer for papers submitted to various technical journals and for proposals submitted to US and international funding agencies

Publications (Christos G. Cassandras)

Books

- [B1] "Applications of Perturbation Analysis in Stochastic Hybrid Systems", (with J.L. Fleck), Lambert Academic Publishing, 2016.
- [B2] "Energy-Latency Trade-offs in Real-Time Wireless Sensor Networks", (with L. Miao), VDM Publishing, 2009.
- [B3] "Introduction to Discrete Event Systems", 2nd Edition, (with S. Lafortune), Springer, 2008.
- [B4] "Stochastic Hybrid Systems", (C.G. Cassandras, and J. Lygeros (Ed's)), Taylor and Francis, 2006.
- [B5] "Introduction to Discrete Event Systems", (with S. Lafortune), Kluwer Academic Publ., 1999.
- [B6] "Discrete Event Systems: Modeling and Performance Analysis", Irwin Publ., 1993.⁽¹⁾
- [B7] Contributor to "Modern Electrical Communications: Theory and Systems" by Tuteur and Stark, 1977.

Articles in Journals and Books

- [A1] Ho, Y.C., and Cassandras, C.G., "A New Approach to the Analysis of Discrete Event Dynamic Systems", *Automatica*, Vol. 19, 2, pp. 149-167, 1983.
- [A2] Ho, Y.C., Cao, X., and Cassandras, C.G., "Infinitesimal and Finite Perturbation Analysis of Discrete Event Dynamic Systems", *Automatica*, Vol. 19, 4, pp. 439-445, 1983.
- [A3] Cassandras, C.G., and Ho, Y.C., "An Event Domain Formalism for Sample Path Perturbation Analysis of Discrete Event Dynamic Systems", *IEEE Trans. on Automatic Control*, AC-30, 12, pp. 1217-1221, 1985.
- [A4] Cassandras, C.G., "Dynamic Material Handling for a Class of Flexible Manufacturing Systems", *Annals of Operations Research*, Vol. 3, pp. 427-447, 1986.

⁽¹⁾ Awarded Harold Chestnut Prize (Best IFAC Control Engineering Textbook), 1999

- [A5] Cassandras, C.G., "Autonomous Material Handling in Computer Integrated Manufacturing", in "Flexible Manufacturing Systems: Methods and Studies", Elsevier Publ., pp. 81-98, 1986.
- [A6] Cassandras, C.G., "On-Line Optimization for a Flow Control Strategy", *IEEE Trans. on Automatic Control*, AC-32, 11, pp. 1014-1017, 1987.
- [A7] Cassandras, C.G., and Strickland, S.G., "Perturbation Analytic Methodologies for Design and Optimization of Communication Networks", *IEEE Journal on Selected Areas in Communications*, Vol. 6, 1, pp. 158-171, 1988.
- [A8] Cassandras, C.G., "Optimal Transmission and Jamming Strategies in a Communication Channel", *Journal of Optimal Control Applications and Methods*, Vol. 9, pp. 19-36, 1988.
- [A9] Cassandras, C.G., and Strickland, S.G., "On-Line Sensitivity Analysis of Markov Chains", *IEEE Trans. on Automatic Control*, AC-34, 1, pp. 76-86, 1989.
- [A10] Cassandras, C.G., and Strickland, S.G., "Sample Path Properties of Timed Discrete Event Systems", *Proceedings of the IEEE*, Vol. 77, 1, pp. 59-71, 1989.
- [A11] Cassandras, C.G., and Strickland, S.G., "Observable Augmented Systems for Sensitivity Analysis of Markov and Semi-Markov Processes", *IEEE Trans. on Automatic Control*, AC-34, 10, pp. 1026-1037, 1989.
- [A12] Ho, Y.C., and Cassandras, C.G., "A New Approach to the Analysis of Discrete Event Dynamic Systems", in "Modeling and Control of Automated Manufacturing Systems" (A.A. Desrochers, Ed.), pp. 206-224, IEEE Computer Society Press, 1989.⁽²⁾
- [A13] Cassandras, C.G., and Ho, Y.C., "An Event Domain Formalism for Sample Path Perturbation Analysis of Discrete Event Dynamic Systems", in "Modeling and Control of Automated Manufacturing Systems" (A. A. Desrochers, Ed.), pp. 225-229, IEEE Computer Society Press, 1989.⁽²⁾
- [A14] Cassandras, C.G., Abidi, M.V., and Towsley, D., "Distributed Routing with On-Line Marginal Delay Estimation", *IEEE Trans. on Communications*, COM-38, 3, pp. 348-359, 1990.
- [A15] Cassandras, C.G., and Ramadge, P.J. (Ed's), Special Issue on Discrete Event Systems, *Control Systems Mag.*, Vol. 10, 4, 1990.
- [A16] Cassandras, C.G., and Ramadge, P.J., "Toward a Control Theory for Discrete Event Systems", *Control Systems Mag.*, Vol. 10, 4, pp. 66-68, 1990.

⁽²⁾ Reprint of older journal article

- [A17] Cassandras, C.G., Lee, J.I., and Ho, Y.C., "Efficient Parametric Analysis of Performance Measures for Communication Networks", *IEEE J. on Selected Areas in Communications*, Vol. 8, 9, pp. 1709-1722, 1990.
- [A18] Gong, W-B., Cassandras, C.G., and Pan, J., "Perturbation Analysis of a Multiclass Queueing System with Admission Control", *IEEE Trans. on Automatic Control*, AC-36, 6, pp. 707-723, 1991.
- [A19] Cassandras, C.G., Gong, W-B., and Lee, J.I., "On the Robustness of Perturbation Analysis Estimators for Queueing Systems with Unknown Distributions", Vol. 30, 3, pp. 491-519, *J. of Optimization Theory and Applic.*, 1991.
- [A20] Suk, J.B., and Cassandras, C.G., "Optimal Scheduling of Two Competing Queues with Blocking", *IEEE Trans. on Automatic Control*, AC-36, 9, pp. 1086-1091, 1991.
- [A21] Cassandras, C.G., and Strickland, S.G., "Sample Path Properties of Timed Discrete Event Systems", in "Discrete Event Dynamic Systems" (Y.C. Ho, Ed.), pp. 21-33, IEEE Press, 1991.⁽²⁾
- [A22] Gong, W-B., Pan, J., and Cassandras, C.G., "Obtaining Derivatives of Stationary Queue Length Probabilities through the Matrix-Geometric Solution Method", *Applied Math. Letters*, Vol. 5, 1, pp. 69-73, 1992.
- [A23] Sparaggis, P., and Cassandras, C.G., "Monotonicity of Cost Functions in a General Class of Queueing Networks", *J. of Discrete Event Dynamic Systems*, Vol. 1, 3, pp. 315-327, 1992.
- [A24] Wardi, Y., Gong, W-B., Cassandras, C.G., and Kallmes, M.H., "Smoothed Perturbation Analysis for a Class of Piecewise Constant Sample Performance Functions", *J. of Discrete Event Dynamic Systems*, Vol. 1, 4, pp. 393-414, 1992.
- [A25] Cassandras, C.G., and Han, Y.N., "Optimal Inspection Policies for a Manufacturing Station", *Eur. J. of Oper. Res.*, Vol. 63, pp. 35-53, 1992.
- [A26] Towsley, D., Sparaggis, P., and Cassandras, C.G., "Optimal Routing and Buffer Allocation for a Class of Finite Capacity Queueing Systems", *IEEE Trans. on Automatic Control*, AC-37, 9, pp. 1446-1451, 1992.
- [A27] Gong, W-B., Yan, A., and Cassandras, C.G., "The M/G/1 Queue with Queue-Length Dependent Arrival Rate", *Stochastic Models*, Vol. 8, 4, pp. 733-741, 1992.
- [A28] Wardi, Y., Kallmes, M.H., Cassandras, C.G., and Gong, W-B., "Perturbation

Analysis Algorithms for Estimating the Derivatives of Occupancy-Related Functions in Serial Queueing Networks", *Annals of Operations Research*, Vol. 39, pp. 269-293, 1992.

- [A29] Ho, Y.C., Cassandras, C.G., and Makhoul, M., "Parallel Simulation of Real-Time Systems via the Standard Clock Approach", *J. of Math. and Comp. in Simulation*, Vol. 35, pp. 33-41, 1993.
- [A30] Mohanty, B.P., and Cassandras, C.G., "The Effect of Model Uncertainty on Some Optimal Routing Problems", *J. of Optimization Theory and Applic.*, Vol. 77, 2, pp. 257-290, 1993.
- [A31] Sparaggis, P., Towsley, D., and Cassandras, C.G., "Extremal Properties of the Shortest Non-Full Queue and the Longest Non-Full Queue Policies in Finite Capacity Systems with State-Dependent Service Rates", *J. of Applied Probability*, Vol. 30, pp. 223-236, 1993.
- [A32] Sparaggis, P., Cassandras, C.G., and Towsley, D., "On the Duality Between Routing and Scheduling Systems with Finite Buffer Space", *IEEE Trans. on Automatic Control*, AC-38, 9, pp. 1440-1446, 1993.
- [A33] Cassandras, C.G., "Perturbation Analysis and "Rapid Learning" in the Control of Manufacturing Systems", in "Dynamics of Discrete Event Systems", (C.T. Leondes, Ed.), pp. 243-284, Vol. 51, Academic Press, 1994.
- [A34] Sparaggis, P., Towsley, D., and Cassandras, C.G., "Sample Path Criteria for Weak Majorization", *Adv. in Applied Probability*, Vol. 26, pp. 155-171, 1994.
- [A35] Sparaggis, P., Towsley, D., and Cassandras, C.G., "Routing with Limited State Information in Queueing Systems with Blocking", *IEEE Trans. on Automatic Control*, AC-39, 7, pp. 1492-1497, 1994.
- [A36] Pan, J., and Cassandras, C.G., "Infinitesimal Perturbation Analysis of a Queueing System with Bursty Traffic", *J. of Discrete Event Dynamic Systems*, Vol. 4, 4, pp. 325-358, 1994.
- [A37] Kallmes, M.H., and Cassandras, C.G., "Two Approaches to Optimal Routing and Flow Control in Systems with Real-Time Traffic", *J. of Optimization Theory and Applic.*, Vol. 84, 2, pp. 311-338, 1995.
- [A38] Mohanty, B.P., and Cassandras, C.G., "Asymptotic Analysis of the Effect of Arrival Model Uncertainties on Some Optimal Routing Problems", *J. of Optimization Theory and Applic.*, Vol. 86, 1, pp. 199-222, 1995.
- [A39] Cassandras, C.G. (Ed.), Special Issue on Parallel Simulation and Optimization of Discrete Event Dynamic Systems, *J. of Discrete Event Dynamic Systems*, Vol.

5, 2/3, 1995.

- [A40] Cassandras, C.G., and Pan, J., "Parallel Sample Path Generation for Discrete Event Systems and the Traffic Smoothing Problem", *J. of Discrete Event Dynamic Systems*, Vol. 5, 2/3, pp. 187-217, 1995.
- [A41] Cassandras, C.G., Lafortune, S., and Olsder, G.J., "Introduction to the Modelling, Control, and Optimization of Discrete Event Systems", in "Trends in Control" (A. Isidori, Ed.), pp. 217-292, Springer-Verlag, 1995.
- [A42] Cassandras, C.G., and Julka, V., "Scheduling Policies Using Marked/Phantom Slot Algorithms", *Queueing Systems: Theory and Applications*, Vol. 20, pp. 207-254, 1995.
- [A43] Sparaggis, P., Towsley, D., and Cassandras, C.G., "Optimal Control of Multiclass Parallel Systems", *J. of Discrete Event Dynamic Systems*, Vol. 6, 2, pp. 139-158, 1996.
- [A44] Cassandras, C.G., and Dai, L. (Ed's.), Special Issue on Recent Advances in Discrete Event Systems, *J. of Mathematical and Computer Modelling*, Vol. 23, 11/12, 1996.
- [A45] Gandhi, A., and Cassandras, C.G., "Optimal Control of Polling Models for Transportation Applications", *J. of Mathematical and Computer Modelling*, pp. 1-23, Vol. 23, 11/12, 1996.
- [A46] Bao, G., and Cassandras, C.G., "A Stochastic Comparison Algorithm for Continuous Optimization with Estimation", *J. of Optimization Theory and Applic.*, Vol. 91, 3, pp. 585-615, 1996.
- [A47] Cassandras, C.G., "Optimal Policies for the 'Yield Learning' Problem in Manufacturing Systems", *IEEE Trans. on Automatic Control*, AC-41, 8, pp. 1210-1213, 1996.
- [A48] Bao, G., Cassandras, C.G., and Zazanis, M. "First and Second Derivative Estimators for Cyclic Closed Queueing Networks", *IEEE Trans. on Automatic Control*, AC-41, 8, pp. 1106-1124, 1996.
- [A49] Ho, Y.C., and Cassandras, C.G., "Perturbation Analysis for Control and Optimization of Queueing Systems: An Overview and the State of the Art", in "Frontiers in Queueing" (J. Dshalalow, Ed.), CRC Press, pp. 395-420, 1997.
- [A50] Suk, J.B., and Cassandras, C.G., "Analysis and Optimization of Pacing Window Flow Control with Admission Delay", *IEICE Trans. on Information and Systems*, Vol. E79-D, 12, pp. 1663-1675, 1996.

- [A51] Bao, G., Cassandras, C.G., and Zazanis, M., "First and Second Derivative Estimators for Closed Jackson-Like Queueing Networks Using Perturbation Analysis Techniques", *J. of Discrete Event Dynamic Systems*, Vol. 7, 1, pp. 29-67, 1997.
- [A52] Pepyne, D.L., and Cassandras, C.G., "Optimal Dispatching Control for Elevator Systems During Uppeak Traffic", *IEEE Trans. on Control Systems Tech.*, Vol. 5, 6, pp. 629-643, 1997.
- [A53] Vazquez-Abad, F.J., Cassandras, C.G., and Julka, V., "Centralized and Decentralized Asynchronous Optimization of Stochastic Discrete Event Systems", *IEEE Trans. on Automatic Control*, AC-43, 5, pp. 631-655, 1998.
- [A54] Pepyne D.L., and Cassandras, "Modeling, Analysis, and Optimal Control of a Class of Hybrid Systems", *J. of Discrete Event Dynamic Systems*, Vol. 8, 2, pp. 175-201, 1998.
- [A55] Cassandras, C.G., Dai, L., and Panayiotou, C.G., "Ordinal Optimization for Deterministic and Stochastic Resource Allocation", *IEEE Trans. on Automatic Control*, AC-43, 7, pp. 881-900, 1998.
- [A56] Pepyne, D.L., and Cassandras, C.G., "Design and Implementation of an Adaptive Dispatching Controller for Elevator Systems During Uppeak Traffic", *IEEE Trans. on Control Systems Tech.*, Vol. 6, 5, pp. 635-650, 1998.
- [A57] Pepyne D.L., and Cassandras, C.G., "Performance Optimization of a Class of Discrete Event Dynamic Systems Using Calculus of Variations Techniques", *J. of Optimization Theory and Applic.*, Vol. 100, 3, pp. 599-622, 1999.
- [A58] Cassandras, C.G., and Panayiotou, C.G., "Concurrent Sample Path Analysis of Discrete Event Systems", *J. of Discrete Event Dynamic Systems*, Vol. 9, 2, pp. 171-195, 1999.
- [A59] Cassandras, C.G., and Lafortune, S., "Discrete Event Systems: The State of the Art and New Directions", *Applied and Comput. Control, Signals, and Circuits*, Vol. 1, 1999.
- [A60] Panayiotou, C.G., and Cassandras, C.G., "Optimization of Kanban-Based Manufacturing Systems", *Automatica*, Vol. 35, pp. 1521-1533, 1999.
- [A61] Ho, Y.C., Cassandras, C.G., Chen, C-H., and Dai, L., "Ordinal Optimization and Simulation", *J. of Operational Research Society*, Vol. 51, 4, pp. 490-500, 2000.
- [A62] Dai, L., Cassandras, C.G., and Panayiotou, C.G., "On the Convergence Rate of Ordinal Optimization for a Class of Stochastic Discrete Resource Allocation

Problems", *IEEE Trans. on Automatic Control*, AC-45, 3, pp. 588-591, 2000.

- [A63] Pepyne D.L., and Cassandras, C.G., "Optimal Control of Hybrid Systems in Manufacturing", *Proceedings of the IEEE*, Vol. 88, 7, pp. 1108-1123, 2000.
- [A64] Wardi, Y., Cassandras, C.G., and Pepyne D.L., "A Backward Algorithm for Computing Optimal Controls for Single-Stage Hybrid Manufacturing Systems", *Intl. J. of Production Research*, Vol. 39, 2, pp. 369-394, 2001.
- [A65] Gokbayrak, K., and Cassandras, C.G., "An On-Line 'Surrogate Problem' Methodology for Discrete Stochastic Resource Allocation Problems", *J. of Optimization Theory and Applic.*, Vol. 108, 2, pp. 349-376, 2001.
- [A66] Cassandras, C.G., Pepyne D.L., and Wardi, Y., "Optimal Control of a Class of Hybrid Systems", *IEEE Trans. on Automatic Control*, AC-46, 3, pp. 398-415, 2001.
- [A67] Panayiotou, C.G., and Cassandras, C.G., "A Sample Path Approach for Solving the Ground Holding Policy Problem in Air Traffic Control", *IEEE Trans. on Control Systems Tech.*, Vol. 9, 3, pp. 510-523, 2001.
- [A68] Cho, Y.C., Cassandras, C.G., and Pepyne D.L., "Forward Decomposition Algorithms for Optimal Control of a Class of Hybrid Systems", *Intl. J. of Robust and Nonlinear Control*, Vol. 11, 5, pp. 497-513, 2001.
- [A69] Gokbayrak, K., and Cassandras, C.G., "A Generalized 'Surrogate Problem' Methodology for On-Line Stochastic Discrete Optimization", *J. of Optimization Theory and Applic.*, Vol. 114, 1, pp. 97-132, 2002.
- [A70] Gokbayrak, K., and Cassandras, C.G., "Adaptive Call Admission Control in Circuit-Switched Networks", *IEEE Trans. on Automatic Control*, AC-47, 6, pp. 1004-1015, 2002.
- [A71] Cassandras, C.G., Wardi, Y., Melamed, B., Sun, G., and Panayiotou, C.G., "Perturbation Analysis for On-Line Control and Optimization of Stochastic Fluid Models", *IEEE Trans. on Automatic Control*, AC-47, 8, pp. 1234-1248, 2002.
- [A72] Zhang, P., and Cassandras, C.G., "An Improved Forward Algorithm for Optimal Control of a Class of Hybrid Systems", *IEEE Trans. on Automatic Control*, AC-47, 10, pp. 1735-1739, 2002.
- [A73] Wardi, Y., Melamed, B., Cassandras, C.G., and Panayiotou, C.G., "IPA Gradient Estimators in Single-Node Stochastic Fluid Models", *J. of Optimization Theory and Applic.*, Vol. 115, 2, pp. 369-406, 2002.

- [A74] Cassandras, C.G., and Gokbayrak, K., "Optimal Control for Discrete Event and Hybrid Systems", in *Modeling, Control, and Optimization of Complex Systems*, (W. Gong and L. Shi, Ed's), pp. 285-304, Kluwer, 2002.
- [A75] Cassandras, C.G., Sun, G., Panayiotou, C.G., and Wardi, Y., "Perturbation Analysis and Control of Two-Class Stochastic Fluid Models for Communication Networks", *IEEE Trans. on Automatic Control*, AC-48, 5, pp. 770-782, 2003.
- [A76] Cassandras, C.G., "Discrete Event Systems", in *Control Systems, Robotics, and Automation*, in *Encyclopedia of Life Support Systems* (H. Unbehauen, Ed.), EOLSS Publishers, Oxford, UK, 2003.
- [A77] Paschalidis, I.C., Y., Liu, Y., Cassandras, C.G., and Panayiotou, C.G., "Inventory Control for Supply Chains with Service Level Constraints: A Synergy between Large Deviations and Perturbation Analysis", *Annals of Operations Research*, 126, pp. 231-258, 2004.
- [A78] Yu, H., and Cassandras, C.G., "Perturbation Analysis for Production Control and Optimization of Manufacturing Systems", *Automatica*, Vol. 40, pp. 945-956, 2004.
- [A79] Sun, G., Cassandras, C.G., and Panayiotou, C.G., "Perturbation Analysis of Multiclass Stochastic Fluid Models", *J. of Discrete Event Dynamic Systems*, Vol. 14, 3, pp. 267-307, 2004.
- [A80] Cho, Y.C., Cassandras, C.G., and Kwon, Y.H., "Optimal Control for Steel Annealing Processes as Hybrid Systems", *Control Engineering Practice*, Vol. 12, 10, pp. 1319-1328, 2004.
- [A81] Yu, H., and Cassandras, C.G., "Perturbation Analysis of Feedback-Controlled Stochastic Flow Systems", *IEEE Trans. on Automatic Control*, AC-49, 8, pp. 1317-1332, 2004.
- [A82] Panayiotou, C.G., Cassandras, C.G., Sun, G., and Wardi, Y., "Control of Communication Networks Using Infinitesimal Perturbation Analysis of Stochastic Fluid Models", in *Advances in Communication Control Networks, Lecture Notes in Control and Information Sciences*, Vol. 308, pp. 1-26, (S. Tarbouriech, C.T. Abdallah, and J. Chiasson, Ed's), Springer-Verlag, 2004.
- [A83] Sun, G., Cassandras, C.G., and Panayiotou, C.G., "Perturbation Analysis and Optimization of Stochastic Flow Networks", *IEEE Trans. on Automatic Control*, AC-49, 12, pp. 2113-2128, 2004.
- [A84] Yu, H., and Cassandras, C.G., "A New Paradigm for On-Line Management of Communication Networks with Multiplicative Feedback Control", in

Performance Evaluation and Planning Methods for the Next Generation Internet, (A. Girard, B. Sanso, and F. Vazquez-Abad, Ed's), pp. 297-332, Springer-Verlag, 2005.

- [A85] Cassandras, C.G., "Discrete Event Systems", in *Handbook of Networked and Embedded Control Systems*, (W. Levine, and D. Hristu, Ed's), pp. 71-89, Birkhauser, 2005.
- [A86] Miao, L., and Cassandras, C.G., "Optimality of Static Control Policies in Some Discrete Event Systems", *IEEE Trans. on Automatic Control*, AC-50, 9, pp. 1427- 1431, 2005.
- [A87] Cassandras, C.G., and Li, W., "Sensor Networks and Cooperative Control", *European Journal of Control*, Vol. 11, 4-5, pp. 436-463, 2005.
- [A88] Panayiotou, C.G., and Cassandras, C.G., "Infinitesimal Perturbation Analysis for Make-To-Stock Manufacturing Systems Based on Stochastic Fluid Models", *J. of Discrete Event Dynamic Systems*, Vol. 16, pp. 109-142, 2006.
- [A89] Li, W., and Cassandras, C.G., "A Cooperative Receding Horizon Controller for Multi-Vehicle Uncertain Environments", *IEEE Trans. on Automatic Control*, AC-51, 2, pp. 242-257, 2006.
- [A90] Li, W., and Cassandras, C.G., "Centralized and Distributed Cooperative Receding Horizon Control of Autonomous Vehicle Missions", *J. of Mathematical and Computer Modeling*, Vol. 43, 9-10, pp. 1208-1228, 2006.
- [A91] Yu, H., and Cassandras, C.G., "Perturbation Analysis and Feedback Control of Communication Networks Using Stochastic Hybrid Models", *J. of Nonlinear Analysis*, Vol. 65, 6, pp. 1251-1280, 2006.
- [A92] Katayama, T., McKelvey, T., Sano, A., Cassandras, C.G., and Campi, M.C., "Trends in Systems and Signals", *Annual Reviews in Control*, Vol. 30, 1, pp. 5-17, 2006.
- [A93] Zaytoon, J. and Cassandras, C.G., (Ed's.), Special Issue on Discrete Event Systems, *Control Engineering Practice*, Vol. 14, 10, 2006.
- [A94] Cassandras, C.G., and Lygeros, J., "Stochastic Hybrid Systems: Research Issues and Areas", in *Stochastic Hybrid Systems*, (C.G. Cassandras, and J. Lygeros, Ed's), pp. 1-14, Taylor and Francis, 2006.
- [A95] Cassandras, C.G., "Stochastic Flow Systems: Modeling and Sensitivity Analysis", in *Stochastic Hybrid Systems*, (C.G. Cassandras, and J. Lygeros, Ed's), pp. 139-167, Taylor and Francis, 2006.

- [A96] Miao, L., and Cassandras, C.G., "Receding Horizon Control for a Class of Discrete Event Systems with Real-Time Constraints", *IEEE Trans. on Automatic Control*, AC-52, 5, pp. 825-839, 2007.
- [A97] Mao, J., Cassandras, C.G., and Zhao, Q., "Optimal Dynamic Voltage Scaling in Energy-Limited Nonpreemptive Systems with Real-Time Constraints", *IEEE Trans. on Mobile Computing*, Vol. 6, 6, pp. 678-688, 2007.
- [A98] Cassandras, C.G., "Queueing System Models", in *Handbook on Dynamic System Modeling*, (P. Fishwick, Ed), CRC Press, 2007.
- [A99] Mao, J., and Cassandras, C.G., "Optimal Control of Two-Stage Discrete Event Systems with Real-Time Constraints", *J. of Discrete Event Dynamic Systems*, Vol. 17, 4, pp. 505-529, 2007.
- [A100] Cassandras, C.G., and Li, W., "Optimization Problems in the Deployment of Sensor Networks", in *Modeling and Control of Complex Systems* (P. Ioannou and A. Pitsillides, Ed's), pp. 179-202, 2007.
- [A101] Cassandras, C.G., Giua, A., Seatzu, C., and Zaytoon, J., (Ed's.), Special Issue on Discrete Event Methodologies for Hybrid Systems, *Journal on Discrete Event Dynamic Systems*, Vol. 18, 2, 2008.
- [A102] Cassandras, C.G., Giua, A., Seatzu, C., and Zaytoon, J., (Ed's.), Special Section on Analysis and Design of Hybrid Systems, *Nonlinear Analysis: Hybrid Systems*, Vol. 2, 3, pp. 695-1002, 2008.
- [A103] Cassandras, C.G., Giua, A., Seatzu, C., and Zaytoon, J., (Ed's.), Special Section on Analysis and Design of Hybrid Systems, *Control Engineering Practice*, Vol. 16, 8, pp. 897-1022, 2008.
- [A104] Mao, J., and Cassandras, C.G., "Optimal Control of Multi-Stage Discrete Event Systems with Real-Time Constraints", *IEEE Trans. on Automatic Control*, AC-54, 1, pp. 108-123, 2009.
- [A105] Zhuang, S., and Cassandras, C.G., "Optimal Control of Discrete Event Systems with Weakly Hard Real-Time Constraints", *J. of Discrete Event Dynamic Systems*, Vol. 19, 1, pp. 67-89, 2009.
- [A106] Mao, J., and Cassandras, C.G., "Optimal Admission Control of Discrete Event Systems with Real-Time Constraints", *J. of Discrete Event Dynamic Systems*, Vol. 20, 1, pp. 37-62, 2010.
- [A107] Mao, J., and Cassandras, C.G., "On-line Optimal Control of a Class of Discrete Event Systems with Real-Time Constraints", *J. of Discrete Event Dynamic Systems*, Vol. 20, 2, pp. 187-213, 2010.

- [A108] Ning, X., and Cassandras, C.G., “Dynamic Sleep Time Control in Wireless Sensor Networks”, *ACM Trans. on Sensor Networks*, Vol. 6, No. 3, pp. 21-37, 2010.
- [A109] Ning, X., and Cassandras, C.G., “Message Batching in Wireless Sensor Networks - A Perturbation Analysis Approach”, *J. of Discrete Event Dynamic Systems*, Vol. 20, 4, pp. 409-439, 2010.
- [A110] Zhong, M., and Cassandras, C.G., “Asynchronous Distributed Optimization with Event-Driven Communication”, *IEEE Trans. on Automatic Control*, AC-55, 12, pp. 2735-2750, 2010.
- [A111] Cassandras, C.G., Wardi, Y., Panayotou, C.G., and Yao, C., “Perturbation Analysis and Optimization of Stochastic Hybrid Systems”, *European Journal of Control*, Vol. 16, No. 6, pp. 642-664, 2010.
- [A112] Yao, C, and Cassandras, C.G., “Resource Contention Games in Multiclass Stochastic Flow Models”, *Nonlinear Analysis: Hybrid Systems*, Vol. 5, No. 2, pp. 301-319, 2011.
- [A113] Yao, C, and Cassandras, C.G., “Perturbation Analysis and Optimization of Multiclass Multiobjective Stochastic Flow Models”, *J. of Discrete Event Dynamic Systems*, Vol. 21, No. 2, pp. 219-256, 2011.
- [A114] Cassandras, C.G., and Paschalidis, I.Ch., “Optimizing the Transportation System’s Response Capabilities”, *J. of Homeland Security*, 2011.
- [A115] Yao, C, and Cassandras, C.G., “Perturbation Analysis of Stochastic Hybrid Systems and Applications to Resource Contention Games”, *Frontiers of Electrical and Electronic Engineering in China*, Vol. 6, 3, pp. 453-467, 2011.
- [A116] Kebarighotbi, A., and Cassandras, C.G., “Optimal Scheduling of Parallel Queues Using Stochastic Flow Models”, *J. of Discrete Event Dynamic Systems*, Vol. 21, No. 4, pp. 547-576, 2011.
- [A117] Zhong, M., and Cassandras, C.G., “Distributed Coverage Control and Data Collection with Mobile Sensor Networks”, *IEEE Trans. on Automatic Control*, AC-56, 10, pp. 2445-2455, 2011.
- [A118] Yao, C., and Cassandras, C.G., “Using Infinitesimal Perturbation Analysis of Stochastic Flow Models to Recover Performance Sensitivity Estimates of Discrete Event Systems”, *J. of Discrete Event Dynamic Systems*, Vol. 22, No. 2, pp. 197-219, 2012.

- [A119] Yao, C, and Cassandras, C.G., “A Solution to the Optimal Lot Sizing Problem as a Stochastic Resource Contention Game”, *IEEE Trans. on Automation Science and Engineering*, Vol. 9, No. 2, pp. 250-264, 2012.
- [A120] Cassandras, C.G., and Panayiotou, C.G., “Concurrent Simulation for On-line Optimization of Discrete Event Systems”, in *Real-time Simulation Technologies: Principles, Methodologies, and Applications* (K. Popovici, P. Mosterman, Ed’s), pp. 389-416, CRC Press, 2012.
- [A121] Wang, T, and Cassandras, C.G., “Optimal Control of Batteries with Fully and Partially Available Rechargeability”, *Automatica*, Vol. 48, No. 8, pp. 1658-1666, 2012.
- [A122] Cassandras, C.G., Lin, X., and Ding X.C. “An Optimal Control Approach to the Multi-agent Persistent Monitoring Problem”, *IEEE Trans. on Automatic Control*, AC-58, 4, pp. 947-961, 2013.
- [A123] Cassandras, C.G., and Lin, X., “Optimal Control of Multi-Agent Persistent Monitoring Systems with Performance Constraints”, in *Control of Cyber-Physical Systems* (Tarraf, D.C., Ed), pp. 281-299, Springer, 2013.
- [A124] Cassandras, C.G., and Wardi, Y., “The IPA Calculus for Hybrid Systems”, in *Stochastic Simulation Optimization for Discrete Event Systems – Perturbation Analysis, Ordinal Optimization, and Beyond* (C. Chen and Jia. Q., Ed’s), pp. 3-23, World Scientific Publishing, 2013.
- [A125] Wang, T, and Cassandras, C.G., “Optimal Control of Multi-Battery Energy-aware Systems”, *IEEE Trans. on Control Systems Tech.*, Vol. 21, 5, pp. 1874-1888, 2013.
- [A126] Geng, Y., and Cassandras, C.G., “A New “Smart Parking” System Based on Resource Allocation and Reservations”, *IEEE Trans. on Intelligent Transportation Systems*, Vol. 14, 3, pp. 1129-1139, 2013.
- [A127] Cassandras, C.G., M. Fanti, C. Hadjicostis, S. Reveliotis, C. Seatzu, (Ed's.), Special Issue on Advances in Discrete Event Systems for Automation, *IEEE Trans. on Automation Science and Engineering*, Vol. 11, 1, 2014.
- [A128] Cassandras, C.G., and Yao, C., “Hybrid Models for the Control and Optimization of Manufacturing Systems”, in *Formal Methods in Manufacturing* (C. Seatzu, J. Campos, X. Xie, Ed’s), pp. 105-134, CRC Press, 2014.
- [A129] Cassandras, C.G., Wang, T., and Pourazarm, S., “Optimal Routing and Energy Allocation for Lifetime Maximization of Wireless Sensor Networks with Non-ideal Batteries”, *IEEE Trans. on Control of Network Systems*, Vol. 1, 1, pp. 86-98, 2014.

- [A130] Cassandras, C.G., “The Event-driven Paradigm for Control, Communication, and Optimization”, *Journal of Control and Decision*, Vol. 1, 1, pp. 3-17, 2014.
- [A131] Adacher, L, and Cassandras, C.G., “Lot Size Optimization in Manufacturing Systems: The Surrogate Method”, *International J. of Production Economics*, Vol. 155, pp. 418-426, 2014.
- [A132] Mao, J., and Cassandras, C.G., “Optimal Control of Multi-layer Discrete Event Systems with Real-Time Constraint Guarantees”, *IEEE Trans. on Systems, Man, and Cybernetics*, Vol. 44, 10, pp. 1425-1434, 2014.
- [A133] Zhong, M., and Cassandras, C.G., “Distributed Optimization of Autonomous UAVs with Event-Driven Communication”, in *Handbook of Unmanned Aerial Vehicles* (K. Valavanis, G. Vachtsevanos, Ed’s), Springer, pp. 1749-1773, 2014.
- [A134] Wang, T, Cassandras, C.G., and Pourazarm, S., “Optimal Motion Control for Energy-aware Electric Vehicles”, *Control Engineering Practice*, Vol. 38, pp. 37-45, 2015.
- [A135] Geng, Y., and Cassandras, C.G., “Multi-intersection Traffic Light Control with Blocking”, *J. of Discrete Event Dynamic Systems*, Vol. 25, 1, pp. 7-30, 2015.
- [A136] Lin, X., and Cassandras, C.G., “An Optimal Control Approach to the Multi-Agent Persistent Monitoring Problem in Two-Dimensional Spaces”, *IEEE Trans. on Automatic Control*, Vol. 60, 6, pp. 1659-1664, 2015.
- [A137] Cassandras, C.G., “Models for Discrete Event Systems: An Overview”, in *Encyclopedia of Systems and Control* (J. Baillieul, T. Samad, Ed’s), Springer, pp. 760-769, 2015.
- [A138] Wardi, Y., and Cassandras, C.G., “Perturbation Analysis of Discrete Event Systems”, in *Encyclopedia of Systems and Control* (J. Baillieul, T. Samad, Ed’s), Springer, pp. 1044-1053, 2015.
- [A139] Cassandras, C.G., “New Transportation Systems for Smart Cities”, in *Social, Economic, and Environmental Sustainability in the Development of Smart Cities* (A. Vesco, F. Ferrero, Ed’s), IGI Global, pp. 213-238, 2015.
- [A140] Cassandras, C.G., “Event-driven Control and Optimization in Hybrid Systems”, in *Event-based Control and Signal Processing* (M. Miskowicz, Ed.), pp. 21-36, CRC Press/Taylor & Francis, 2015.
- [A141] Fleck, J.L., Pavel, A.B., and Cassandras, C.G., “Integrating Mutation and Gene Expression Cross-sectional Data to Infer Cancer Progression”, *BMC Systems*

Biology, 10:12, 2016.

- [A142] Pourazarm, S., Cassandras C.G., and Wang, T., “Optimal Routing and Charging of Energy-Limited Vehicles in Traffic Networks”, *Intl. J. of Robust and Nonlinear Control*, Vol. 26, 6, pp. 1325-1350, 2016.
- [A143] Fleck, J.L., Cassandras, C.G., and Geng, Y., “Adaptive Quasi-Dynamic Traffic Light Control”, *IEEE Trans. on Control Systems Technology*, Vol. 24, No. 3, pp. 830-842, 2016.
- [A144] Bilgin, E., Caramanis, M.C., Paschalidis, I.C., and Cassandras, C.G., “Provision of Regulation Service by Smart Buildings”, *IEEE Trans. on Smart Grid*, Vol. 7, No. 3, pp. 1683-1693, 2016.
- [A145] Brisimi, T.S., Cassandras, C.G., Osgood, C., Paschalidis, I.C., and Zhang, Y., “Sensing and Classifying Roadway Obstacles in Smart Cities: The *Street Bump System*”, *IEEE Access*, 4, pp. 1301-1312, 2016.
- [A146] Cassandras C.G., “Smart Cities as Cyber-Physical Social Systems”, *Engineering*, Vol. 2, No. 2, pp. 156-158, 2016.
- [A147] Cassandras, C.G., “On-line Control and Optimization for Cyber-Physical Systems”, in *Cyber-Physical Systems: Foundations, Principles and Applications* (H. Song, D.B. Rawat, S. Jeschke, C. Brecher, Eds.), pp. 31-54, Elsevier, 2016.
- [A148] Sun, X., and Cassandras, C.G., “Optimal Dynamic Formation Control of Multi-Agent Systems in Constrained Environments”, *Automatica*, Vol. 73, No. 11, pp. 169-179, 2016.
- [A149] Pourazarm, S., and Cassandras, C.G., “Energy-based Lifetime Maximization and Security of Wireless Sensor Networks with General Non-ideal Battery Models”, *IEEE Trans. on Control of Network Systems*, Vol. 4, No. 2, pp. 323-335, 2017.
- [A150] Fleck, J.L., and Cassandras, C.G., “Optimal Design of Personalized Prostate Cancer Therapy using Infinitesimal Perturbation Analysis”, *Nonlinear Analysis: Hybrid Systems*, Vol. 25, pp. 246-262, 2017.
- [A151] Zhang, Y., Su, R., Li, Q., Cassandras, C.G., and Xie, L., “Distributed Flight Routing and Scheduling for Air Traffic Flow Management”, *IEEE Trans. on Intelligent Transportation Systems*, Vol. 18, 10, pp. 2681-2692, 2017.
- [A152] Cassandras C.G., “Automating Mobility in Smart Cities”, *Annual Reviews in Control*, Vol. 44, pp. 1-8, 2017.

- [A153] Miao, L., Mao, J., and Cassandras C.G., “Optimal Energy-Efficient Downlink Transmission Scheduling for Real-Time Wireless Networks”, *IEEE Trans. on Control of Network Systems*, Vol. 4, No. 4, pp. 692-706, 2017.
- [A154] Pourazarm, S., and Cassandras C.G., “Optimal Routing for Lifetime Maximization of Wireless Sensor Networks with a Mobile Source Node”, *IEEE Trans. on Control of Network Systems*, Vol. 4, No. 4, pp. 793-804, 2017.
- [A155] Khazaeni, Y., and Cassandras C.G., “Event-Driven Cooperative Receding Horizon Control for Multi-agent Systems in Uncertain Environments”, *IEEE Trans. on Control of Network Systems*, Vol. 5, No. 1, pp. 409-422, 2018.
- [A156] Cassandras, C.G., and Giua, A., (Ed's.), Special Issue on Performance Analysis and Optimization of Discrete Event Systems, *Journal on Discrete Event Dynamic Systems*, Vol. 28, 1, 2018.
- [A157] Mao, J., and Cassandras, C.G., “Solving A Class of Discrete Event Simulation-based Optimization Problems Using “Optimality in Probability””, *J. of Discrete Event Dynamic Systems*, Vol. 28, 1, pp. 35-61, 2018.
- [A158] Nucci, C.A., Cassandras C.G., and Bettis, G., (Ed's.), Special Issue on Smart Cities, *Proceedings of the IEEE*, Vol. 106, 4, 2018.
- [A159] Zhang, J., Pourazarm, S., Cassandras C.G., and Paschalidis, I. Ch., “The Price of Anarchy in Transportation Networks: Data-Driven Evaluation and Reduction Strategies”, Vol. 106, 4, *Proceedings of the IEEE*, pp. 538-553, 2018.
- [A160] Malikopoulos, A.A., Cassandras C.G., and Zhang, Y.J., “A Decentralized Energy-Optimal Control Framework for Connected Automated Vehicles at Signal-Free Intersections”, *Automatica*, Vol. 93, 7, pp. 244-256, 2018.
- [A161] Wardi, Y. Cassandras, C.G., and Cao, X.R., “Perturbation Analysis: A Framework for Data-Driven Control and Optimization of Discrete Event and Hybrid Systems”, *Annual Reviews in Control*, Vol. 45, pp. 267-280, 2018.
- [A162] Cassandras, C.G., and Giua, A., (Ed's.), Special Issue on Diagnosis, Opacity and Supervisory Control of Discrete Event Systems, *Journal on Discrete Event Dynamic Systems*, Vol. 28, 2, 2018.
- [A163] Nenchev, V., Cassandras, C.G., and Raisch, J., “Optimal Control for a Robotic Exploration, Pick-up and Delivery Problem”, *Nonlinear Analysis: Hybrid Systems*, Vol. 30, pp. 266-284, 2018.
- [A164] Pourazarm, S., and Cassandras C.G., “Optimal Routing of Energy-aware Vehicles in Transportation Networks with Inhomogeneous Charging Nodes”, *IEEE Trans. on Intelligent Transportation Systems*, Vol. 18, 8, pp. 2515-2527,

2018.

- [A165] Brittain, K., Kamp, K., Cassandras C.G., Salaysay, Z., and Gómez-Márquez, J., “A Mobile App to Increase Informed Decisions About Colorectal Cancer Screening Among African American and Caucasian Women: A Pilot Study”, *Gastroenterology Nursing*, Vol. 41, 4, pp. 297-303, 2018.
- [A166] Khazaeni, Y., and Cassandras C.G., “Event-driven Trajectory Optimization for Data Harvesting in Multi-Agent Systems”, *IEEE Trans. on Control of Network Systems*, Vol. 5, No. 3, pp. 1335-1348, 2018.
- [A167] Zhou, N., Yu, X., Andersson, S.B., and Cassandras C.G., “Optimal Event-Driven Multi-Agent Persistent Monitoring of a Finite Set of Data Sources”, *IEEE Trans. on Automatic Control*, Vol. 63, 12, pp. 4204-4217, 2018.
- [A168] Sun, X., Cassandras C.G., and Meng, X., “Exploiting Submodularity to Quantify Near-Optimality in Multi-Agent Coverage Problems”, *Automatica*, Vol. 100, 2, pp. 349-359, 2019.
- [A169] Zhang, Y., Su, R., Sandamali, G.G.N., Zhang Y., Cassandras, C.G., and Xie, L., “A Hierarchical Heuristic Approach for Solving Air Traffic Scheduling and Routing Problem with a Novel Air Traffic Model”, to appear in *IEEE Trans. on Intelligent Transportation Systems*, 2019.
- [A170] Wang, Y-W., Wei, Y-W., Liu, X-K., Zhou, N., and Cassandras C.G., “Optimal Persistent Monitoring Using Second-Order Agents with Physical Constraints”, to appear in *IEEE Trans. on Automatic Control*, 2019.
- [A171] Zhang, Y., and Cassandras, C.G., “An Impact Study of Integrating Connected Automated Vehicles with Conventional Traffic”, to appear in *Annual Reviews in Control*, 2019.
- [A172] Yu, X., Andersson, S.B., Zhou, N., and Cassandras C.G., “Scheduling Multiple Agents in a Persistent Monitoring Task Using Reachability Analysis”, to appear in *IEEE Trans. on Automatic Control*, 2019.
- [A173] Zhang, Y., Cassandras, C.G., Li, W., and Mosterman, P.J., “A Discrete-Event and Hybrid Traffic Simulation Model Based on SimEvents for Intelligent Transportation System Analysis in Mcity”, to appear in *J. of Discrete Event Dynamic Systems*, 2019.
- [A174] Feng, Z., Hu, G., and Cassandras, C.G., “Finite-Time Distributed Convex Optimization Under Uncertain Information: A Robust Consensus Approach”, subm. to *IEEE Trans. on Control of Network Systems*, 2018.
- [A175] Meng, X., and Cassandras, C.G., “Eco-driving of Autonomous Vehicles for Non-

stop Crossing of Signalized Intersections”, subm. to *Transportation Research Part C*, 2018.

- [A176] Fleck, J.L., Pavel, A.B., and Cassandras, C.G., “A Mixed Integer Linear Program to Infer Cancer Progression and Drug Sensitivity in Cancer Cell”, subm. to *Molecular Omics*, 2019.
- [A177] Chen, R., and Cassandras, C.G., “Stochastic Flow Models with Delays, Blocking and Applications to Multi-Intersection Traffic Light Control”, subm. to *J. of Discrete Event Dynamic Systems*, 2018.
- [A178] Swaszek, R. M. A., and Cassandras, C.G., “Receding Horizon Control for Station Inventory Management in a Bike Sharing System”, subm. to *IEEE Trans. on Automation Science and Engineering*, 2019.
- [A179] Zhang, Y., and Cassandras, C.G., “Decentralized Optimal Control of Connected Automated Vehicles at Signal-Free Intersections Including Comfort-Constrained Turns and Safety Guarantees”, subm. to *Automatica*, 2019.
- [A180] Wang, Y-W., Zhao, M-J., Yang, W., Zhou, N., and Cassandras, C.G., “Collision-Free Trajectory Design for 2D Persistent Monitoring Using Second-Order Agents”, subm. to *IEEE Trans. on Control of Network Systems*, 2019.
- [A181] Meng, X., and Cassandras, C.G., “Trajectory Optimization of Autonomous Agents with Spatio-Temporal Constraints”, subm. to *IEEE Trans. on Control of Network Systems*, 2019.

Refereed Conference Proceedings

- [C1] Ho, Y.C., and Cassandras, C.G., "Computing Costate Variables for Discrete Event Dynamic Systems", *Proc. 19th IEEE Conf. Decision and Control*, pp. 697-700, December 1980.
- [C2] Cassandras, C.G., and Ho, Y.C., "Optimal Control of a Production Line with Adjustable Service Rates", *Proc. 4th IFAC/IFIP Symp. Information Control Problems in Manufacturing Technology*, pp. 180-191, November 1982.
- [C3] Ho, Y.C., Cao, X., and Cassandras, C.G., "Zeroth and First Order Perturbation Analysis of Queueing Networks", *Proc. 21st IEEE Conf. Decision and Control*, December 1982.
- [C4] Cassandras, C.G., "A Hierarchical Routing Control Scheme for Material Handling Systems", *Proc. 1st ORSA/TIMS Conf. Flexible Manufacturing Systems*, pp. 397-402, August 1984.

- [C5] Cassandras, C.G., "Efficient Simulation Techniques for Performance Evaluation of Queueing Networks", *Proc. IASTED Intl. Symp. Applied Identification, Modelling and Simulation*, pp. 89-92, November 1984.
- [C6] Cassandras, C.G., "On-Line Decision Aids in Computer Integrated Manufacturing", *3rd IFAC Symp. Computer-Aided Design in Control and Engin. Systems*, pp. 408-412, July 1985.
- [C7] Cassandras, C.G., and Strickland, S.G., "Perturbation Analysis Techniques for Communication Networks", *Proc. IEEE Global Telecommunications Conf.*, pp. 390-394, December 1985.
- [C8] Cassandras, C.G., "Sensitivity Analysis of a Simple Routing Strategy", *Proc. 24th IEEE Conf. Decision and Control*, pp. 2022-2027, December 1985.
- [C9] Cassandras, C.G., "Optimizing Recirculation in Flexible Manufacturing Systems", *Proc. 2nd ORSA/TIMS Conf. Flexible Manufacturing Systems*, pp. 381-392, August 1986.
- [C10] Cassandras, C.G., "On-Line Optimization for a Flow Control Strategy", *Proc. 25th IEEE Conf. Decision and Control*, pp. 1708-1712, December 1986.
- [C11] Cassandras, C.G., "A Differential Game Model for Transmission and Jamming of Information", *Proc. 25th IEEE Conf. Decision and Control*, pp. 1856-1857, December 1986.
- [C12] Strickland, S.G., and Cassandras, C.G., "Augmented Chain Analysis of Markov and Semi-Markov Processes", *Proc. 25th Allerton Conf.*, pp. 287-296, October 1987.
- [C13] Cassandras, C.G., and Strickland, S.G., "An "Augmented Chain" Approach for On-Line Sensitivity Analysis of Markov Processes", *Proc. 26th IEEE Conf. Decision and Control*, pp. 1873-1878, December 1987.
- [C14] Cassandras, C.G., and Kallmes, M.H., "Flow Control Problems in Distributed Processing for High Performance Tracking", *Proc. 26th IEEE Conf. Decision and Control*, pp. 673-674, December 1987.
- [C15] Cassandras, C.G., Abidi, M.V., and Towsley, D., "Distributed Routing with On-Line Marginal Delay Estimation", *Proc. IEEE INFOCOM '88*, pp. 603-612, March 1988.
- [C16] Suk, J.B., and Cassandras, C.G., "Analysis and Optimization of Pacing Window Flow Control with Admission Delay", *Proc. IEEE INFOCOM '88*, pp. 391-400, March 1988.

- [C17] Cassandras, C.G., and Strickland, S.G., "Perturbation Analysis and Augmented Markov Chains for Discrete Event Systems", *Proc. 8th Intl. Conf. Analysis and Optimization of Systems*, pp. 939-950, June 1988.
- [C18] Cassandras, C.G., and Lee, J.I., "Applications of Perturbation Techniques to Optimal Resource Sharing in Discrete Event Systems", *Proc. 1988 American Control Conf.*, pp. 450-455, June 1988.
- [C19] Cassandras, C.G., "Computer-Aided Control of Resource Contention Systems", *Proc. 4th IFAC Symp. Computer-Aided Design in Control Systems*, pp. 323-327, August 1988.
- [C20] Suk, J.B., and Cassandras, C.G., "Optimal Scheduling of Two Competing Queues with Blocking", *Proc. 27th IEEE Conf. Decision and Control*, pp. 1102-1107, December 1988.
- [C21] Cassandras, C.G., Strickland, S.G., and Lee, J.I., "Discrete Event Systems with Real-Time Constraints: Modeling and Sensitivity Analysis", *Proc. 27th IEEE Conf. Decision and Control*, pp. 220-225, December 1988.
- [C22] Cassandras, C.G., and Lee, J.I., "Discrete Event Systems with Real-Time Constraints: A Distributed Algorithm for Optimal Resource Sharing", *Proc. 27th IEEE Conf. Decision and Control*, pp. 1508-1513, December 1988.
- [C23] Strickland, S.G., and Cassandras, C.G., "A Decomposition Approach for Sensitivity Analysis of Discrete Event Systems", *Proc. 26th Allerton Conf.*, October 1988.
- [C24] Cassandras, C.G., Kallmes, M.H., and Towsley, D., "Optimal Routing and Flow Control in Networks with Real-Time Traffic", *Proc. IEEE INFOCOM '89*, pp. 784-791, April 1989.
- [C25] Lee, J.I., Cassandras, C.G., and Ho, Y.C., "Real-Time Parametric Analysis of Discrete Event System Trajectories", *Proc. 28th IEEE Conf. Decision and Control*, pp. 2024-2025, December 1989.
- [C26] Kallmes, M.H., Towsley, D., and Cassandras, C.G., "Optimality of the Last-In-First-Out (LIFO) Service Discipline in Queueing Systems with Real-Time Constraints", *Proc. 28th IEEE Conf. Decision and Control*, pp. 1073-1074, December 1989.
- [C27] Suk, J.B., and Cassandras, C.G., "Optimal Control of a Storage-Retrieval Queueing System", *Proc. 28th IEEE Conf. Decision and Control*, pp. 1093-1098, December 1989.
- [C28] Strickland, S.G., and Cassandras, C.G., "Sensitivity Analysis of Discrete Event

Systems with Non-Markovian Event Processes", *Proc. 28th IEEE Conf. Decision and Control*, pp. 111-116, December 1989.

- [C29] Gong, W-B., Pan, J., and Cassandras, C.G., "Derivative Estimation through the Matrix Geometric Solution Method", *Proc. 1990 American Control Conference*, June 1990.
- [C30] Cassandras, C.G., and Gong, W-B., "On-Line Control of Discrete Event Systems: Some Extensions of Perturbation Analysis", *Proc. 11th IFAC World Congress*, Vol. 6, pp. 259-263, August 1990.
- [C31] Mohanty, B.P., Cassandras, C.G., and Towsley, D., "Performance Comparison of Routing Algorithms in Packet Switched Networks", *Proc. IEEE GLOBECOM '90*, pp. 327-331, December 1990.
- [C32] Suk, J.B., and Cassandras, C.G., "Performance Comparison of Two Window Flow Control Schemes with Admission Delay", *Proc. IEEE GLOBECOM '90*, pp. 892-896, December 1990.
- [C33] Towsley, D., Sparaggis, P., and Cassandras, C.G., "Stochastic Ordering and Optimal Routing Control for a Class of Finite Capacity Queueing Systems", *Proc. 29th IEEE Conf. Decision and Control*, pp. 658-663, December 1990.
- [C34] Gong, W-B., Cassandras, C.G., and Pan, J., "Perturbation Analysis of a Multiclass Queueing System with Admission Control", *Proc. 29th IEEE Conf. Decision and Control*, pp. 885-890, December 1990.
- [C35] Sparaggis, P., and Cassandras, C.G., "Monotonicity of Cost Functions in a General Class of Queueing Networks", *Proc. 29th IEEE Conf. Decision and Control*, pp. 925-930, December 1990.
- [C36] Cassandras, C.G., Gong, W-B., and Lee, J.I., "Robustness Properties of Perturbation Analysis Estimators for Discrete Event Systems with Unknown Distributions", *Proc. 29th IEEE Conf. Decision and Control*, pp. 2855-2856, December 1990.
- [C37] Gong, W-B., Cassandras, C.G., Kallmes, M.H., and Wardi, Y., "A New Class of Gradient Estimators for Queueing Systems with Real-Time Constraints", *Proc. 29th IEEE Conf. Decision and Control*, pp. 891-896, December 1990.
- [C38] Sparaggis, P., and Cassandras, C.G., "Throughput Monotonicity in Communication Networks with Blocking: Properties and Counterexamples", *Proc. IEEE INFOCOM '91*, pp. 101-110, April 1991.
- [C39] Kallmes, M.H., and Cassandras, C.G., "The Gradient Estimation Problem in Discrete Event Dynamic Systems with Discontinuous Performance

Measures", *Proc. IEEE International Symposium on Intelligent Control*, August 1991.

- [C40] Mohanty, B.P., and Cassandras, C.G., "The Effect of Model Uncertainty on Some Optimal Routing Problems", *Proc. 30th IEEE Conf. Decision and Control*, pp. 2180-2185, December 1991.
- [C41] Sparaggis, P., Towsley, D., and Cassandras, C.G., "Extremal Properties of the Shortest Non-Full Queue and the Longest Non-Full Queue Policies in Finite Capacity Systems with State-Dependent Service Rates", *Proc. 30th IEEE Conf. Decision and Control*, pp. 829-830, December 1991.
- [C42] Sparaggis, P., Towsley, D., and Cassandras, C.G., "Optimality of Static Routing Policies in Queueing Systems with Blocking", *Proc. 30th IEEE Conf. Decision and Control*, pp. 809-814, December 1991.
- [C43] Cassandras, C.G., and Pan, J. "Perturbation Analysis of Queueing Systems with Time-Varying Arrival Rate", *Proc. 30th IEEE Conf. Decision and Control*, pp. 1159-1160, December 1991.
- [C44] Wardi, Y., Kallmes, M.H., Cassandras, C.G., and Gong, W-B., "Perturbation Analysis Algorithms for Estimating the Derivatives of Occupancy-Related Functions in Serial Queueing Networks", *Proc. 30th IEEE Conf. Decision and Control*, pp. 1523-1524, December 1991.
- [C45] Julka, V., Cassandras, C.G., and Gong, W-B., "Sample Path Techniques for Admission Control in Multiclass Queueing Systems with General Arrival Processes", *Proc. 1992 Conf. on Info. Sci. and Systems*, pp. 227-232, March 1992.
- [C46] Cassandras, C.G., and Julka, V. "Marked Phantom/Slot Algorithms for a Class of Scheduling Problems", *Proc. 31st IEEE Conf. Decision and Control*, pp. 3215-3220, December 1992.
- [C47] Mohanty, B.P., and Cassandras, C.G., "The Effect of Arrival Model Uncertainties on Some Optimal Routing Problems", *Proc. 31st IEEE Conf. Decision and Control*, pp. 2342-2347, December 1992.
- [C48] Bao, G., and Cassandras, C.G., "First and Second Derivative Estimators for a Closed Queueing Network Throughput Using Perturbation Analysis Techniques", *Proc. 31st IEEE Conf. Decision and Control*, pp. 3197-3202, December 1992.
- [C49] Sparaggis, P., Cassandras, C.G., and Towsley, D., "On the Duality Between Routing and Scheduling Systems with Finite Buffer Space", *Proc. 31st IEEE Conf. Decision and Control*, pp. 2364-2365, December 1992.

- [C50] Sparaggis, P., Towsley, D., and Cassandras, C.G., "Very Weak, P-Weak Majorization and their Application", *Proc. 31st IEEE Conf. Decision and Control*, pp. 3193-3194, December 1992.
- [C51] Cassandras, C.G., "'Rapid Learning' Techniques for Discrete Event Systems: Some Recent Results and Applications to Traffic Smoothing", *Proc. 12th IFAC World Congress*, Vol III, pp. 323-326, July 1993.
- [C52] Cassandras, C.G., and Julka, V., "A New Approach for Some Combinatorially Hard Stochastic Optimization Problems", *Proc. 31st Allerton Conf. on Communication, Control, and Computation*, pp. 667-676, September 1993.
- [C53] Cassandras, C.G., and Julka, V., "Optimal Scheduling in Systems with Delay-Sensitive Traffic", *Proc. 32nd IEEE Conf. Decision and Control*, pp. 1685-1691, December 1993.
- [C54] Bao, G., and Cassandras, C.G., "First and Second Derivative Estimators for Closed Jackson-Like Queueing Networks Using Perturbation Analysis Techniques", *32nd IEEE Conf. Decision and Control*, pp. 698-703, December 1993.
- [C55] Ho, Y.C., and Cassandras, C.G., "Parallel Computation in the Design and Stochastic Optimization of Discrete Event Systems", *Proc. 32nd IEEE Conf. Decision and Control*, pp. 2199-2204, December 1993.
- [C56] Sparaggis, P., Towsley, D., and Cassandras, C.G., "Optimal Control of Multiclass Parallel Systems with and without State Information", pp. 1686-1691, *Proc. 32nd IEEE Conf. Decision and Control*, December 1993.
- [C57] Cassandras, C.G., "The Tradeoff Between Performance and Learning in Discrete Event and Hybrid Systems", *Proc. 1994 Conf. on Info. Sci. and Systems*, pp. 396-401, March 1994.
- [C58] Cassandras, C.G., "Sample-Path-Based Continuous and Discrete Optimization of Discrete Event Systems: From Gradient Estimation to 'Rapid Learning'", *Proc. 11th Intl. Conf. on Analysis and Optimization of Systems*, pp. 387-400, June 1994.
- [C59] Cassandras, C.G., and Ho, Y.C., "Yield Learning and Production Planning for Semiconductor Manufacturing Systems", *Proc. 4th Intl. Conf. on Computer Integrated Manuf. and Automation Technology*, October 1994.
- [C60] Bao, G., and Cassandras, C.G., "A Stochastic Comparison Algorithm for Continuous Optimization with Estimation", *Proc. 33rd IEEE Conf. Decision and Control*, pp. 676-677, December 1994.

- [C61] Julka, V., and Cassandras, C.G., "Optimal Call Admission in Circuit-Switched Networks", *Proc. 33rd IEEE Conf. Decision and Control*, pp. 2077-2078, December 1994.
- [C62] Cassandras, C.G., and Julka, V., "Descent Algorithms for Discrete Resource Allocation Problems", *Proc. 33rd IEEE Conf. Decision and Control*, pp. 2639-2644, December 1994.
- [C63] Pan, J., and Cassandras, C.G., "Parallel Sample Path Construction Techniques for Discrete Event Systems: K -Constructability and Applications", *Proc. 33rd IEEE Conf. Decision and Control*, pp. 1978-1983, December 1994.
- [C64] Cassandras, C.G., Gong, W.B., Ho, Y.C., Hu, J.Q., and Vakili, P., "Analysis, Control, and Optimization of Discrete Event Dynamic Systems", *Proc. 1995 American Control Conf.*, pp. 1065-1068, June 1995.
- [C65] Cassandras, C.G., "Optimal Control Problems in Hybrid Systems with Some Manufacturing Applications", *Proc. Workshop on Verification and Control of Hybrid Systems*, October 1995.
- [C66] Vazquez-Abad, F.J., Cassandras, C.G., and Julka, V., "Centralized and Decentralized Asynchronous Optimization of Stochastic Discrete Event Systems", *Proc. 34th IEEE Conf. Decision and Control*, pp. 3632-3637, December 1995.
- [C67] Cassandras, C.G., and Pan, J., "Some New Approaches to Discrete Stochastic Optimization Problems", *Proc. 34th IEEE Conf. Decision and Control*, pp. 573-578, December 1995.
- [C68] Bao, G., and Cassandras, C.G., "A Rational Approximation Approach to Rare Event Probability Estimation for High-Performance Systems", *Proc. 34th IEEE Conf. Decision and Control*, pp. 865-870, December 1995.
- [C69] Pepyne, D.L., Looze, D.P., Cassandras, C.G., and Djaferis, T.E., "Application of Q-Learning to Elevator Dispatching", *Proc. of 13th IFAC World Congress*, June 1996.
- [C70] Panayiotou, C., and Cassandras, C.G., "Optimization of Kanban-Based Production Systems", *Proc. of 1996 Intl. Workshop on Discrete Event Systems*, pp. 39-44, August 1996.
- [C71] Cassandras, C.G., and Panayiotou, C., "Concurrent Sample Path Analysis of Discrete Event Systems", *Proc. of 35th IEEE Conf. Decision and Control*, pp. 3332-3337, December 1996.

- [C72] Cassandras, C.G., and W. Shi, "Perturbation Analysis of Multiclass Multiobjective Queueing Systems with 'Quality-of-Service' Guarantees", *Proc. of 35th IEEE Conf. Decision and Control*, pp. 3322-3327, December 1996.
- [C73] Pepyne D.L., and Cassandras, C.G., "Optimal Dispatching Control for Elevator Systems During Uppeak Traffic", *Proc. of 35th IEEE Conf. Decision and Control*, pp. 3837-3842, December 1996.
- [C74] Cassandras, C.G., and Gong, W-B., "New Directions Towards Real-Time Simulation", *Proc. of SPIE 11th Annual Intl. Symposium*, pp. 136-147, April 1997.
- [C75] Panayiotou, C., and Cassandras, C.G., "Dynamic Resource Allocation in Discrete Event Systems", *Proc. of 5th IEEE Medit. Conference on New Directions in Control and Automation*, July 1997.
- [C76] Cassandras, C.G., Dai, L., and Panayiotou, C.G., "Ordinal Optimization for a Class of Combinatorially Hard Problems", *Proc. of 1997 Intl. Conf. on Intelligent Systems and Semiotics*, pp. 173-174, September 1997.
- [C77] Ho, Y.C., Gong, W.B., Cassandras, C.G., Hu, J.Q., and Vakili, P., "Experience with Developing and Dispensing Research Results and Advanced Course Materials on the World Wide Web of the Internet", *Proc. of 36th IEEE Conf. Decision and Control*, p. 3804, December 1997.
- [C78] Pepyne D.L., and Cassandras, C.G., "A Calculus of Variations Approach to the Optimal Control of Discrete Event Dynamic Systems", *Proc. of 36th IEEE Conf. Decision and Control*, pp. 3550-3555, December 1997.
- [C79] Cassandras, C.G., Dai, L., and Panayiotou, C.G., "Ordinal Optimization for Deterministic and Stochastic Resource Allocation", *Proc. of 36th IEEE Conf. Decision and Control*, pp. 662-667, December 1997.
- [C80] Cassandras, C.G., and Pepyne D.L., "Optimal Control of a Class of Hybrid Systems", *Proc. of 36th IEEE Conf. Decision and Control*, pp. 133-138, December 1997.
- [C81] Pepyne, D.L., and Cassandras, C.G., "Adaptive Dispatching Control for Elevator Systems During Uppeak Traffic", *Proc. of 36th IEEE Conf. Decision and Control*, pp. 133-138, December 1997.
- [C82] Cassandras, C.G., Gong, W-B., Liu, C., Panayiotou, C.G., and Pepyne, D.L., "Simulation Driven Metamodeling of Complex Systems Using Neural Networks", *Proc. of SPIE 12th Annual Intl. Symposium*, pp. 218-229, April 1998.

- [C83] Panayiotou, C.G., and Cassandras, C.G., "Dynamic Transmission Scheduling for Packet Radio Networks", *Proc. of 1998 IEEE Symposium on Computers and Communication*, July 1998.
- [C84] Cassandras, C.G., Pepyne D.L., and Wardi, Y., "Optimal Control of Hybrid Systems and Some Manufacturing Process Applications", *Proc. of 1998 Intl. Workshop on Discrete Event Systems*, pp. 361-366, August 1998.
- [C85] Panayiotou, C.G., and Cassandras, C.G., "Flow Control for a Class of Transportation Systems", *Proc. of 1998 IEEE Conf. on Control Applications*, September 1998.
- [C86] Dai, L., Cassandras, C.G., and Panayiotou, C.G., "On the Convergence Rate of Ordinal Optimization for a Class of Stochastic Discrete Resource Allocation Problems", *Proc. of 37th IEEE Conf. Decision and Control*, pp. 1692-1697, December 1998.
- [C87] Cassandras, C.G., Pepyne D.L., and Wardi, Y., "Generalized Gradient Algorithms for Hybrid System Models of Manufacturing Systems", *Proc. of 37th IEEE Conf. Decision and Control*, pp. 2627-2632, December 1998.
- [C88] Cassandras, C.G., Pepyne D.L., and Wardi, Y., "Optimal Control of Systems with Time-Driven and Event-Driven Dynamics", *Proc. of 37th IEEE Conf. Decision and Control*, pp. 7-12, December 1998.
- [C89] Cassandras, C.G., and Gokbayrak, K., "Modeling and Simulation-based Solutions for Complex Resource Allocation Problems", *Proc. of SPIE 13h Annual Intl. Symposium*, pp. 160-170, April 1999.
- [C90] Cassandras, C.G., and Pepyne D.L., "Hybrid System Models for Integrated Manufacturing", *Proc. of IEEE Hong Kong Symposium on Robotics and Control*, Vol. II, pp. 615-620, July 1999.
- [C91] Panayiotou, C., and Cassandras, C.G., "Optimization of Kanban-Based Manufacturing Systems", *Proc. of 14th IFAC World Congress*, Vol. J. pp. 139-144, July 1999.
- [C92] Gokbayrak, K., and Cassandras, C.G., "Stochastic Discrete Optimization Using a Surrogate Problem Methodology", *Proc. of 38h IEEE Conf. Decision and Control*, pp. 919-924, December 1999.
- [C93] Cassandras, C.G., Liu, Q., Pepyne, D., and Gokbayrak, K., "Optimal Control of a Two-Stage Hybrid Manufacturing System Model", *Proc. of 38h IEEE Conf. Decision and Control*, pp. 450-455, December 1999.

- [C94] Cassandras, C.G., Hu, J-Q., Vakili, P., Ho, Y.C., and Gong, W.-B., "Instructional material and Interactive Modules for Discrete Event Dynamic Systems", *Proc. of 38h IEEE Conf. Decision and Control*, pp. 3022-3023, December 1999.
- [C95] Gokbayrak, K., and Cassandras, C.G., "Stochastic Optimal Control of a Hybrid Manufacturing System Model", *Proc. of 38h IEEE Conf. Decision and Control*, pp. 919-924, December 1999.
- [C96] Panayiotou, C.G., and Cassandras, C.G., "A Sample Path Approach for Solving the Ground Holding Policy Problem in Air Traffic Control", *Proc. of 38h IEEE Conf. Decision and Control*, pp. 2450-2455, December 1999.
- [C97] Wardi, Y., and Cassandras, C.G., "Enterprise Engineering: A Framework for Optimal Control of Hybrid Dynamical Systems", *Proc. of JFACC Symposium on Advances in Enterprise Control*, November 1999.
- [C98] Gokbayrak, K., and Cassandras, C.G., "Hybrid Controllers for Hierarchically Decomposed Systems", *Proc. of 2000 Hybrid System Control Conf.*, pp. 117-129, March 2000.
- [C99] Cassandras, C.G., Panayiotou, C.G., Diehl, G., Gong, W.B., Liu, Z., and Zou, C., "Clustering Methods for Multi-Resolution Simulation Modeling", *Proc. of SPIE 14h Annual Intl. Symposium*, April 2000.
- [C100] Cassandras, C.G., and Yu, R., "A 'Surrogate Problem' Approach for Lot Size Optimization in Manufacturing Systems", *Proc. of 2000 American Control Conf.*, pp. 3279-3283, June 2000.
- [C101] Gokbayrak, K., and Cassandras, C.G., "Constrained Optimal Control for Multistage Hybrid Manufacturing System Models", *Proc. of 8th IEEE Medit. Conference on New Directions in Control and Automation*, July 2000.
- [C102] Cho, Y.C., Cassandras, C.G., and Pepyne D.L., "Forward Algorithms for Optimal Control of a Class of Hybrid System ", *Proc. of 39h IEEE Conf. Decision and Control*, pp. 975-980, December 2000.
- [C103] Cho, Y.C., and Cassandras, C.G., "Optimal Control of Steel Annealing Processes as Hybrid Systems", *Proc. of 39h IEEE Conf. Decision and Control*, pp. 540-545, December 2000.
- [C104] Gokbayrak, K., and Cassandras, C.G., "A Hierarchical Decomposition Method for Optimal Control of Hybrid Systems", *Proc. of 39h IEEE Conf. Decision and Control*, pp. 1816-1821, December 2000.
- [C105] Panayiotou, C.G., and Cassandras, C.G., "Call Allocation in Cellular Communication Systems with Overlapping Coverage", *Proc. of 39h IEEE*

Conf. Decision and Control, pp. 55-60, December 2000.

- [C106] Panayiotou, C.G., Cassandras, C.G., and Gong, W.B., "Model Abstraction for Discrete Event Systems Using Neural Networks and Sensitivity Information", *Proc. of 2000 Winter Simulation Conf.*, pp. 335-341, December 2000.
- [C107] Cassandras, C.G., Gokbayrak, K., Castanon, D., Wohletz, J., Curry, M., and Gates, M., "Modeling and Agile Control for a Joint Air Operation Environment", *Proc. of SPIE 15h Annual Intl. Symposium*, pp. 330-341, April 2001.
- [C108] Pepyne, D.L., C.G. Panayiotou, C.G. Cassandras, and Y.-C. Ho, "Vulnerability Assessment and Allocation of Protection Resources in Power Systems," *Proc. of American Control Conf.*, pp. 4705-4710, June 2001.
- [C109] Cassandras, C.G., "Complexity Made Simple – At a Small Price", *Proc. of 9th IFAC Intl. Symposium on Large Scale Systems*, July 2001.
- [C110] Cassandras, C.G., Sun, G., and Panayiotou, C.G., "Stochastic Fluid Models for Control and Optimization of Systems with Quality of Service Requirements", *Proc. of 40th IEEE Conf. Decision and Control*, pp. 1917-1922, December 2001.
- [C111] Zhang, P., and Cassandras, C.G., "An Improved Forward Algorithm for Optimal Control of a Class of Hybrid Systems", *Proc. of 40th IEEE Conf. Decision and Control*, pp. 1235-1236, December 2001.
- [C112] Panayiotou, C.G., and Cassandras, C.G., "On-Line Predictive Techniques for "Differentiated Services" Networks", *Proc. of 40th IEEE Conf. Decision and Control*, pp. 4529-4534, December 2001.
- [C113] Paschalidis, I.C., Liu, Y., Cassandras, C.G., and Zhang, P., "Threshold-based Control for Make-to-Stock Models: A Synergy Between Large Deviations and Perturbation Analysis," *Proc. of 40th IEEE Conf. Decision and Control*, pp. 4523-4528, December 2001.
- [C114] Curry, M., Wohletz, J., Cassandras, C.G., and Castanon, D., "Modeling and Control of a Joint Air Operation Environment with Imperfect Information", *Proc. of SPIE 16th Annual Intl. Symposium*, pp. 41-51, April 2002.
- [C115] Panayiotou, C.G. Cassandras, C.G., and Zhang, P., "On-Line Inventory Cost Minimization for Make-to-Stock Manufacturing Systems," *Proc. of American Control Conf.*, pp. 4469-4474, May 2002.
- [C116] Cassandras, C.G., Sun, G., Panayiotou, C.G., and Wardi, Y., "Perturbation Analysis of Multiclass Stochastic Fluid Models", *Proc. of 15th IFAC World*

Congress, pp. 848-853, July 2002.

- [C117] Cassandras, C.G., "From Discrete Event to Hybrid Systems", *Proc. of 2002 Intl. Workshop on Discrete Event Systems*, pp. 3-8, October 2002.
- [C118] Yu, H., and Cassandras, C.G., "Perturbation Analysis and Optimization of a Flow Controlled Manufacturing System", *Proc. of 2002 Intl. Workshop on Discrete Event Systems*, pp. 258-263, October 2002.
- [C119] Cassandras, C.G., "Stochastic Fluid Models for Communication Networks", *Proc. of 17th Intl. Symposium on Computer and Information Sciences*, pp. 8-11, October 2002.
- [C120] Sun, G., Cassandras, C.G., and Panayiotou, C.G., "Perturbation Analysis of a Multiclass Stochastic Fluid Model with Finite Buffer Capacity", *Proc. of 41st IEEE Conf. Decision and Control*, pp. 2171-2176, Dec. 2002.
- [C121] Cassandras, C.G., and Li, W., "A Receding Horizon Approach for Solving Some Cooperative Control Problems", *Proc. of 41st IEEE Conf. Decision and Control*, pp. 3760-3765, Dec. 2002.
- [C122] Cassandras, C.G., and Li, W., "A Receding Horizon Approach for Dynamic UAV Mission Management", *Proc. of SPIE 17th Annual Intl. Symposium*, pp. 284-293, April 2003.
- [C123] Cassandras, C.G., and Mookherjee, R., "Receding Horizon Control for a Class of Hybrid Systems with Event Uncertainties", *Proc. of 2003 American Control Conf.*, pp. 5197-5202, June 2003.
- [C124] Panayiotou, C.G., Cassandras, C.G., and Sun, G., "Perturbation Analysis of Stochastic Fluid Models with Respect to the Fluid Arrival Process", *Proc. of 11th Medit. Conference on New Directions in Control and Automation*, June 2003.
- [C125] Cassandras, C.G., and Mookherjee, R., "Properties of Receding Horizon Controllers for Some Hybrid Systems with Event Uncertainties", *Proc. 2003 IFAC Conf. on Analysis and Design of Hybrid Systems*, pp. 413-418, June 2003.
- [C126] Li, W., and Cassandras, C.G., "Stability Properties of a Cooperative Receding Horizon Controller", *Proc. of 42nd IEEE Conf. Decision and Control*, pp. 492-497, Dec. 2003.
- [C127] Sun, G., Cassandras, C.G., Wardi, Y., and Panayiotou, C.G., "Perturbation Analysis of Stochastic Flow Networks", *Proc. of 42nd IEEE Conf. Decision and Control*, pp. 4831-4836, Dec. 2003.

- [C128] Yu, H., and Cassandras, C.G., "Perturbation Analysis of Feedback-Controlled Stochastic Flow Systems", *Proc. of 42nd IEEE Conf. Decision and Control*, pp. 6277-6282, Dec. 2003.
- [C129] Cassandras, C.G., and Mookherjee, R., "Receding Horizon Optimal Control for Some Stochastic Hybrid Systems", *Proc. of 42nd IEEE Conf. Decision and Control*, pp. 2162-2167, Dec. 2003.
- [C130] Yu, H., and Cassandras, C.G., "Perturbation Analysis of Stochastic Fluid Models with Multiplicative Feedback", *Proc. of 2004 American Control Conf.*, pp. 5734-5739, June 2004.
- [C131] Panayiotou, C.G., and Cassandras, C.G., "Infinitesimal Perturbation Analysis for Make-To-Stock Manufacturing Systems Based on Stochastic Fluid Models", *Proc. of 2004 Intl. Workshop on Discrete Event Systems*, pp. 247-252, Sep. 2004.
- [C132] Wu, X., and Cassandras, C.G., "A Feedback Control Defense Strategy for Denial-of-Service Attacks", *Proc. of 43rd IEEE Conf. Decision and Control*, pp. 105-110, Dec. 2004.
- [C133] Mao, J., Zhao, Q., and Cassandras, C.G., "Optimal Dynamic Voltage Scaling in Power-Limited Systems with Real-Time Constraints", *Proc. of 43rd IEEE Conf. Decision and Control*, pp. 1472-1477, Dec. 2004.
- [C134] Li, W., and Cassandras, C.G., "Stability Properties of a Receding Horizon Controller for Cooperating UAVs", *Proc. of 43rd IEEE Conf. Decision and Control*, pp. 2905-2910, Dec. 2004.
- [C135] Yu, H., and Cassandras, C.G., "Multiplicative Feedback Control in Communication Networks Using Stochastic Flow Models", *Proc. of 43rd IEEE Conf. Decision and Control*, pp. 557-562, Dec. 2004.
- [C136] Li, W., and Cassandras, C.G., "A Minimum-Power Wireless Sensor Network Self-Deployment Scheme", in *Proc. of IEEE Wireless Communications and Networking Conference*, 2005.
- [C137] Miao, L., and Cassandras, C.G., "Optimality of Static Control Policies in Some Discrete Event Systems", *Proc. of 2005 American Control Conf.*, pp. 1186-1191, June 2005.
- [C138] Cassandras, C.G., and Li, W., "Cooperative Control Problems in the Deployment of Sensor Networks", in *Proc. of Workshop on Modeling and Control of Complex Systems*, June 2005.

- [C139] Yu, H., and Cassandras, C.G., "Perturbation Analysis and Feedback Control of Communication Networks Using Stochastic Hybrid Models", in *Proc. of 16th IFAC World Congress*, July 2005.
- [C140] Li, W., and Cassandras, C.G., "Cooperative Distributed Control of Networks with Mobile Nodes: Theory and Practice", in *Proc. of 2005 Allerton Conf.*, Sep. 2005.
- [C141] Zhuang, S., and Cassandras, C.G., "Optimal Dynamic Voltage Scaling for Wireless Sensor Networks with Real-Time Constraints", in *Proc. of SPIE Conf. on Intelligent Systems in Design and Manufacturing VI*, Oct. 2005.
- [C142] Miao, L., and Cassandras, C.G., "Receding Horizon Control for a Class of Discrete Event Systems with Real-Time Constraints", *Proc. of 44th IEEE Conf. Decision and Control*, pp. 7714-7719, Dec. 2005.
- [C143] Li, W., and Cassandras, C.G., "Distributed Cooperative Coverage Control of Sensor Networks", *Proc. of 44th IEEE Conf. Decision and Control*, pp. 2542-2547, Dec. 2005.
- [C144] Wu, X., and Cassandras, C.G., "A Maximum Time Optimal Control Approach to Routing in Sensor Networks", *Proc. of 44th IEEE Conf. Decision and Control*, pp. 1137-1142, Dec. 2005.
- [C145] Miao, L., and Cassandras, C.G., "Optimal Transmission Scheduling for Energy-Efficient Wireless Networks", in *Proc. of IEEE INFOCOM'06*, April 2006.
- [C146] Wesselowski, K., and Cassandras, C.G., "The Elevator Dispatching Problem: Hybrid System Modeling and Receding Horizon Control", *Proc. of 2nd IFAC Conference on Analysis and Design of Hybrid Systems*, pp. 136-141, June 2006.
- [C147] Cassandras, C.G., Clune, M.I., and Mosterman, P.J., "Hybrid System Simulation with SimEvents", *Proc. of 2nd IFAC Conference on Analysis and Design of Hybrid Systems*, pp. 136-141, June 2006.
- [C148] Mao, J., and Cassandras, C.G., "Optimal Control of Two-Stage Discrete Event Systems with Real-Time Constraints", *Proc. of 2006 Intl. Workshop on Discrete Event Systems*, pp. 145-150, July 2006.
- [C149] Cassandras, C.G., Clune, M.I., and Mosterman, P.J., "Discrete Event and Hybrid System Simulation with SimEvents", *Proc. of 2006 Intl. Workshop on Discrete Event Systems*, pp. 386-387, July 2006.

- [C150] Mao, J., and Cassandras, C.G., "Optimal Control of Multi-Stage Discrete Event Systems with Real-Time Constraints", *Proc. of 45th IEEE Conf. Decision and Control*, pp. 1057-1062, Dec. 2006.
- [C151] Ning, X., and Cassandras, C.G., "Dynamic Sleep Time Control in Event Driven Wireless Sensor Networks", *Proc. of 45th IEEE Conf. Decision and Control*, pp. 2722-2727, Dec. 2006.
- [C152] Miao, L., and Cassandras, C.G., "Structural Properties of Optimal Uplink Transmission Scheduling in Energy-Efficient Wireless Networks with Real-Time Constraints", *Proc. of 45th IEEE Conf. Decision and Control*, pp. 2997-3002, Dec. 2006.
- [C153] Li, W., Cassandras, C.G., and Clune, M.I., "Model-Based Design of a Dynamic Voltage Scaling Controller Based on Online Gradient Estimation", *Proc. of 45th IEEE Conf. Decision and Control*, pp. 6088-6092, Dec. 2006.
- [C154] Zhuang, S., and Cassandras, C.G., "Optimal Control of Discrete Event Systems with Weakly Hard Real-Time Constraints", *Proc. of 2007 European Control Conf.*, July 2007.
- [C155] Ning, X., and Cassandras, C.G., "Optimal Cluster-head Deployment in Wireless Sensor Networks with Redundant Link Requirements", *Proc. of 2nd Intl. Conf. on Performance Evaluation Methodologies and Tools*, Oct. 2007.
- [C156] Mao, J., and Cassandras, C.G., "Optimal Admission Control of Discrete Event Systems with Real-Time Constraints", *Proc. of 46th IEEE Conf. Decision and Control*, pp. 3005-3010, Dec. 2007.
- [C157] Ning, X., and Cassandras, C.G., "Message Batching in Wireless Sensor Networks - A Perturbation Analysis Approach", *Proc. of 46th IEEE Conf. Decision and Control*, pp. 939-944, Dec. 2007.
- [C158] Mao, J., and Cassandras, C.G., "Scalable Optimization Algorithms for Discrete Event Systems with Real-Time Constraints: An Overview of Recent Developments", *Proc. of 2008 Intl. Workshop on Discrete Event Systems*, pp. 150-155, May 2008.
- [C159] Panayiotou, C.G., and Cassandras, C.G., "IPA for Delay Threshold Violation Using Stochastic Fluid Models", *Proc. of 2008 Intl. Workshop on Discrete Event Systems*, pp. 162-167, May 2008.
- [C160] Zhong, M., and Cassandras, C.G., "Distributed Coverage Control in Sensor Network Environments with Polygonal Obstacles", *Proc. of 17th IFAC World Congress*, pp. 4162-4167, July 2008.

- [C161] Mao, J., and Cassandras, C.G., "Optimal Control of Multi-layer Discrete Event Systems with Real-Time Constraint Guarantees", *Proc. of 17th IFAC World Congress*, pp. 4120-4125, July 2008.
- [C162] Ning, X., and Cassandras, C.G., "Optimal Dynamic Sleep Time Control in Wireless Sensor Networks", *Proc. of 47th IEEE Conf. Decision and Control*, pp. 2332-2337, Dec. 2008.
- [C163] Mao, J., and Cassandras, C.G., "On-line Optimal Control of a Class of Discrete Event Systems with Real-Time Constraints", *Proc. of 47th IEEE Conf. Decision and Control*, pp. 1471-1476, Dec. 2008.
- [C164] Zhong, M., and Cassandras, C.G., "Asynchronous Distributed Optimization with Minimal Communication", *Proc. of 47th IEEE Conf. Decision and Control*, pp. 363-368, Dec. 2008.
- [C165] Zhong, M., and Cassandras, C.G., "Asynchronous Distributed Algorithms for Optimal Coverage Control with Sensor Networks", *Proc. of 17th IEEE Mediterranean Conference on Control and Automation*, pp. 104-105, June 2009.
- [C166] Yao, C., and Cassandras, C.G., "Perturbation Analysis and Resource Contention Games in Multiclass Stochastic Fluid Models", *3rd IFAC Conf. Analysis and Design of Hybrid Systems*, pp. 256-261, Sept. 2009.
- [C167] Zhong, M., and Cassandras, C.G., "Asynchronous Distributed Optimization with Minimal Communication and Connectivity Preservation", *Proc. of 48th IEEE Conf. Decision and Control*, pp. 5396-5401, Dec. 2009.
- [C168] Ning, X., and Cassandras, C.G., "On Maximum Lifetime Routing in Wireless Sensor Networks", *Proc. of 48th IEEE Conf. Decision and Control*, pp. 3757-3762, Dec. 2009.
- [C169] Yao, C., and Cassandras, C.G., "Perturbation Analysis and Optimization of Multiclass Multiobjective Stochastic Flow Models", *Proc. of 48th IEEE Conf. Decision and Control*, pp. 914-919, Dec. 2009.
- [C170] Kebarighotbi, A., and Cassandras, C.G., "Revisiting the Optimality of the $c\mu$ -rule with Stochastic Flow Models", *Proc. of 48th IEEE Conf. Decision and Control*, pp. 2304-2309, Dec. 2009.
- [C171] Rohloff, K., Pal, P., Atighetchi, M., Schantz, R., Trivedi, K., and Cassandras, C.G., "Approaches to Modeling and Simulation for Dynamic, Distributed Cyber-Physical Systems", *Proc. of Workshop on Grand Challenges in Modeling, Simulation, and Analysis for Homeland Security (MSAHS-2010)*, March 2010.

- [C172] Caramanis, M.C., Cassandras, C.G., Little, T., and Paschalidis, I., “The Cyber-Physical Electric Power Generation-Delivery-Consumption Platform: Research Challenges for Optimal Investment Tradeoffs Between the Platform’s Cyber and Physical Components”, *Proc. of NSF-DOE-NIST Workshop on the Smart Grid*, June 2010.
- [C173] Cassandras, C.G., “Cooperative control and optimization in an uncertain asynchronous wireless networked world”, *Proc. of 18th IEEE Mediterranean Conference on Control and Automation*, June 2010.
- [C174] Yao, C., and Cassandras, C.G., “Perturbation Analysis of Stochastic Hybrid Systems and Applications to Some Non-Cooperative Games”, *Proc. of 2010 Intl. Workshop on Discrete Event Systems*, pp. 69-74, Sep. 2010.
- [C175] Yao, C., and Cassandras, C.G., “A Stochastic Hybrid System View at a Class of Non-Cooperative Games”, *Proc. of 26th IEEE Convention of Electrical and Electronics Engineers in Israel*, Nov. 2010.
- [C176] Yao, C., and Cassandras, C.G., “A Solution of the Lot Sizing Problem as a Stochastic Resource Contention Game”, *Proc. of 49th IEEE Conf. Decision and Control*, pp. 6728-6733, Dec. 2010.
- [C177] Yao, C., Ding, X.C., and Cassandras, C.G., “Cooperative Receding Horizon Control for Multi-agent Rendezvous Problems in Uncertain Environments”, *Proc. of 49th IEEE Conf. Decision and Control*, pp. 4511-4516, Dec. 2010.
- [C178] Zhong, M., and Cassandras, C.G., “Distributed Coverage Control and Data Collection with Mobile Sensor Networks”, *Proc. of 49th IEEE Conf. Decision and Control*, pp. 5604-5609, Dec. 2010.
- [C179] Wang, T., and Cassandras, C.G., “Optimal Discharge and Recharge Control of Battery-powered Energy-aware Systems”, *Proc. of 49th IEEE Conf. Decision and Control*, pp. 7513-7518, Dec. 2010.
- [C180] Ding, X.C., Belta, C., and Cassandras, C.G., “Receding Horizon Surveillance with Temporal Logic Specifications”, *Proc. of 49th IEEE Conf. Decision and Control*, pp. 256-261, Dec. 2010.
- [C181] Cassandras, C.G., and Paschalidis, I. Ch., “Optimizing the Transportation System’s Response Capabilities”, *Proc. of Fifth Annual DHS University Network Summit*, March 2011.
- [C182] Yao, C., and Cassandras, C.G., “Using Infinitesimal Perturbation Analysis of Stochastic Flow Models to Recover Performance Sensitivity Estimates of Discrete Event Systems”, *Proc. of 18th IFAC World Congress*, pp. 8217-8222, August 2011.

- [C183] Kebarighotbi, A., and Cassandras, C.G., “Optimal Scheduling of Parallel Queues with Stochastic Flow Models: The $c\mu$ -rule Revisited”, *Proc. of 18th IFAC World Congress*, pp. 8223-8228, August 2011.
- [C184] Geng, Y., and Cassandras, C.G., “Dynamic Resource Allocation in Urban Settings: A “Smart Parking” Approach”, *Proc. of 2011 IEEE Multi-Conference on Systems and Control*, Oct. 2011.
- [C185] Geng, Y., and Cassandras, C.G., “A New “Smart Parking” System Based on Optimal Resource Allocation and Reservations”, *Proc. of 14th IEEE Intelligent Transportation Systems Conf.*, pp. 979-984, Nov. 2011.
- [C186] Cassandras, C.G., Ding, X.C., and Lin, X., “An Optimal Control Approach for the Persistent Monitoring Problem”, *Proc. of 50th IEEE Conf. Decision and Control*, pp. 2907-2912, 2011.
- [C187] Wang, T., and Cassandras, C.G., “Optimal Control of Multi-Battery Energy-aware Systems”, *Proc. of 50th IEEE Conf. Decision and Control*, pp. 1497-1502, 2011.
- [C188] Kebarighotbi, A., and Cassandras, C.G., “Timeout Control in Distributed Systems Using Perturbation Analysis”, *Proc. of 50th IEEE Conf. Decision and Control*, pp. 5437-5442, 2011.
- [C189] Kebarighotbi, A., and Cassandras, C.G., “A General Framework for Modeling and Online Optimization of Stochastic Hybrid Systems”, *Proc. of 4th IFAC Conf. Analysis and Design of Hybrid Systems*, 2012.
- [C190] Geng, Y., and Cassandras, C.G., “A new “Smart Parking” System Infrastructure and Implementation”, in *Proc. of 15th Europ. Working Group on Transportation*, pp. 1278–1287, 2012.
- [C191] Geng, Y., and Cassandras, C.G., “Multi-intersection Traffic Light Control Using Infinitesimal Perturbation Analysis”, *Proc. of 2012 Intl. Workshop on Discrete Event Systems*, pp. 104-109, 2012.
- [C192] Cassandras, C.G., Ding, X.C., and Lin, X., “An Optimal Control Approach to the Multi-Agent Persistent Monitoring Problem”, *Proc. of 51st IEEE Conf. Decision and Control*, pp. 2795-2800, 2012.
- [C193] Geng, Y., and Cassandras, C.G., “Traffic Light Control Using Infinitesimal Perturbation Analysis”, *Proc. of 51st IEEE Conf. Decision and Control*, pp. 7001-7006, 2012.

- [C194] Kebarighotbi, A., and Cassandras, C.G., “Timeout Control in Distributed Systems Using Perturbation Analysis: Multiple Communication Links”, *Proc. of 51st IEEE Conf. Decision and Control*, pp. 6163-6168, 2012.
- [C195] Caramanis, M.C., Paschalidis, I.C., Cassandras, C.G., Bilgin, E., and Ntakou, E., “Provision of Regulation Service Reserves by Flexible Distributed Loads”, *Proc. of 51st IEEE Conf. Decision and Control*, pp. 3694-3700, 2012.
- [C196] Cassandras, C.G., “Event-driven Control, Communication, and Optimization”, *Proc. of 32nd Chinese Control Conf.*, pp. 1-5, 2013.
- [C197] Wang, T., and Cassandras, C.G., “Optimal Motion Control for Energy-aware Electric Vehicles”, *Proc. of 2013 IEEE Multi-Conference on Systems and Control*, pp. 388-393, 2013.
- [C198] Geng, Y., and Cassandras, C.G., “Multi-intersection Traffic Light Control with Blocking Using Infinitesimal Perturbation Analysis”, *Proc. of 2013 IEEE Multi-Conference on Systems and Control*, pp. 382-387, 2013.
- [C199] Cassandras, C.G., and Geng, Y., “Adaptive Traffic Light Control”, *Proc. of 51st Allerton Conference on Communication, Control, and Computing*, pp. 456-463, 2013.
- [C200] Lin, X., and Cassandras, C.G., “An Optimal Control Approach to the Multi-Agent Persistent Monitoring Problem in Two-Dimensional Spaces”, *Proc. of 52nd IEEE Conf. Decision and Control*, pp. 6886-6891, 2013.
- [C201] Geng, Y., and Cassandras, C.G., “Quasi-dynamic Traffic Light Control for a Single Intersection”, *Proc. of 52nd IEEE Conf. Decision and Control*, pp. 880-885, 2013.
- [C202] Wardi, Y., and Cassandras, C.G., “Approximate IPA: Trading Unbiasedness for Simplicity”, *Proc. of 52nd IEEE Conf. Decision and Control*, pp. 7603-7608, 2013.
- [C203] Wang, J., Rossell, D., Cassandras, C.G., and Paschalidis, I. Ch., “Network Anomaly Detection: A Survey and Comparative Analysis of Stochastic and Deterministic Methods”, *Proc. of 52nd IEEE Conf. Decision and Control*, pp. 182-187, 2013.
- [C204] Fleck, J.L., and Cassandras, C.G., “Infinitesimal Perturbation Analysis for Quasi-Dynamic Traffic Light Controllers”, *Proc. of 2014 Intl. Workshop on Discrete Event Systems*, pp. 235-240, 2014.
- [C205] Pourazarm, S., and Cassandras, C.G., “Optimal Routing of Energy-aware Vehicles in Networks with Inhomogeneous Charging Nodes”, *Proc. of 22nd*

IEEE Mediterranean Conference on Control and Automation, pp. 674-679, 2014.

- [C206] Cassandras, C.G., and Geng, Y., “Optimal Dynamic Allocation and Space Reservation for Electric Vehicles at Charging Stations”, *Proc. of 19th IFAC World Congress*, pp. 4056-4061, 2014.
- [C207] Wang, T., Cassandras, C.G., and Pourazarm, S., “Energy-aware Vehicle Routing in Networks with Charging Nodes”, *Proc. of 19th IFAC World Congress*, pp. 9611-9616, 2014.
- [C208] Khazaeni, Y., and Cassandras, C.G., “A New Event-Driven Cooperative Receding Horizon Controller for Multi-agent Systems in Uncertain Environments”, *Proc. of 53rd IEEE Conference on Decision and Control*, pp. 2770-2775, 2014.
- [C209] Lin, X., and Cassandras, C.G., “Trajectory Optimization for Multi-Agent Persistent Monitoring in Two-Dimensional Spaces”, *Proc. of 53rd IEEE Conference on Decision and Control*, pp. 3719-3724, 2014.
- [C210] Sun, X., Cassandras, C.G., and Gokbayrak, K., “Escaping Local Optima in a Class of Multi-Agent Distributed Optimization Problems: A Boosting Function Approach”, *Proc. of 53rd IEEE Conference on Decision and Control*, pp. 3701-3706, 2014.
- [C211] Nenchev, V., and Cassandras, C.G., “Optimal Exploration for a Robotic Pick-Up and Delivery Problem”, *Proc. of 53rd IEEE Conference on Decision and Control*, pp. 7-12, 2014.
- [C212] Pourazarm, S., Cassandras, C.G., and Malikopoulos A.A., “Optimal Routing of Electric Vehicles in Networks with Charging Nodes: A Dynamic Programming Approach”, *Proc. of 2014 IEEE Intl. Electric Vehicle Conference*, pp. 1-7, 2014.
- [C213] Brisimi, T.S., Ariaifar, S., Zhang, Y., Cassandras, C.G., and Paschalidis, I.C., “Sensing and Classifying Roadway Obstacles: The Street Bump Anomaly Detection and Decision Support System”, *Proc. of 2015 IEEE Conf. on Automation Science and Engineering*, pp. 1288-1295, 2015.
- [C214] Fleck, J.L., and Cassandras, C.G., “Infinitesimal Perturbation Analysis for Personalized Cancer Therapy Design”, *Proc. of 5th IFAC Conference on Analysis and Design of Hybrid Systems*, pp. 205-210, 2015.
- [C215] Pourazarm, S., and Cassandras, C.G., “System-Centric Minimum-Time Paths for Battery-Powered Vehicles in Networks with Charging Nodes”, *Proc. of 5th IFAC Conference on Analysis and Design of Hybrid Systems*, pp. 111-116,

2015.

- [C216] Sun, X., and Cassandras, C.G., “Optimal Dynamic Formation Control of Multi-Agent Systems in Environments with Obstacles”, *Proc. of 54th IEEE Conference on Decision and Control*, pp. 2359-2364, 2015.
- [C217] Nenchev, V., and Cassandras, C.G., “Optimal Exploration and Control for a Robotic Pick-up and Delivery Problem in Two Dimensions”, *Proc. of 54th IEEE Conference on Decision and Control*, pp. 258-263, 2015.
- [C218] Khazaeni, Y., and Cassandras, C.G., “An Optimal Control Approach for the Data Harvesting Problem”, *Proc. of 54th IEEE Conference on Decision and Control*, pp. 5136-5141, 2015.
- [C219] Pourazarm, S., and Cassandras, C.G., “Lifetime Maximization of Wireless Sensor Networks with a Mobile Source Node”, *Proc. of 54th IEEE Conference on Decision and Control*, pp. 7398-7403, 2015.
- [C220] Khazaeni, Y., and Cassandras, C.G., “Event excitation for event-driven control and optimization of multi-agent systems”, *Proc. of 2016 Intl. Workshop on Discrete Event Systems*, pp. 197-202, 2016.
- [C221] Mao, J., and Cassandras, C.G., “Solving A Class of Discrete Event Simulation-based Optimization Problems Using “Optimality in Probability””, *Proc. of 2016 Intl. Workshop on Discrete Event Systems*, pp. 129-134, 2016.
- [C222] Zhang, Y., Malikopoulos A.A., and Cassandras, C.G., “Optimal Control and Coordination of Connected and Automated Vehicles at Urban Traffic Intersections”, *Proc. of 2016 American Control Conference*, pp. 6227-6232, 2016.
- [C223] Fleck, J.L., and Cassandras, C.G., “Personalized Cancer Therapy Design: Robustness vs. Optimality”, *Proc. of 55th IEEE Conference on Decision and Control*, pp. 5041-5046, 2016.
- [C224] Zhou, N., Yu, X., Andersson, S.B., and Cassandras, C.G., “Optimal Event-Driven Multi-Agent Persistent Monitoring of a Finite Set of Targets”, *Proc. of 55th IEEE Conference on Decision and Control*, pp. 1814-1819, 2016.
- [C225] Zhang, J., Pourazarm, S., Cassandras, C.G., and Paschalidis, I.C., “The Price of Anarchy in Transportation Networks by Estimating User Cost Functions from Actual Traffic Data”, *Proc. of 55th IEEE Conference on Decision and Control*, pp. 789-794, 2016.
- [C226] Zhang, Y., Su, R., Li, Q., Cassandras, C.G., and Xie, L., “Distributed Flight Routing and Scheduling in Air Traffic Flow Management”, *Proc. of 55th*

IEEE Conference on Decision and Control, pp. 1080-1085, 2016.

- [C227] Zhang, Y., Cassandras, C.G., and Malikopoulos A.A., “Optimal Control of Connected Automated Vehicles at Urban Traffic Intersections: A Feasibility Enforcement Analysis”, *Proc. of 2017 American Control Conference*, pp. 3548-3553, 2017.
- [C228] Yu, X., Andersson S.B., Zhou, N. and Cassandras, C.G., “Optimal Dwell Times for Persistent Monitoring of a Finite Set of Targets”, *Proc. of 2017 American Control Conference*, pp. 5544-5549, 2017.
- [C229] Cassandras, C.G., “Complexity Made Simple (at a Small Price)”, *Proc. of 38th Intl. Conference Petri Nets 2017*, pp. 12-18, 2017.
- [C230] Zhang, J., Pourazarm, S., Cassandras, C.G., and Paschalidis, I.C., “Data-driven Estimation of Origin-Destination Demand and User Cost Functions for the Optimization of Transportation Networks”, *Proc. of 20th IFAC World Congress*, pp. 10090-10095, 2017.
- [C231] Wardi, Y. Cassandras, C.G., and Cao, X.R., “Perturbation Analysis: A Framework for Data-Driven Control and Optimization of Discrete Event and Hybrid Systems”, *Proc. of 20th IFAC World Congress*, pp. 3083-3093, 2017.
- [C232] Zhou, N., Cassandras, C.G., Yu, X., and Andersson S.B., “Optimal Event-Driven Multi-Agent Persistent Monitoring with Graph-Limited Mobility”, *Proc. of 20th IFAC World Congress*, pp. 2217-2222, 2017.
- [C233] Cassandras, C.G., “Automating Mobility in Smart Cities”, *Proc. of 20th IFAC World Congress*, pp. 7194-7197, 2017.
- [C234] Swaszek, R.M.A., and Cassandras, C.G., “A Receding Horizon Routing Controller for Inventory Replenishment Agents in Bike Sharing Systems with Time-Varying Demand”, *Proc. of 2017 IEEE Conference on Control Technology and Applications*, pp. 1587-1592, 2017.
- [C235] Zhang, Y., Cassandras, C.G., Li, W., and Mosterman, P.J., “A SimEvents Model for Hybrid Traffic Simulation”, *Proc. of 2017 Winter Simulation Conference*, pp. 1455-1466, 2017.
- [C236] Sun, X., Cassandras, C.G., and Meng, X., “A Submodularity-Based Approach for Multi-Agent Optimal Coverage Problems”, *Proc. of 56th IEEE Conference on Decision and Control*, pp. 4082-4087, 2017.
- [C237] Zhou, N., Cassandras, C.G., Yu, X., and Andersson S.B., “Decentralized Event-Driven Algorithms for Multi-Agent Persistent Monitoring Tasks”, *Proc. of 56th IEEE Conference on Decision and Control*, pp. 4064-4069, 2017.

- [C238] Zhang, Y., Su, R., Sandamali, N., and Cassandras, C.G., “A Hierarchical Approach for Air Traffic Routing and Scheduling”, *Proc. of 56th IEEE Conference on Decision and Control*, pp. 6277-6282, 2017.
- [C239] Zhang, Y., Malikopoulos A.A., and Cassandras, C.G., “Decentralized Optimal Control for Connected Automated Vehicles at Intersections Including Left and Right Turns”, *Proc. of 56th IEEE Conference on Decision and Control*, pp. 4428-4433, 2017.
- [C240] Chen, R. and Cassandras, C.G., “Stochastic Flow Models with Delays and Applications to Multi-Intersection Traffic Light Control”, *Proc. of 2018 Intl. Workshop on Discrete Event Systems*, pp. 50-55, 2018.
- [C241] Zhang, Y., Cassandras, C.G., Li, W., and Mosterman, P., “A Discrete-Event and Hybrid Simulation Framework Based on SimEvents for Intelligent Transportation System Analysis”, *Proc. of 2018 Intl. Workshop on Discrete Event Systems*, pp. 323-328, 2018.
- [C242] Yu, X., Andersson S.B., Zhou, N. and Cassandras, C.G., “Optimal visiting schedule search for persistent monitoring of a finite set of targets”, *Proc. of 2018 American Control Conference*, pp. 4032-4037, 2018.
- [C243] Meng, X., Houshmand, A., and Cassandras, C.G., “Hybrid System Modeling of Multi-Agent Coverage Problems with Energy Depletion and Repletion”, *Proc. of 6th IFAC Conference on Analysis and Design of Hybrid Systems*, pp. 223-228, 2018.
- [C244] Zhang, Y., and Cassandras, C.G., “The Penetration Effect of Connected Automated Vehicles in Urban Traffic: an Energy Impact Study”, *Proc. of 2018 IEEE Conference on Control Technology and Applications*, pp. 620-625, 2018.
- [C245] Houshmand, A., and Cassandras, C.G., “Eco-Routing of Plug-In Hybrid Electric Vehicles in Transportation Networks”, *Proc. of 21st IEEE Intl. Conference on Intelligent Transportation Systems*, pp. 1508-1513, 2018.
- [C246] Zhang, Y., and Cassandras, C.G., “A Decentralized Optimal Control Framework for Connected Automated Vehicles at Urban Intersections with Dynamic Resequencing”, *Proc. of 57th IEEE Conference on Decision and Control*, pp. 217-222, 2018.
- [C247] Meng, X., and Cassandras, C.G., “Optimal Control of Autonomous Vehicles for Non-Stop Signalized Intersection Crossing”, *Proc. of 57th IEEE Conference on Decision and Control*, pp. 6988-6993, 2018.

- [C248] Meng, X., Houshmand, A., and Cassandras, C.G., “Multi-Agent Coverage Control with Energy Depletion and Repletion”, *Proc. of 57th IEEE Conference on Decision and Control*, pp. 2101-2106, 2018.
- [C249] Xiao, W., Belta, C. and Cassandras, C.G., “Decentralized Optimal Merging at an Intersection: a Control Barrier Function Approach”, in *Proc. of 10th ACM/IEEE Intl. Conference on Cyber-Physical Systems*, pp. 270-279, 2019.
- [C250] Meng, X., and Cassandras, C.G., “A Real-Time Optimal Eco-driving for Autonomous Vehicles Crossing Multiple Signalized Intersections”, to appear in *Proc. of 2019 American Control Conference*, 2019.
- [C251] Xiao, W., and Cassandras, C.G., “Decentralized Optimal Merging Control for Connected and Automated Vehicles”, to appear in *Proc. of 2019 American Control Conference*, 2019.
- [C252] Zhou, N., Cassandras, C.G., Yu, X., and Andersson S.B., “Optimal Threshold-Based Distributed Control Policies for Persistent Monitoring on Graphs”, to appear in *Proc. of 2019 American Control Conference*, 2019.
- [C253] Chen, R., Cassandras, C.G., and Tahmasbi-Sarvestani, A., “Time and Energy-Optimal Lane Change Maneuvers for Cooperating Connected and Automated Vehicles”, subm. to *58th IEEE Conference on Decision and Control*, 2019.
- [C254] Zhang, Y., and Cassandras, C.G., “Joint Time and Energy-Optimal Control of Connected Automated Vehicles at Signal-Free Intersections with Speed-Dependent Safety Guarantees”, subm. to *58th IEEE Conference on Decision and Control*, 2019.
- [C255] Xiao, W., and Cassandras, C.G., “Conditions for Improving the Computational Efficiency of Decentralized Optimal Merging Controllers for Connected and Automated Vehicles”, subm. to *58th IEEE Conference on Decision and Control*, 2019.
- [C256] Welikala, S., and Cassandras, C.G., “Distributed Non-convex Optimization of Multi-agent Systems Using Boosting Functions to Escape Local Optima”, subm. to *58th IEEE Conference on Decision and Control*, 2019.
- [C257] Welikala, S., and Cassandras, C.G., “Distributed Non-convex Optimization Using Boosting Functions to Escape Local Optima in Multi-Agent Coverage Control”, subm. to *58th IEEE Conference on Decision and Control*, 2019.
- [C258] Pinto, S.C., Andersson, S.B., Hendrickx, J.M., and Cassandras, C.G., “Optimal Multi-Agent Persistent Monitoring of the Uncertain State of a Finite Set of Targets”, subm. to *58th IEEE Conference on Decision and Control*, 2019.

- [C259] Xiao, W., and Cassandras, C.G., “Decentralized Merging Control in Traffic Networks with Noisy Vehicle Dynamics: a Joint Optimal Control and Barrier Function Approach”, subm. to *22nd IEEE Intl. Conference on Intelligent Transportation Systems*, 2019.
- [C260] Swaszek, R., and Cassandras, C.G., “Load Balancing in Mobility-on-Demand Systems: Reallocation Via Parametric Control Using Concurrent Estimation”, subm. to *22nd IEEE Intl. Conference on Intelligent Transportation Systems*, 2019.
- [C261] Houshmand, A., Wollenstein, S., and Cassandras, C.G., “The Penetration Rate Effect of Connected and Automated Vehicles in Mixed Traffic Routing”, subm. to *22nd IEEE Intl. Conference on Intelligent Transportation Systems*, 2019.
- [C262] Salazar, M., Houshmand, A., Cassandras, C.G., and Pavone, M., “Optimal Routing and Energy Management Strategies for Plug-in Hybrid Electric Vehicles”, subm. to *22nd IEEE Intl. Conference on Intelligent Transportation Systems*, 2019.

Editorials/Reviews

- [E1] Cassandras, C.G., “Electronic Submissions Now Accepted”, *IEEE Trans. on Automatic Control*, AC-44, 2, p. 238, 1999.
- [E2] Cassandras, C.G., “State of the Transactions Y2K”, *IEEE Trans. on Automatic Control*, AC-45, 1, p. 2, 2000.
- [E3] Cassandras, C.G., “The Good, the Bad, and the Ugly”, *IEEE Trans. on Automatic Control*, AC-46, 1, p. 2, 2001.
- [E4] Basu, S., and Cassandras, C.G., “A Note From the Editors”, *IEEE Trans. on Automatic Control*, AC-53, 1, p. 3, 2008.
- [E5] Cassandras, C.G., “Quantity vs Quality”, *IEEE Trans. on Automatic Control*, AC-54, 5, pp. 933-934, 2009.
- [E6] Cassandras, C.G., “The Lighter Side of Reviewing, Editing, and Research in General”, *IEEE Trans. on Automatic Control*, AC-54, 12, pp. 2729-2731, 2009.
- [E7] Cassandras, C.G., “A Healthy Identity Crisis”, *IEEE Control Systems Magazine*, Vol. 32, 1, pp. 10-14, 2012.

- [E8] Cassandras, C.G., ““It’s Just So Darn Hard...””, *IEEE Control Systems Magazine*, Vol. 32, 2, pp. 10-11, 2012.
- [E9] Cassandras, C.G., “Fifty Years of CDCs: Rises, Falls, and Trends in Systems and Control”, *IEEE Control Systems Magazine*, Vol. 32, 3, pp. 10-13, 2012.
- [E10] Cassandras, C.G., “Plagiarism and Other Sins”, *IEEE Control Systems Magazine*, Vol. 32, 4, pp. 10-12, 2012.
- [E11] Cassandras, C.G., “Open Access and the Future of Scientific Publishing”, *IEEE Control Systems Magazine*, Vol. 32, 5, pp. 10-12, 2012.
- [E12] Cassandras, C.G., “A Year in Retrospect”, *IEEE Control Systems Magazine*, Vol. 32, 6, pp. 10-12, 2012.
- [E13] Cassandras, C.G., Review of “Freeway Traffic Modelling and Control” by Ferrara, Sacone, and Siri, *IEEE Control Systems Magazine*, Vol. 39, 1, pp. 68-71, 2019.

Miscellaneous (Non-Refereed Conferences, Technical Reports, etc.)

- [M1] Cassandras, C.G., "Uncertainty Propagation in Discrete Linear Systems", Technical Report, Dept. of Engineering and Applied Science, Yale University, 1977.
- [M2] Cassandras, C.G., "A Model of a TCI Production Line", Technical Report TCI-12, C.S. Draper Laboratory, January 1981.
- [M3] Ho, Y.C., and Cassandras, C.G., "A Concise Explanation of Sensitivity in General Terms", Technical Report FM92200-53, C.S. Draper Laboratory, July 1981.
- [M4] Ho, Y.C. (Ed.) "SPEEDS: A New Technique for the Analysis of Discrete Event Dynamic Systems", Division of Applied Sciences Technical Report, Harvard University, February 1983.
- [M5] Cassandras, C.G., "Perturbation Analysis of Discrete Event Systems in the Event Domain", Dept. of Electrical and Computer Engineering Technical Report, University of Massachusetts/Amherst, August 1984.
- [M6] Burstein, M., Ort, D., and Cassandras, C.G., "The Interaction of Rivalry and Experience Curve in the Optimal Planning of New Manufacturing Technology when Further Technical Advance is Anticipated", *ORSA/TIMS Conf.*, April 1985.

- [M7] Cassandras, C.G., "Dynamic Routing in Networks: the Perturbation Analytic Approach", *IEEE Intl. Symp. Information Theory*, June 1985.
- [M8] Cassandras, C.G., and Strickland, S.G., "Applications of Perturbation Analysis to Communication Networks", Dept. of Electrical and Computer Engineering Technical Report, University of Massachusetts/Amherst, August 1985.
- [M9] Cassandras, C.G., "Autonomous Resource Allocation in Flexible Manufacturing Systems", *ORSA/TIMS Conf.*, November 1985.
- [M10] Cassandras, C.G., and Strickland, S.G., "Performance Sensitivity Information from a Single Sample Realization", *1st IEEE Workshop Computer-Aided Modeling, Analysis and Design of Communication Links and Networks*, May 1986.
- [M11] Cassandras, C.G., and Hruby, M., "Modeling and Analysis of a High Performance Distributed Processing System", Dept. of Electrical and Computer Engineering Technical Report, University of Massachusetts/Amherst, September 1986.
- [M12] Cassandras, C.G., "Sample Path Analysis and Optimization of a State Dependent Routing Strategy", Dept. of Electrical and Computer Engineering Technical Report, University of Massachusetts/Amherst, September 1986.
- [M13] Cassandras, C.G., "Error Correction in Perturbation Algorithms for Queueing Systems", *ORSA/TIMS Conf.*, October 1986.
- [M14] Cassandras, C.G., Lee, J.I., and Hruby, M., "Performance Evaluation of a Computer-Controlled Tracking System", Dept. of Electrical and Computer Engineering Technical Report, University of Massachusetts/Amherst, February 1987.
- [M15] Ho, Y.C., Suri, R., Cao, X., Cassandras, C.G., and Zazanis, M.A., "Perturbation Analysis (PA) of Discrete Event Systems - Limited or Unlimited?", *ORSA/TIMS Conf.*, May 1987.
- [M16] Cassandras, C.G., and Strickland, S.G., "Sensitivity Analysis of Markov Processes with Discrete Parameters", *9th Symp. on Math. Prog. with Data Perturbations*, May 1987.
- [M17] Lee, J.I., and Cassandras, C.G., "A Simple Adaptive Load-Balancing Scheme for a Computer-Controlled Tracking System", Dept. of Electrical and Computer Engineering Technical Report, University of Massachusetts/Amherst, July 1987.

- [M18] Lee, J.I., and Cassandras, C.G., "A Procedure for Generating Real-Time Sensitivity Estimates of Queueing Systems through Augmented Markov Chains", Dept. of Electrical and Computer Engineering Technical Report, University of Massachusetts/Amherst, July 1987.
- [M19] Cassandras, C.G., "Adaptive Control in Queueing Systems", *11th Triennial Conf. on Operations Research*, August 1987.
- [M20] Strickland, S.G., and Cassandras, C.G., "Efficient Sensitivity Estimation Using Augmented Systems", *2nd IEEE Workshop Computer-Aided Modeling, Analysis and Design of Communication Links and Networks*, October 1988.
- [M21] Mohanty, B., Cassandras, C.G., Towsley, D., and Kurose, J.F., "A Comparative Performance Study for Virtual Circuit and Datagram Based Routing Algorithms", Dept. of Electrical and Computer Engineering Technical Report, University of Massachusetts/Amherst, October 1988.
- [M22] Cassandras, C.G., Djaferis, T.E., Han, Y.N., Lewis, J., and Looze, D.P., "Dynamic Dispatching Control Algorithms Based on Load Balancing", Dept. of Electrical and Computer Engineering Technical Report, University of Massachusetts/Amherst, April 1989.
- [M23] Cassandras, C.G., and Strickland, S.G., "On the Constructability of Parameterized Sample Path Families of Discrete Event Systems", *SIAM Conf. on Control in the 90's*, May 1989.
- [M24] Cassandras, C.G., and Han, Y.N., "Optimal Quality Control for a Manufacturing Cell", *TIMS XXIX Conf.*, August 1989.
- [M25] Cassandras, C.G., Gong, W-B., and Pan, J., "Perturbation Analysis with Rescheduling", *1st Perturbation Analysis Workshop*, August 1989.
- [M26] Cassandras, C.G., "Sensitivity Analysis in Networks with Real-Time Traffic", *28th ORSA/TIMS Conference*, October 1989.
- [M27] Cassandras, C.G., Djaferis, T.E., Lewis, J., and Looze, D.P., "Dispatching through Dynamic Load Balancing (DLB): The "Noontime" Scenario", Dept. of Electrical and Computer Engineering Technical Report, University of Massachusetts/Amherst, January 1990.
- [M28] Cassandras, C.G., "Dynamic Network Management in the Presence of Real-Time and Non-Real-Time Traffic", *RADC Workshop on Network Management*, March 1990.
- [M29] Cassandras, C.G., Lee, J.I., and Ho, Y.C., "'Parallel' On-Line Simulation Analysis of Transient Performance Measures in Networks", *3rd IEEE Workshop*

Computer-Aided Modeling, Analysis and Design of Communication Links and Networks, September 1990.

- [M30] Cassandras, C.G., "Timed Models and Sensitivity Analysis for Discrete Event Systems", *1991 Intern. Workshop on Discrete Event Systems*, June 1991.
- [M31] Cassandras, C.G., and Pan, J., "Flow Control of Bursty Traffic Using Perturbation Analysis", *1992 ORSA Telecommunications Conference*, March 1992.
- [M32] Sparaggis, P., and Cassandras, C.G., "Weak Forms of Majorization with Applications to Finite-Capacity Queueing Systems", *1992 ORSA/TIMS Conference*, April 1992.
- [M33] Cassandras, C.G., "Perturbation Analysis and "Rapid Learning" for Discrete Event Systems: An Overview and a Case Study", *Intern. Workshop on Discrete Event Systems*, August 1992.
- [M34] Cassandras, C.G., "Sample Path Constructability for Discrete Event Systems", *ORSA/TIMS/INRIA/SMAI Conf. on Applied Probability*, June 1993.
- [M35] Cassandras, C.G., "Rapid Learning' Techniques for Discrete Event Systems", *IEE Colloquium on Discrete Event Systems*, June 1993.
- [M36] Cassandras, C.G., "Control, Scheduling, and Performance Analysis of Queueing Systems", *Discrete Event Systems Summer School*, June 1993.
- [M37] Bao, G., Cassandras, C.G., Djaferis, T.E., Gandhi, A., and Looze, D.P., "Elevator Dispatchers for Downpeak Traffic", Dept. of Electrical and Computer Engineering Technical Report, University of Massachusetts/Amherst, January 1994.
- [M38] Cassandras, C.G., "Perturbation Analysis and Beyond", *Symposium on Decision and Control*, April 1994.
- [M39] Gandhi, A., and Cassandras, C.G., "Optimal Control of Transportation Polling Models with Applications to the Control of Elevator Systems", *ORSA/TIMS/ Conf.*, April 1994.
- [M40] Gandhi, A., and Cassandras, C.G., "Scheduling Elevators with Multiple Performance Criteria", *ORSA/TIMS/ Conf.*, October 1994.
- [M41] Julka, V., and Cassandras, C.G., "Marking/Phantomizing Perturbation Analysis Techniques for Discrete Stochastic Optimization Problems", *ORSA/TIMS/ Conf.*, October 1994.
- [M42] Cassandras, C.G., "On-Line Determination of Policy Parameters for Some

Markov Decision Problems in Telecommunication Applications", *3rd ORSA Telecommunications Conf.*, March 1995.

- [M43] Cassandras, C.G., "'Rapid Learning' Techniques for Complex Design and Optimization Problems", *1995 UTECA Conf.*, April 1995.
- [M44] Cassandras, C.G., and Julka, V., "On-Line Optimization Algorithms for Stochastic Discrete Resource Allocation Problems", *8th Applied Probability Conf.*, June 1995.
- [M45] Cassandras, C.G., "Optimal Call Admission in Circuit-Switched Networks", *TIMS XXXIII Conf.*, July 1995.
- [M46] Bergendahl, J., Cassandras, C.G., Esterman, D. and Sullivan, M., "Computer-Controlled LEGO Factory", Dept. of Electrical and Computer Engineering Technical Report, University of Massachusetts/Amherst, June 1995.
- [M47] Bao, G., and Cassandras, C.G., "Stochastic Comparison Algorithm: Theory and Applications", Dept. of Electrical and Computer Engineering Technical Report, University of Massachusetts/Amherst, November 1995.
- [M48] Cassandras, C.G., and Bao, G., "Concurrent Simulation and Response Surface Estimation for Metamodeling", *AIS'96 Conf.*, April 1996.
- [M49] Cassandras, C.G., and Vazquez-Abad, F., "Weak Convergence of Decentralized Asynchronous Stochastic Approximation Algorithms", *INFORMS Conf.*, May 1996.
- [M50] Cassandras, C.G., "On-Line Control and Optimization of Manufacturing Systems Using Concurrent Estimation Techniques", *AMS-SIAM 1996 Workshop*, June 1996.
- [M51] Cassandras, C.G., and Gong, W-B., "A New Paradigm for Fast Interactive Simulation", Technical Report RL-TR-96-259, March 1997.
- [M52] Cassandras, C.G., "Concurrent Simulation: A Tutorial", *SPIE 11th Annual Intl. Symposium*, April 1997.
- [M53] Cassandras, C.G., Dai, L., and Panayiotou, C.G., "Dynamic Control in Stochastic Resource Allocation Problems", *9th Applied Probability Conf.*, June 1997.
- [M54] Cassandras, C.G., "Concurrent Simulation for Hard Stochastic Optimization Problems", *6th Intl Colloquium on Numerical Analysis and Computer Science with Applications*, August 1997.
- [M55] Cassandras, C.G., and Gokbayrak, K., "Adaptive Admission Control in Wireless

Networks", *INFORMS Conf.*, May 1999.

- [M56] Panayiotou, C., and Cassandras, C.G., "A Perturbation Analysis-Based Solution to the Ground-Holding Problem in Air Traffic Control", *INFORMS Conf.*, November 1999.
- [M57] Cassandras, C.G., and Yu, R., "On-Line Lot Size Optimization in Manufacturing Systems", *INFORMS Conf.*, November 1999.
- [M58] Cassandras, C.G., "From Programmable Logic Control to Discrete Event Systems", *NSF Workshop on Logic Control for Manufacturing Systems*, June 2000.
- [M59] Cassandras, C.G., "Joys and Perils of Automation", *NSF Workshop for High School Teachers of Math. and Science*, June 2000.
- [M60] Cassandras, C.G., "Discrete Event Simulation", *Intl. Workshop on Formal Methods for Performance Analysis*, July 2000.
- [M61] Gokbayrak, K., and Cassandras, C.G., "The 'Surrogate Problem' Methodology for Discrete Stochastic Optimization Problems", Dept. of Manufacturing Engineering Technical Report, Boston University, July 2000.
- [M62] Panayiotou, C., and Cassandras, C.G., "Enabling Modeling and Simulation Technologies for Real-Time Course of Action Analysis", Information Superiority Conference, June 2001.
- [M63] Panayiotou, C., and Cassandras, C.G., "Performance Optimization of Complex Systems", *Electronic Prototyping Review*, July 2001.
- [M64] Panayiotou, C., Cassandras, C.G., Sun, G., Wardi, Y., and Melamed, B., "Stochastic Fluid Models for Control and Optimization of Communication Networks with QoS Requirements", *Intl. Workshop on Applied Probability*, January 2002.
- [M65] Cassandras, C.G., Baillieul, J., Castanon, D., Paschalidis, I., Gao, R., Deshmukh, A., and Gong, W., "A Control and Optimization Science Base for Sensor Networks in Adverse and Stochastic Environments", in *Proceedings of 2005 Design, Service, and Manufacturing Research and Grantees Conf.*, January 2005.
- [M66] Cassandras, C.G., and Zhuang, S., "Dynamic Voltage Scaling for Power-Limited Systems with Hard and Soft Real-Time Tasks", *2006 INFORMS Annual Meeting*, Nov. 2006.

- [M67] Baillieul, J., Cassandras, C.G., Castanon, D., Paschalidis, I., Gao, R., Deshmukh, A., and Gong, W., "A Control and Optimization Science Base for Sensor Networks in Adverse and Stochastic Environments: Selected Advances of 2007", in *Proceedings of 2008 Civil, Mechanical and Manufacturing Innovation Grantees Conf.*, June 2008.
- [M68] Cassandras, C.G., and Ning, X., "Dynamic Sleep Time Control in Wireless Sensor Networks Using Traffic Statistics", *2008 INFORMS Annual Meeting*, Oct. 2008.
- [M69] Cassandras, C.G., Bestavros, A., Paschalidis, I.C., Gao, R., and Gong, W., "Event-driven Sensing for Enterprise Reconfigurability and Optimization", *2008 INFORMS Annual Meeting*, Oct. 2008.
- [M70] Paschalidis, I.C., and Cassandras, C.G., "New Results on Distributed wireless sensor networks for long-term deployments", *DOE NNSA University and Industry Technical Interchange Review Meeting (UITI 2008)*, Dec. 2008.
- [M71] Gao, R., Deshmukh, A., Gong, W., Baillieul, J., Cassandras, C.G., Castanon, D., and Paschalidis, I., "A Control and Optimization Science Base for Sensor Networks in Adverse and Stochastic Environments: Selected Advances of 2008", in *Proceedings of 2009 Civil, Mechanical and Manufacturing Innovation Grantees Conf.*, June 2009.
- [M72] Paschalidis, I.C., and Cassandras, C.G., "Wireless Sensor Networks for Localization and Coverage Control", *DOE NNSA University and Industry Technical Interchange Review Meeting*, Dec. 2009.
- [M73] Cassandras, C.G., "Cooperative Control and Optimization in an Uncertain Asynchronous Wireless Networked World", *18th IEEE Mediterranean Conference on Control and Automation*, June 2010.
- [M74] Cassandras, C.G., and Paschalidis, I.C., "Optimizing the Transportation System's Response Capabilities", *DHS 2011 Science Conference - Fifth Annual University Network Summit*, March 2011.
- [M75] Geng, Y., and Cassandras, C.G., "A "Smart Parking" Approach for Urban Settings", *INFORMS 2011 Northeastern Conference*, May 2011.
- [M76] Rossell, D., Cassandras, C.G., Wang, J., and Paschalidis, I.C., "Network Anomaly Detection using Adaptive Resonance Theory", *Advanced Cyber Security Center Second Annual Working Conf.*, Boston, MA, Nov. 2012.
- [M77] Wang, J., Paschalidis, I.C., Rossell, D., and Cassandras, C.G., "Anomaly Detection Techniques for Data Exfiltration Attempts", *Advanced Cyber Security Center Second Annual Working Conf.*, Boston, MA, Nov. 2012.

- [M78] Geng, Y., and Cassandras, C.G., "A New "Smart Parking" System Based on Optimal Resource Allocation and Reservations", *Johns Hopkins Workshop on Cyber-Physical Systems*, Baltimore, MD, March 2013.
- [M79] Fleck, J.L., Pavel, A.B., and Cassandras, C.G., "Integrating mutation and gene expression cross-sectional data to infer cancer progression", *Systems Approaches to Cancer Biology Conference*, Woods Hole, MA, April 2016.
- [M80] Swaszek, R. and Cassandras, C.G., "Bike Sharing System Inventory Management: Somerville Case Study," *Boston Area Research Initiative Spring Conference 2019*, Boston, MA, April 2016.
- [M81] Wollenstein, S., Cassandras, C.G., and Paschalidis, I., "Congestion Maps: A visual interactive data-driven platform tracking annual traffic conditions in the Eastern Massachusetts area," *Boston Area Research Initiative Spring Conference 2019*, Boston, MA, April 2016.

Patents

"Method and System for Dynamic Parking Allocation in Urban Settings", Provisional Patent 61/521,424.

Grants and Contracts Awarded

1. "Advanced Design Aids for Computer Integrated Manufacturing"
Principal Investigator
ITP Boston, Inc., 2/85 - 2/87, \$44,000.
2. "Perturbation Analysis of Networks with Dynamic Routing Strategies"
Principal Investigator
National Science Foundation (Res. Init. Grant), 6/85 - 12/87, \$60,000.
3. "Real-Time Control and Performance Optimization of Networks"
Principal Investigator
General Electric Co., 9/85 - 9/86, \$25,000.
4. "Computer-Aided Analysis of High Performance Distributed Processing Systems"
Principal Investigator
General Electric Co., 11/86 - 5/88, \$25,000.
5. "Intelligent Controllers for High Performance Distributed Processing Systems"

Principal Investigator
General Electric Co., 10/87-4/89, \$25,000.

6. "Telecommunication System Analysis"
Co-Principal Investigator (with D. Towsley, J. Kurose, W. Kohler and C.M. Krishna)
Department of Transportation , 11/85 - 9/87, \$15,000.
7. "Resource Contention Management in Parallel Systems"
Principal Investigator (with D. Towsley, J. Kurose)
Rome Air Development Center, 5/87 - 9/87, \$63,000.
8. "Problems in Survivable Multi-Media Networks"
Co-Principal Investigator (with D. Towsley, J. Kurose)
Office of Naval Research, 6/87 - 1/90, \$343,000.
9. "Problems in Survivable Multi-Media Networks" (extension)
Co-Principal Investigator (with D. Towsley, J. Kurose)
Office of Naval Research, 1/90 - 9/91, \$165,000.
10. "Survivable Routing for Dynamically Changing Networks"
Principal Investigator (with D. Towsley, J. Kurose)
Rome Air Development Center, 4/88 - 4/89, \$67,250.
11. "Dynamic Dispatching Control"
Principal Investigator (with T. Djaferis, D. Looze)
United Technologies, 3/88 - 12/94, \$300,000.
12. "Sensitivity Analysis and Real-Time Control of Discrete Event Systems"
Principal Investigator
National Science Foundation, 8/88 - 2/92, \$175,000.
13. "Design and Evaluation of Scheduling Policies for Real-Time and Non-Real-Time Traffic in Communication Networks"
Co-Principal Investigator (with D. Towsley, J. Kurose)
DARPA/NASA, 3/89 - 7/91, \$445,000.
14. Workshop on Discrete Event Systems
Principal Investigator
National Science Foundation, June 1991, \$15,000
15. IBM Graduate Fellowship for PhD candidate P. Sparaggis
Principal Investigator
IBM, 8/91 - 8/93, \$36,000
16. "Discrete Event Dynamic System Based Approaches for Scheduling

- Transmissions in Multihop Packet Radio Networks"
Principal Investigator
Naval Research Laboratory, 10/91 - 9/92, \$45,000
17. "Analysis, Control, and Optimization of Discrete Event Dynamic Systems"
Co-Principal Investigator (with W-B. Gong and researchers from
Harvard University and Boston University)
National Science Foundation, 9/92 - 8/96, \$390,000.
 18. "Discrete Event Dynamic System Based Approaches for Control in
Integrated Voice/Data Multihop Radio Networks"
Principal Investigator
Naval Research Laboratory, 10/92 - 9/93, \$48,000
 19. "Dynamic Dispatching Control for Elevator Systems"
Principal Investigator
National Science Foundation, 9/93 - 9/95, \$30,000
 20. REU Supplement to "Dynamic Dispatching Control for Elevator Systems"
Principal Investigator
National Science Foundation, 9/94 - 9/95, \$10,000
 21. "A New Paradigm for Fast, Interactive Simulation"
Principal Investigator (with W-B. Gong)
Rome Laboratory, 7/94 - 9/95, \$100,000
 22. Editorial Expenses, IEEE Transactions on Automatic Control
Principal Investigator, *IEEE, 8/94 - 12/06, \$1,040,000*
 23. "Design, Optimization, and Applications of Discrete Event Dynamic Systems"
Co-Principal Investigator (with Y.C. Ho)
Air Force Office of Scientific Research, 1/95 - 1/98, \$333,000
 24. "Enabling Technologies for Real-Time Simulation"
Principal Investigator (with W-B. Gong)
Rome Laboratory, 9/95 - 9/96, \$110,000
 25. "Analysis, Control, and Optimization of Discrete Event Dynamic Systems"
Co-Principal Investigator (with researchers from
Harvard University and University of Massachusetts)
National Science Foundation, 1/96 - 1/00, \$400,000.
 26. "Real-Time Simulation Technologies for Complex Systems"
Principal Investigator (with W-B. Gong)
Air Force Research Laboratory, 5/97 - 4/99, \$102,000

27. "Performance Analysis of a Class of Hybrid Transportation Systems"
Principal Investigator
RTZ-CRA Group, \$10,000
28. "Optimization and Applications of Discrete Event Dynamic Systems"
Principal Investigator (with Y.C. Ho, Harvard University)
Air Force Office of Scientific Research, 1/98 - 12/00, \$525,000
29. "Data Clustering through Neural Networks"
Principal Investigator
ALCOA Co., \$11,000
30. "Synergistic and Decentralized Decision Making in Complex Stochastic Systems"
Co-Principal Investigator (with M. Caramanis, Y. Paschalidis and researchers
from MIT and Tufts University)
National Science Foundation, 10/98 - 9/01, \$1,162,000.
31. "Modeling and Diagnosis Methods for Large-Scale Complex Networks"
Principal Investigator (with researchers at Harvard U., MIT,
U. of Massachusetts, U. of Washington)
EPRI/DOD, 1/99 - 12/01, \$1,500,000.
32. "Modeling Abstraction and Simulation Techniques"
Principal Investigator
Air Force Research Laboratory, 5/99 - 4/02, \$200,000
33. "Quality of Service Provisioning, Scheduling, and Pricing in Communication
Networks"
Co-Principal Investigator (with Y. Paschalidis and J.Q. Hu)
NOKIA, 9/99 - 12/01, \$55,000
34. "Performance Optimization of Complex Systems"
Principal Investigator (with Y.C. Ho, Harvard University)
Air Force Office of Scientific Research, 12/00 - 4/04, \$537,000
35. "Vulnerability Assessment Tools for Complex Information Networks"
Principal Investigator (with researchers at Harvard U., Georgia Tech.,
U. of Massachusetts)
Army Research Office, 5/01 - 4/06, \$2,200,000
36. "Development of a Discrete Event Dynamic Systems Curriculum Using a
Web-Based Real-Time Simulated Factory"
Co-Principal Investigator (with P. Vakili, J.Q. Hu)
National Science Foundation, 4/01 - 12/04, \$500,000
37. "Cooperative Mission Control for Unmanned Air Vehicles"

- Co-Principal Investigator (with D. Castanon)
Air Force Office of Scientific Research, 5/01 - 4/04, \$438,000
38. "A Control and Optimization Science Base for Sensor Networks in Adverse and Stochastic Environments"
Principal Investigator (with D. Castanon, I. Paschalidis, J. Baillieul and researchers at U. of Massachusetts)
National Science Foundation, 9/03 - 8/09, \$2,500,000
39. "Performance Optimization of Complex Systems"
Principal Investigator (with Y.C. Ho, Harvard University)
Air Force Office of Scientific Research, 4/04 - 3/07, \$818,000
40. "Cooperative Mission Control for Unmanned Air Vehicles in Complex Stochastic Environments"
Co-Principal Investigator (with D. Castanon)
Air Force Office of Scientific Research, 3/04 - 2/07, \$464,000
41. "Development of a Discrete Event and Hybrid System Simulator"
Principal Investigator
The MathWorks, 5/04 - 12/06, \$42,000
42. "Control of Wireless Sensor Networks"
Principal Investigator
Honeywell Laboratories, 12/04 - 12/05, \$15,000
43. "Distributed Wireless Sensor Networks for Long-Term Deployments"
Co-Principal Investigator (with I. Paschalidis)
Dept. of Energy, 9/06 - 8/11, \$1,130,000
44. "Distributed Mission Control for Unmanned Air Vehicles in Stochastic Environments"
Co-Principal Investigator (with D. Castanon)
Air Force Office of Scientific Research, 7/07 - 7/10, \$466,000
45. "Performance Optimization of Complex Systems"
Principal Investigator
Air Force Office of Scientific Research, 7/07 - 11/08, \$265,000
46. "Event-Driven Sensing for Enterprise Reconfigurability and Optimization"
Principal Investigator (with I. Paschalidis, A. Bestavros and researchers at U. of Massachusetts)
National Science Foundation, 11/07 - 10/11, \$2,000,000
47. "Real-Time Optimization in Complex Stochastic Environments"
Principal Investigator

Air Force Office of Scientific Research, 3/09 - 11/11, \$373,000

48. "Smart Adaptive Reliable Teams for Persistent Surveillance"
Co-Principal Investigator (with C. Belta and
researchers at MIT, U. of Pennsylvania, UC Berkeley)
Office of Naval Research, 9/09 - 5/16, \$4,500,000
49. "Intelligent Systems and Networks"
Co-Principal Investigator
KIOS Research Center for Intelligent Systems and Networks, Cyprus
1/11 – 12/14, \$62,000
50. "A Coordinated Approach to Cyber-Situation Awareness Based on Traffic
Anomaly Detection"
Co-Principal Investigator (with I. Paschalidis, M. Crovella and
a researcher at U. of Wisconsin)
Army Research Office, 9/11 – 8/14, \$600,000
51. ""Smart Parking": An Optimal Parking Assignment and Reservation System"
Principal Investigator
Boston University Office of Technology Development,
1/12 – 12/15, \$50,000
52. "Real-Time Optimization in Complex Stochastic Environments"
Principal Investigator
Air Force Office of Scientific Research, 4/12 - 3/15, \$389,647
53. "A Cyber-Physical Infrastructure for the "Smart City"
Principal Investigator (with I. Paschalidis, A. Bestavros, A. Kfoury and
researchers at U. of Massachusetts, U. of Connecticut)
National Science Foundation, 9/12 - 9/16, \$1,000,000
54. "Center for Innovation in Point of Care Technologies for the Future
of Cancer Care"
Co-Investigator (PI: C. Klapperich)
National Institutes of Health NIBIB, 7/12 - 6/17, \$8,000,000
55. "Effective Classification and Actionable Obstacle Detection from Roadway Data"
Principal Investigator (with I. Paschalidis)
City of Boston, 9/13 - 9/14, \$85,000
56. "A Smart-city Cloud-based Open Platform and Ecosystem (SCOPE)"
Co-Principal Investigator (with A. Bestavros, L. Hutyra)
National Science Foundation, 8/14 - 7/17, \$800,000
57. "Detection and tracking of multiple dynamic targets using cooperating networked

- agents”
Co-Principal Investigator (with S. Andersson)
National Science Foundation, 8/15-7/18, \$400,000
58. “Real-Time Optimization in Complex Stochastic Environments”
Principal Investigator
Air Force Office of Scientific Research, 9/15 - 9/18, \$465,293
59. “Workshop on Smart Cities”
Principal Investigator
National Science Foundation, 11/15-10/16, \$80,000
60. “New Frontiers for SimEvents: Advanced Driver Assistance Systems (ADAS) and Automated Sensitivity Analysis”
Principal Investigator
The MathWorks, 6/16 - 5/17, \$50,000
61. “Dynamic Resource Allocation for Energy-Efficient Urban Mobility”
Principal Investigator
Oak Ridge National Laboratory, 12/16-11/19, \$156,252
62. “New Driving Models and Controllers for Connected Autonomous Vehicles”
Principal Investigator
BOSCH, 03/17-02/20, \$328,057
63. “Simultaneous Optimization of Vehicle and Powertrain Operation Using Connectivity and Automation”
Co-Principal Investigator (with researchers at U. of Delaware, U. of Michigan, ORNL, BOSCH)
ARPA-E, 04/17-03/20, \$ 3,357,191
64. “A Dynamic Optimization Framework for Connected Automated Vehicles in Urban Environments”
Principal Investigator (with I. Paschalidis)
National Science Foundation, 04/17-03/20, \$ 425,000
65. “From Personalized Predictions to Better Control of Chronic Health Conditions”
Co-Principal Investigator (with I. Paschalidis)
National Science Foundation, 04/18-03/21, \$ 900,000
66. “New Frontiers for SimEvents: Advanced Driver Assistance Systems”
Principal Investigator
The MathWorks, 4/18 - 3/21, \$214,333
67. “Improving Highway Traffic Mobility with a Safe Swarm of Smart Vehicles”
Principal Investigator

Honda R&D Americas, 11/18-10/21, \$316,000

68. “Real-Time Distributed Optimization in Networked Multi-Agent Systems”
Principal Investigator
Air Force Office of Scientific Research, 5/19 - 4/22, \$490,000

Doctoral Dissertations Supervised

• At University of Massachusetts, Amherst:

1. "Stochastic Sample Path Analysis of Discrete Event Dynamic Systems",
Stephen G. Strickland, 1988.
2. "Analysis and Optimization of Flow Control and Dynamic Scheduling Problems in
Queueing Systems",
Jung-Bong Suk, 1989.
3. "A Dynamic Load Balancing Approach to the Control of Multi-Server Polling
Systems with Applications to Elevator System Dispatching",
James Lewis, 1991.
4. "Sensitivity Analysis and Control of Queueing Systems with Real-Time Constraints
and Discontinuous Performance Measures",
Michelle H. Kallmes, 1992.
5. "Modeling and Performance Issues in Routing Problems",
Bibhu Mohanty, 1993
6. "Sample Path Analysis and Control of Finite Capacity Queueing Systems",
Panayotis Sparaggis, 1993
7. "Sample Path Based Sensitivity Analysis Techniques in Flow Control Problems",
Jie Pan, 1993
8. "Performance Response Surface Estimation Using Perturbation Analysis
Techniques",
Gang Bao, 1994
9. "Analysis and Control of Multiple Server Multiple Queue Polling Models",
Asif Gandhi, 1995
10. "Sample Path Techniques for Resource Allocation in Wireless Networks",
Vibhor Julka, 1995
11. "Performance Optimization Strategies for Discrete Event and Hybrid Systems",
David Pepyne, 1998
12. "Sample Path Optimization Techniques for Dynamic Resource Allocation
in Discrete Event Systems",
Christos Panayiotou, 1999

• **At Boston University:**

13. "New Optimization Methods for Some Complex Systems",
Kagan Gokbayrak, 2000
14. "Perturbation Analysis and On-Line Control for Discrete Event
Systems via Stochastic Fluid Models",
Gang Sun, 2003
15. "Perturbation Analysis of Feedback-Controlled Stochastic Flow Systems",
Haining Yu, 2004
16. "Cooperative Control and Application to Multi-Vehicle Systems
and Sensor Networks",
Wei Li, 2006
17. "System and Control Engineering Approaches to Some Network
Vulnerability Problems",
Xiaoyi Wu, 2006
18. "Energy-Latency Tradeoffs in Real-Time Wireless Sensor Networks",
Lei Miao, 2006
19. "Receding Horizon Methods in Cooperative Control for Stochastic
Transportation Applications on Graphs",
Kirk Wesselowski, 2007
20. "Optimization Approaches for Reducing Energy Consumption in Wireless
Sensor Nodes and Networks",
Brenda Zhuang, 2007
21. "Dynamic Energy Management in Resource Limited Systems with
Real-Time Constraints",
Jianfeng Mao, 2008
22. "Control and Optimization Approaches for Power Management in Wireless
Sensor Networks",
Ning Xu, 2009
23. "Distributed Control and Optimization in Energy Limited Cooperative Systems",
Minyi Zhong, 2010
24. "Perturbation Analysis, Optimization and Resource Contention Games
in Stochastic Hybrid Systems",
Yao Chen, 2011

25. “Scheduling, Optimization and Perturbation Analysis in Stochastic Hybrid Systems”
Ali Kebarighotbi, 2012
26. “Optimization Methods for Intelligent Transportation Systems in Urban Settings”
Yanfeng Geng, 2013
27. “Control and Optimization Approaches for Power Management in Energy-Aware Battery-Powered Systems”
Tao Wang, 2013
28. “Optimal Control Approaches for Persistent Monitoring Problems”
Xuchao Lin, 2014
29. “An Event-Driven Approach to Control and Optimization of Multi-Agent Systems”
Yasaman Khazaeni, 2016
30. “Topics in Perturbation Analysis for Stochastic Hybrid Systems”
Julia Lima Fleck, 2016
31. “Control and Optimization Approaches for Energy-Limited Systems: Applications to Wireless Sensor Networks and Battery-Powered Vehicles”
Sepideh Pourazarm, 2017
32. “Static and Dynamic Optimization Problems in Cooperative Multi-Agent Systems”
Xinmiao Sun, 2017
33. “Cooperative Control for Multi-Agent Persistent Monitoring Problems”
Nan Zhou, 2019

in progress:

“Methods in Intelligent Transportation Systems Exploiting Vehicle Connectivity, Autonomy and Roadway Data”

Yue Zhang

“Fleet Load Balancing Strategies for Shared Mobility-On-Demand Systems”

Rebecca Swaszek

“Control and Optimization Methods for Problems in Intelligent Transportation Systems”

Rui Chen

“Energy-aware Routing for Electric and Hybrid Vehicles”

Arian Houshmand

“Real-time Control Strategies for Connected Automated Vehicles”
Wei Xiao

“A Boosting Function Approach for Distributed Optimization of Multi-Agent Systems”
Shirantha Welikala

“Data-Driven Traffic Optimization in Transportation Networks”
Salomon Wollenstein

Master's Theses Supervised at University of Massachusetts, Amherst.

1. "Development of a Simulator of Discrete Event Dynamic Systems",
Sotirios K. Barkas, February 1985.
2. "The Design of a Task Scheduler for a Parallel Processor Operating with
Real-Time Requirements", James Lewis, June 1986.
3. "Use of Perturbation Analysis Techniques for Optimal Routing in Computer
Networks", Mohammad V. Abidi, June 1987.
4. "Design Issues for Higher-Level Protocols in High-Speed Communication
Networks", Guy VanLeemput, February 1988.
5. "On-Line Sensitivity Estimation for Load Balancing in Real-Time Distributed
Systems", Jung-Im Lee, August 1988.
6. "Load Sharing Algorithms in Distributed Systems",
Sumitra Chary, August 1989
7. "Sensitivity Analysis of Multiclass Traffic Environments",
Vibhor Julka, December 1989
8. "Structural Properties and Dynamic Control of Queueing Systems",
Panayotis Sparaggis, June 1990.

• At Boston University:

9. "Optimal Control of One-Stage and Two-Stage Hybrid Systems",
Qinjia Liu, 1999
10. "Analysis of Regulation Mechanisms in Communication Networks",
Ying Liu, 2003

11. “Receding Horizon and Optimal Control for Manufacturing Processes as Hybrid Systems”,
Reetabrata Mookherjee, 2003
12. “Optimal Control of Energy Efficient Systems”,
Brendan O’Hare, 2003
13. “A Receding Horizon Approach to Resource Allocation and Data Harvesting”,
Egill Tomasson, 2011
14. “Coverage Control and Localization with Sensor Networks”,
Jizong Shang, 2012
15. “Anomaly Detection using Adaptive Resonance Theory”,
Daniel Rossell, 2013

Post-Doctoral Fellows Supervised

1. Jianfeng Mao (2008-09)
Asst. Professor, Chinese University of Hong Kong, Shenzhen, China
2. Xu Chu Ding (2010-11),
Director of Software and Algorithms, Exyn Technologies Inc
3. Xinmiao Sun (2017-18)
Asst. Professor, Beijing Institute of Technology, Beijing, China
4. Xiangyu Meng (2016-2019)
Asst. Professor, Louisiana State University, Baton Rouge, LA
5. Chuangchuang Sun (2018-present)

Courses Taught

• At University of Massachusetts, Amherst:

Random Signal Theory, Optimal Control of Dynamic Systems, Stochastic Control of Dynamic Systems, Random Processes, Systems Automation, Special Topics in Discrete Event Systems, Special Topics in Computer Networks

New courses created: Systems Automation, Stochastic Control of Dynamic Systems

• At Boston University:

Automated Manufacturing, Probability and Statistical Methods,

Winning the Manufacturing War, Statistics and Quality Engineering,
Probability Theory in Electrical and Computer Engineering

New courses created: Automated Design and Manufacturing Systems,
Real-Time Production System Control (students manage a real-time
simulated production system over three months),
Discrete Event and Hybrid Systems, Sensor Networks and Cooperative Control