

# IOANNIS (YANNIS) CH. PASCHALIDIS

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## Current Positions

BOSTON UNIVERSITY Boston, MA

- **Professor** with a joint appointment in the Department of Electrical and Computer Engineering (9/09–present), the Division of Systems Engineering (9/09–present), the Department of Biomedical Engineering (5/14–present), and the Faculty for Computing & Data Sciences (1/20–present).
- **Data Science Fellow**, Boston University, (9/18–present).
- **Director**, Center for Information and Systems Engineering (CISE) (1/14–present). CISE is an interdisciplinary research center with 44 affiliated faculty in Engineering, Sciences, and Business. The Center is responsible for a number of sponsored research projects that correspond to more than \$7.5 million of annual research expenditures.
- **Affiliations:** Affiliated with the AI Research Initiative, the Center for Systems Neuroscience, the BioMolecular Engineering Research Center (BMERC), the Center for Information and Systems Engineering (CISE), the Clinical & Translational Science Institute (CTSI), the Precision Diagnostics Center (PDC), and the Rafik B. Hariri Institute for Computing and Computational Science & Engineering.

## Education

MASSACHUSETTS INSTITUTE OF TECHNOLOGY Cambridge, MA  
Ph.D. in Electrical Engineering and Computer Science, May 1996.  
Ph.D. Thesis: “Large Deviations in High Speed Communication Networks”.  
Advisors: Prof. Dimitris Bertsimas and Prof. John Tsitsiklis.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY Cambridge, MA  
S.M. in Electrical Engineering and Computer Science, February 1993.  
S.M. Thesis: “Scheduling of Multiclass Queueing Networks: Bounds on Achievable Performance”.

NATIONAL TECHNICAL UNIVERSITY OF ATHENS Athens, Greece  
Diploma in Electrical and Computer Engineering, June 1991.

## Main Research Interests

Systems and control, networking, optimization, data science, applied probability, operations research, computational biology, and bioinformatics. Specifics topics of interest include:

- Design, performance analysis and control of networks (communication, sensor, electric power, transportation, social).
- Optimization and decision theory.
- Data Science and Medical informatics.

- Protein docking, metabolic and gene networks.
- Cyber-security, anomaly detection.
- Queueing theory and stochastic systems; Large deviations theory.
- Pricing and revenue management with applications in communication networks and the smart-grid.
- Design, stability, performance analysis and control of manufacturing systems, supply chains, and distribution systems.

**Teaching Experience**

- *Optimization Theory and Methods.*  
Linear Programming; Linear large scale optimization methods; Introduction to nonlinear programming; Interior-point methods; Integer Programming.
- *Advanced Optimization Theory and Methods.*  
Nonlinear programming; Cone and semi-definite programming; Large scale optimization methods; Stochastic approximation.
- *Learning from Data.*  
Supervised and unsupervised learning, including classification, regression, kernels, robustness and regularization, concepts from learning theory, clustering, dimensionality reduction, generative models, neural networks, and deep learning.
- *Communication Networks Control.*  
A systems and control perspective into communication and sensor networks research. Topics include: Network Services and Layered Architectures, Traffic Management and Congestion Control, Traffic Modeling, Admission Control, Flow Control and TCP/IP, Routing, Sensor Networks, Wireless Networks, Network Economics and Pricing.
- *Probability, Statistics, and Data Science.*  
Probability theory, Statistics, Detection, Estimation, Markov chains, Introduction to Data Science.
- *Discrete Stochastic Processes.*  
Poisson processes; Renewal Theory; Markov chains; Markov processes; Martingales.

**Work Experience**

	VARIOUS BUSINESSES	
1/95–Present	Consultant to a variety of companies in my areas of interest.	
	MASSACHUSETTS INSTITUTE OF TECHNOLOGY	Cambridge, MA
9/17–1/18	Visiting Professor, Operations Research and Statistics, Sloan School of Management.	
	BOSTON UNIVERSITY	Boston, MA
9/04–12/13	Co-Director, Center for Information and Systems Engineering (CISE).	
	BOSTON UNIVERSITY	Boston, MA
11/04–12/12	Academic Director, The Sensor Network Consortium (SNC) – an industry consortium of about 15 member companies with diverse business activities and strong interest in wireless sensor networks.	
	MASSACHUSETTS INSTITUTE OF TECHNOLOGY	Cambridge, MA
1/10–8/11	Visiting Scholar, Operations Research Center.	
	BOSTON UNIVERSITY	Boston, MA

1/00–08/09	Associate Professor, College of Engineering. COLUMBIA UNIVERSITY	New York, NY
9/03–12/03	Visiting Scholar, Columbia Business School. MASSACHUSETTS INSTITUTE OF TECHNOLOGY	Cambridge, MA
1/03–6/03	Visiting Scholar, Laboratory for Information and Decision Systems. COGENTRIC, INC.	Portsmouth, NH
9/00–12/01	Principal Scientist. BOSTON UNIVERSITY	Boston, MA
9/96–12/99	Assistant Professor, College of Engineering. MASSACHUSETTS INSTITUTE OF TECHNOLOGY	Cambridge, MA
6/96–8/96	Post-Doctoral Associate, Laboratory for Information and Decision Systems.	
9/91–6/96	Research assistant; research on the design and control of manufacturing systems and high speed communication networks.	
1/94–6/94	Teaching Assistant.	
1/95	AT&T BELL LABORATORIES Consultant in the Mathematics of Networks and Systems Department. Worked in a quick simulation project.	Murray Hill, NJ
	NATIONAL TECHNICAL UNIVERSITY OF ATHENS	Athens, Greece
9/89–6/91	Research Assistant. Worked in projects funded by the European Union.	

**Honors and Awards**

- Charles DeLisi Award and Lecturer, College of Engineering, Boston University, 2020 (annual award for outstanding research).
- Supervised the Ph.D. Thesis of Ruidi Chen which won the Best Dissertation Award from the Division of Systems Engineering, Boston University, May 2020.
- The paper “Federated learning of predictive models from federated Electronic Health Records” (with Theodora S. Brisimi, Ruidi Chen, Theofanie Mela, Alex Olshevsky, and Wei Shi), *Int J Med Inform*, April 2018, Vol. 112, pages 59–67, has been selected as a Best Paper for the 2019 Yearbook of the International Medical Informatics Association (IMIA), Section on Clinical Research Informatics, <https://www.thieme-connect.com/products/ejournals/html/10.1055/s-0039-1677922>.
- Data Science Fellow, Boston University, 2018–present.
- Semi-plenary speaker, *23rd International Symposium on Mathematical Theory of Networks and Systems (MTNS 2018)*, Hong Kong University of Science and Technology, Hong Kong, July 16–20, 2018.
- The paper “Cooperative Multi-Quadrotor Pursuit of an Evader in an Environment with No-Fly Zones” (with Alyssa Pierson, Armin Ataei, and Mac Schwager), which appeared in the *IEEE International Conference on Robotics and Automation (ICRA)*, May 16–21, 2016, Stockholm, Sweden, was a finalist for the conference best paper award.
- Supervised Theodora Brisimi who won third prize and the Crowd Sourcing Prize in the IEEE Computer Society 70th Anniversary Student Challenge for the joint project “Healthcare Analytics: Predicting Hospitalizations Based on Electronic Health Records,” May 2016.

- Plenary speaker, *2016 LIDS Student Conference*, Laboratory for Information and Decision Systems, Massachusetts Institute of Technology (MIT).
- Supervised the Ph.D. Thesis of Wuyang Dai which won the Societal Impact Dissertation Award from the College of Engineering, Boston University, May 2015.
- Invited Speaker, Oberwolfach Mathematical Institute, Workshop on “Control Theory: A Mathematical Perspective on Cyber-Physical Systems”, February 2015.
- Supervised the student team which won an IBM/IEEE Smarter Planet Challenge Award for the project “Street Bumps and Big Data Analytics: Crowdsourcing Our Way to Better Roads,” December 2014.
- Invited participant, 12th Annual National Academies Keck Futures Initiative (NAKFI) conference, “Collective Behavior: From Cells to Societies”, Organized by the National Academies, November 2014, Irvine, California. Participation by invitation only after a competitive selection process.
- IEEE Fellow (2014).
- Founding Editor-in-Chief, IEEE Transactions on Control of Network Systems.
- Supervised the Ph.D. Thesis of Fuzhuo Huang which won the Best Dissertation Award from the Division of Systems Engineering, Boston University, January 2013.
- Distinguished faculty fellow, College of Engineering, Boston University, 2011-2016.
- Dean’s catalyst award, May 2011, College of Engineering, Boston University, for research project “A Quantitative Approach to Disease Prevention and Management Leveraging Electronic Health Records”.
- Best student paper award at the 9th Intl. Symposium of Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks (WiOpt 2011) won by Ph.D. student Reza Moazzez-Estanjini for joint paper “Improved Delay-Minimized Data Harvesting with Mobile Elements in Wireless Sensor Networks”.
- Best performance in modeling selected protein-protein complexes against 64 other predictor groups that combine software models with human analysis (with D. Kozakov, P. Vakili, S. Vajda, et al.), CAPRI (Critical Assessment of Predicted Interactions) Evaluation meeting, Barcelona, Spain, Dec. 9-11, 2009.
- Invited Participant, *Workshop on Mathematics of Molecular and Cellular Biology, Protein Folding*, Institute for Mathematics and Its Applications (IMA), January 14-18, 2008. Workshop organized as part of the IMA thematic year on Molecular and Cellular Biology; participation is by invitation only.
- First prize in the *3rd Critical Assessment PRedicted (Protein) Interaction (CAPRI) Evaluation Meeting*, April 20-21, 2007, Toronto, Canada, for presented poster publication on “Refinement of rigid-body protein docking predictions using semi-definite underestimation” (with Y. Shen, P. Vakili, and S. Vajda). CAPRI is the community-wide experiment in which all computational protein docking groups compete.
- IEEE Senior Member (2006).
- Invited Participant, *2002 U.S. Frontiers of Engineering Symposium*, National Academy of Engineering (NAE). An annual symposium organized by the NAE that brings together 100 of the U.S.-based outstanding young engineers –ages 30-45– from industry, academia, and government.
- *National Science Foundation (NSF) CAREER Award* (Directorate for Computer & Information Science & Engineering, Networking Research), 2000.
- Plenary Speaker, *1998 and 2002 LIDS Student Conference*, Laboratory for Information and Decision Systems, Massachusetts Institute of Technology (MIT).
- Second Prize, *1997 George E. Nicholson* paper competition. Awarded by INFORMS, the Institute for Operations Research and the Management Sciences, to the best Operations Research & Management Science papers on work done as a doctoral student.

- Elected Full Member of *Sigma Xi*, a honor society, (1996, MIT Chapter).
- Graduated ranking first (out of 206), class of 1991, Department of Electrical and Computer Engineering (ECE), National Technical University of Athens (NTUA), Greece.
- Four times recipient (1986-1990) of a scholarship from the *National Scholarship Foundation of Greece* (awarded to the top five students in the ECE Department at NTUA).
- Three times recipient (1988-1990) of an award from the *Technical Chamber of Greece* (based on performance as an undergraduate student at NTUA).
- Included in Who's Who in America, Who's Who in Science and Engineering, Who's Who in American Education, and Who's Who of Emerging Leaders.

### Professional Activities

- Editor-in-Chief (founding), *IEEE Transactions on Control of Network Systems* (2/2013–12/2019).
- Guest Editor, *IEEE Transactions on Automatic Control*, Special Issue on Wireless Sensor and Actuator Networks, Volume 56 (2011), Issue 10 (October).
- Associate Editor:
  - *Operations Research* (1/12–6/2013);
  - *ACM Trans. on Sensor Networks* (1/11–6/2013);
  - *SIAM Journal on Control and Optimization* (1/10–12/12);
  - *Operations Research Letters* (2/02–7/10);
  - *IEEE Transactions on Automatic Control* (1/06–12/09);
  - *Automatica* (8/02–12/07).
- Professional Leadership positions:
  - American Automatic Control Council, *Alternate Director, Board of Directors*, 2016–present;
  - IEEE Control Systems Society, Board of Governors (Appointed 2010–2012; Elected 2013-2016; Ex officio 2017–present);
  - Member, IEEE Life Sciences Technical Community (LSTC) Conferences Committee (2/2016–present);
  - Member, IEEE Technical Committee on Cybernetics for Cyber-Physical Systems (CCPS) (10/2015–present);
  - Liaison position between the IEEE Control Systems Society and the Institute for Operations Research and the Management Sciences (INFORMS) (11/2007–12/13);
  - Member, *Technical Committee on Systems Biology*, and *Technical Committee on Medical and Health Care Systems*, IEEE Control Systems Society, (1/13–present);
  - Chair, *Technical Committee on Networks and Communication Systems*, IEEE Control Systems Society, (1/06–12/11);
  - Member, International Federation of Automatic Control (IFAC) Technical Committee on Stochastic Systems (2004–2007);
  - Chair, Working Group on Finance Systems under the Network and Communications Technical Committee of the *IEEE Control Systems Society* (1997–2004).
- Conference Organizing Committees:
  - General Chair, 3rd *Symposium on the COntrol of NETwork Systems (SCONES)*, Boston, Massachusetts, October 8–9, 2020.
  - General Chair, *IEEE Infocom 2020 Workshop, 13th International Workshop on Wireless Sensor, Robot and UAV Networks (WiSARN)*, Beijing, China, April 27, 2020.
  - Editor for Invited Sessions, *European Control Conference*, Naples, Italy, June 25–28, 2019.

- General Chair, *IEEE Infocom 2019 Workshop, 1st International Workshop on Mission-Oriented Wireless Sensor, UAV and Robot Networking (MiSARN)*, Paris, France, April 29, 2019.
- General Chair, *IEEE Infocom 2018 Workshop, 11th International Workshop on Wireless Sensor, Robot and UAV Networks (WiSARN)*, Honolulu, Hawaii, April 16, 2018.
- Co-Organizer, *NSF Workshop on Effective Community-University-Industry Collaboration Models for Smart and Connected Communities Research*, Arlington, Virginia, November 30–December 1, 2017.
- General Chair, 2nd *Symposium on the Control of Network Systems (SCONES)*, Boston, Massachusetts, October 16–17, 2017.
- Co-Organizer, *Visioning Meeting, NSF Program on Smart and Connected Communities*, Boston, Massachusetts, July 27-28, 2017.
- Chair and Organizer, *Visioning and PI Meeting, NSF Program on Smart and Connected Health*, Boston, Massachusetts, March 20-22, 2017.
- Steering Committee, *International Workshop on Wireless Sensor, Actuator and Robot Networks (WiSARN)*, 2015–2017.
- Co-Organizer, *NSF Workshop on Smart Cities*, Arlington, Virginia, December 3–4, 2015.
- General Chair, 1st *Symposium on the Control of Network Systems (SCONES)*, Boston, Massachusetts, October 27–28, 2014.
- General Chair, *8th International Workshop on Wireless Sensor, Actuator and Robot Networks (WiSARN 2014)*, June 22–27, 2014, Benidorm, Spain.
- Co-Organizer, Symposium on *Systems Science: Shaping Society’s Future*, Boston University, May 2012;
- Steering Committee, *1st International Conference on Sensor Networks Applications, Experimentation and Logistics (Sensappeal 2009)*;
- Organizer, Mini-workshop on “*Security and Wireless Sensor Networks*”, *National Colloquium for Information Systems Security Education*, hosted at Boston University, June 2007;
- Registration Chair, *46th IEEE Conference on Decision and Control*, December 2007, New Orleans, Louisiana;
- Co-Organizer, Workshop on “*Challenges and Opportunities in Distributed Sensor Networks*”, *The Center for Nonlinear Studies, Los Alamos National Laboratory*, Los Alamos, New Mexico, USA, March 2006;
- Co-Organizer, *Emerging Technologies Symposium* on “*Sensor Networks: What’s real and what lies ahead*”, Boston University, November 2005;
- Organizer, *Emerging Technologies Symposium* on “*Sensor Networks: Where Technologies Meet and Applications are Endless*”, Boston University, May 2004;
- Chair, Local Arrangements Committee, *43rd IEEE Conference on Decision and Control*, December 2004, Paradise Island, Bahamas;
- Member of the organizing committee, *1998 Information Theory Symposium*, Boston, MA.
- Program Committees:
  - Member of the Technical program committee, *Learning for Dynamics & Control (L4DC)*, June 10–11, 2020, University of California, Berkeley, CA.
  - Member of the Technical program committee, *6th IFAC Workshop on Distributed Estimation and Control in Networked Systems (NecSys)*, September 10–11, 2015, Philadelphia, PA.
  - Member of the Technical program committee, *IEEE International Conference on Distributed Computing in Sensor Systems (DCOSS 2013)*, May 20–23, 2013, Cambridge, Massachusetts.

- Member of the Technical program committee, *11th Intl. Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks (WiOpt)*, May 13–17, 2013, Tsukuba Science City, Japan.
- Member of the Technical program committee, *4th IFAC Workshop on Distributed Estimation and Control in Networked Systems (NecSys)*, September 25–26, 2013, Koblenz, Germany.
- Member of the Technical program committee, *21st Mediterranean Conference on Control and Automation (MED)*, June 25 – 28, 2013 Crete, Greece.
- Member of the Technical program committee, *3rd IFAC Workshop on Distributed Estimation and Control in Networked Systems (NecSys)*, September 14–15, 2012, Santa Barbara, California.
- Member of the Technical program committee, *20th Mediterranean Conference on Control and Automation (MED)*, July 3–6 2012, Barcelona, Spain.
- Member of the Technical program committee, *10th Intl. Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks (WiOpt)*, May 14–18, 2012, Paderborn, Germany.
- Member of the Technical program committee, *19th Mediterranean Conference on Control and Automation (MED)*, June 20-23 2011, Corfu, Greece.
- Member of the Technical program committee, *2nd International Workshop on Wireless Sensor, Actuator and Robot Networks (WiSARN 11)*, April 10-15, 2011, Shanghai, China.
- Member of the Technical program committee, *9th Intl. Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks (WiOpt)*, May 9-13, 2011, Princeton, New Jersey.
- Member of the Technical program committee, *2nd IFAC Workshop on Distributed Estimation and Control in Networked Systems (NecSys)*, 13-14 September, 2010, Centre de Congrès de L' Impérial Palace, Annecy, France.
- Member of the Technical program committee, *1st International Workshop on Wireless Sensor, Actuator and Robot Networks (WiSARN 10)*, June 17th, 2010, Montreal, Canada.
- Member of the Technical program committee, *2nd ACM International Workshop on Mobile Entity Localization and Tracking in GPS-less Environments (MELT 09)*.
- Co-Chair, Sensors and Sensor Networks Track, Program Committee of the *2009 IEEE Conference on Automation Science and Engineering (CASE 2009)*.
- Member of the Technical program committee, *Workshop on End-to-End, Sense-and-Respond Systems, Applications, and Services (in conjunction with MobiSys '05)*.
- Member of the Technical program committee, *2002 American Control Conference*.
- Member of the Technical program committee, *IEEE INFOCOM 2002 conference*.
- Member and Group Leader (i.e., area editor) of the Technical program committee, *IEEE INFOCOM 2001 conference*.
- Member of the program committee, *Internet II: QoS and Future Directions Conference, SPIE 2000 Voice, Video, and Data Communications Symposium*.
- Member of the program committee, *37TH IEEE Conference on Decision and Control (1998)*.
- Member of the program committee, *9TH INFORMS Applied Probability Conference (1997)*.
- Served in blue-ribbon and many other peer review panels for the *National Science Foundation (NSF)*. Reviewed proposals for various NSF programs. Served in Review Visiting Committees to evaluate DOE funded projects at Universities and at the National Labs. Referee for many technical journals. Session Organizer and Chair in many sessions at the IEEE Conference on Decision and Control, the INFORMS National Meeting, and the INFORMS Applied Probability conference.

- Fellow of the *IEEE (Institute of Electrical and Electronics Engineers)*. Member of *INFORMS (Institute for Operations Research and the Management Sciences)*, Sigma Xi, and of the *Technical Chamber of Greece*.

## Sponsored Projects

**Summary:** PI or Co-PI for more than \$ 47.1 M in sponsored projects since 1997.

- [F1] “A New Risk Assessment and Management Paradigm (NewRAMP) in Electricity Markets”, Co-PI (with Michael Caramanis, Pablo Ruiz, Panagiotis Andrianesis, Christos Cassandras, Nalin Kulatilaka, and John Liagouris at BU, Dimitris Bertsimas at MIT, William Hogan at Harvard, Ali Abur at Northeastern, Philip Hanser and James Read at Brattle Group, and Jay Caspary at SPP), *ARPA-E, Department of Energy, PERFORM Program*, 9/1/2020–8/31/2023, \$ 3,382,187.
- [F2] “Smartphone based digital biomarkers to measure cognitive function in dementia”, **Principal Investigator (PI)** (with Rhoda Au, Honghuang Lin, and Anand Devaiah), *Boston University Institute for Health System Innovation & Policy*, Digital Health Initiative (DHI) Program, 9/1/2020–8/31/2021, \$12,656.
- [F3] “Predictive Models of COVID-19 Outcomes”, **Principal Investigator (PI)** (with W. Adams, H. Hsu, and S. Assoumou), *Boston University Clinical and Translational Science Institute (BU-CTSI)*, Pilot Grant Program, 6/1/2020–3/31/2021, \$25,000.
- [F4] “Optimizing and Learning Strategies for Protein Docking”, Co-PI (with Pirooz Vakili and Sandor Vajda), *National Institutes of Health (NIH), National Institute of General Medical Sciences (NIGMS) R01 grant*, 9/20/2019–8/31/2022, \$ 561,312.
- [F5] “SCH: INT: Distributed Analytics for Enhancing Fertility in Families”, **Principal Investigator (PI)**, (Co-PIs: Mahalingaiah, Olshevsky, and Wise), *NSF/NIH Smart and Connected Health*, 9/1/2019–8/31/2022, \$1.2M.
- [F6] “Neuro-Autonomy: Neuroscience-Inspired Perception, Navigation, and Spatial Awareness”, **Principal Investigator (PI)**, (Co-PIs: Baillieul, Betke, Hasselmo, Stern, and Tron at BU; Leonard and Roy at MIT), *ONR MURI grant*, 9/1/2019–8/31/2022, \$4.5M.
- [F7] “QuBBD: From Personalized Predictions to Better Control of Chronic Health Conditions”, **Principal Investigator (PI)**, (with C. G. Cassandras and R. G. Mishuris), *NSF/NIH Initiative on Quantitative Approaches to Biomedical Big Data (QuBBD)*, 6/1/2018–5/31/2021, \$899,999.
- [F8] “Integrated Diagnostics: Pathology-Radiology Correlation”, **Principal Investigator (PI)**, *Philips Healthcare*, 1/1/2018–8/31/2020, \$94,147.
- [F9] “Robust Predictive Models of Fertility”, **Principal Investigator (PI)**, (Co-PI: Shruthi Mahalingaiah), *CISE Seed Grant*, Boston University, 10/1/2018–12/31/2018, \$ 26,330.
- [F10] “Smart and Connected Communities Workshop: Visioning for Effective Community/University/Industry Collaboration Models”, Co-PI (with Azer Bestavros), *NSF Smart & Connected Communities*, 9/5/17–9/4/18, \$ 99,963.
- [F11] “Optimizing Discharge Decisions to Reduce Surgery Re-Admissions”, **Principal Investigator (PI)** (with G. Kasotakis), *Digital Health Initiative (DHI) Research Award*, Boston University, 9/1/17–8/31/18, \$ 50,000.
- [F12] “Sustainable IT and IT for Sustainability”, Co-PI (with Ayse Coskun and Michael Caramanis), Dean’s Catalyst Award, College of Engineering, Boston University, 6/1/17–5/31/19, \$ 80,000.
- [F13] “CPS: Breakthrough: A Dynamic Optimization Framework for Connected Automated Vehicles in Urban Environments”, Co-PI (PI: G. C. Cassandras), *NSF Program on Cyner-Physical Systems*, 4/1/2017–3/31/2021, \$424,995.



- [F14] “Smart and Connected Health (SCH) PI Workshop, 2017”, **Principal Investigator (PI)**, *NSF Smart and Connected Health Program*, 1/15/17–9/15/17, \$93,994.
- [F15] “Detecting Non-Typical Traffic Jams Using Waze Data” (student support for Jing Zhang), *Boston Area Research Initiative*, 1/17–5/17, \$ 5,000.
- [F16] “Outlier and Anomaly Detection with Applications to CT Radiation Dose Safety”, **Principal Investigator (PI)** (with J. Siegelan and V. Valtchinov), *Joint Brigham and BU Program in Radiology and Engineering*, 6/1/16–5/31/18, \$ 80,000.
- [F17] “Predicting and Preventing Re-Admissions within 30 days after Surgery”, **Principal Investigator (PI)** (with G. Kasotakis), *Boston University Clinical and Translational Science Institute (BU-CTSI)*, Pilot Grant Program, 1/1/16–5/31/16, \$17,000.
- [F18] “Manifold optimization algorithms for protein-protein docking”, Co-PI (with D. Kozakov, S. Vajda, and P. Vakili), *NSF Expeditions in Computing Program*, 7/1/15–6/30/18, \$450,000.
- [F19] “Clinical Decision Support System for Patient-Specific Cancer Diagnosis and Management,” Co-PI (with V. Saligrama at BU and K. Andriole, Brigham and Women’s Hospital), *Joint Brigham and BU Program in Radiology and Engineering*, 5/1/14–4/30/15, \$ 40,000.
- [F20] “Effective Classification and Actionable Obstacle Detection from Roadway Data”, Co-PI (with C.G. Cassandra), *City of Boston*, 9/1/13–9/30/14, \$ 85,000.
- [F21] “SHB: Type II (INT): Collaborative Research: Algorithmic Approaches to Personalized Health Care,” **Principal Investigator (PI)**, (Collaborative grant with D. Bertsimas at MIT, BU Co-PI Dr. Adams), *NSF Smart Health and Wellbeing Program*, 9/12/12–9/11/18, \$ 1,100,000 (BU budget).
- [F22] “CPS: Synergy: Collaborative Research: A Cyber-Physical Infrastructure for the ‘Smart City’”, Co-PI, (PI: C.G. Cassandra at BU, Co-PIs: A. Bestavros, A. Kfoury at BU, collaborative with W. Gong at UMass Amherst and R. Gao at UConn), *NSF Cyber-Physical Systems Program*, 10/1/12–9/30/16, \$ 700,000 (BU budget).
- [F23] “Associating growth conditions with cellular composition in Gram-negative bacteria”, Co-PI, (PI: C. Wilke UT Austin, subcontract to BU team of D. Segré and I. Paschalidis), *DoD Multidisciplinary University Research Program (MURI) FY12*, 10/1/12–2/28/18, \$ 7,500,000.
- [F24] “A Coordinated Approach to Cyber-Situation Awareness Based on Traffic Anomaly Detection”, **Principal Investigator (PI)**, (Co-PIs: C.G. Cassandra, M. Crovella at BU and P. Barford at U. of Wisconsin), Army Research Office, 6/11/11–12/31/16, \$ 730,000.
- [F25] “A Quantitative Approach to Disease Prevention and Management Leveraging Electronic Health Records”, PI, Dean’s Catalyst Award, College of Engineering, Boston University, 5/1/11–4/30/12, \$ 33,315.
- [F26] “KIOS Center”, CISE Collaboration with the University of Cyprus, **Principal Investigator (PI)**, (Co-PI: C.G. Cassandra), 4/1/11–12/31/16, \$ 55,158.64.
- [F27] “AIRFOILS: Animal Inspired Robust Flight with Outer and Inner Loop Strategies”, Co-PI (PI: K. Morgansen at U. of Washington Seattle, subcontract to BU team of J. Baillieul, C. Belta, I. Paschalidis, and T. Kunz), *DoD Multidisciplinary University Research Program (MURI) FY11*, 9/1/10–8/31/15, \$ 7,500,000.
- [F28] “Refinement Methods for Protein Docking based on Exploring Multi-Dimensional Energy Funnels”, **Principal Investigator (PI)**, (Co-PIs D. Kozakov and P. Vakili), *National Institutes of Health (NIH), National Institute of General Medical Sciences (NIGMS) R01 grant*, 4/10–4/16, \$ 1,580,473.
- [F29] “A Statistical Approach to Internet Traffic Anomaly Detection”, **Principal Investigator (PI)**, *Army Research Office (ARO)*, 9/09 – 5/10, \$ 50,000.

- [F30] “Supplement: Distributed Wireless Sensor Networks for Long-term Deployments”, **Principal Investigator (PI)**, (Co-PI C.G. Cassandras), *Department of Energy (DOE)*, 9/09 – 8/11, \$ 360,000.
- [F31] “Forklift Sensor Network at the Abel-Womack Warehouse”, **Principal Investigator (PI)**, *Raymond Corporation*, 6/09-5/10, \$ 10,691.
- [F32] “EFRI-ARESCI: Event-Driven Sensing for Enterprise Reconfigurability and Optimization”, Co-PI (with C. G. Cassandras and A. Bestavros at Boston University and R. Gao and W. Gong at UMass Amherst), *NSF Emerging Frontiers of Research and Innovation Initiative*, 11/1/07–4/30/13, \$ 1,999,573.
- [F33] “Distributed Wireless Sensor Networks for Long-term Deployments”, **Principal Investigator (PI)**, (Co-PI C.G. Cassandras), *Department of Energy (DOE)*, 9/06 – 8/10, \$ 752,117.
- [F34] “Final-Stage Optimization Methods for Protein Docking Exploiting Energy Funnels”, **Principal Investigator (PI)**, (Co-PI P. Vakili), *National Institutes of Health (NIH), National Institute of General Medical Sciences (NIGMS)*, 2/07–12/09, \$ 437,852.
- [F35] The Sensor Network Consortium, **Academic Director**, An industry consortium of 14 companies supporting the consortium activities and research on Sensor Networks, 2004–2012, \$ 188,000.
- [F36] “NeTS-NOSS: SensorNet Architectures for Indoor Location Detection: From Resolution to Robustness”, Co-PI (with D. Starobinski and A. Trachtenberg), *NSF, Research in Networking Technology and Systems (NeTS)*, 9/1/04–8/31/08, \$ 600,000.
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(Last updated December 2019.)

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[http://scholar.google.com/citations?user=Es\\_hZ0QAAAAJ&hl=en](http://scholar.google.com/citations?user=Es_hZ0QAAAAJ&hl=en)

More than 4,300 according to Google scholar. My  $h$ -index, defined as

$$h\text{-index} = \max\{h \mid h \text{ papers each having } \geq h \text{ citations}\},$$

is equal to 36. My  $i10$ -index (papers with more than 10 citations) is 83. My  $m$ -index ( $h$ -index over the number of years I have been publishing) is equal to 1.3.

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- [P61] “A Market-Based Mechanism for Providing Demand-Side Regulation Service Reserves” (with B. Li and M. C. Caramanis), **Invited**, *Proceedings of the 50th IEEE Conference on Decision and Control and European Control Conference*, December 12-15, 2011, Orlando, Florida,  
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- [P88] “A Large Deviations Approach to Statistical Traffic Anomaly Detection” (with G. Smaragdakis), *Proceedings of the 45th IEEE Conference on Decision and Control*, pages 1900–1905, December 2006, San Diego, California.

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- [P92] “Distributed multi-agent actor-critic algorithms with applications to stochastic path finding problems” (with Paris Pennesi and Yimin Yu), *Proceedings of the 5th IFAC Symposium on Robust Control Design*, July 2006, Toulouse, France.
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- [P99] “Supply Contracts with Service Level Requirements” (with Carmen Del Vecchio), *Proceedings of the IFAC Congress*, July 2005, Prague, The Czech Republic.
- [P100] “Deployment Optimization of Sensornet-Based Stochastic Location-Detection Systems” (with Saikat Ray and Wei Lai), *Proceedings of the IEEE INFOCOM Conference*, pages 2279–2289, March 2005, Miami, Florida.
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- [P104] “On maximizing the utility of uplink transmissions in sensor networks under explicit fairness constraints” (with Wei Lai and D. Starobinski), *Proceedings of the 43rd IEEE Conference on Decision and Control*, pages 1010–1015, December 2004, Paradise Island, Bahamas.
- [P105] “Integrated Operational and Financial Simulation of Multi-Tier, Demand Driven Supply Networks Using a Collaborative Demand Planning and Inventory Optimization Approach” (with M. C. Caramanis, K. Egilmez, K. Nitschke), *11th ASIM Dedicated Conference on Simulation in Production and Logistics*, October 2004, Berlin, Germany.
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- [P107] “Supply Chain Production Scheduling with Dynamic Lead Time and Quality of Service Constraints” (with M. C. Caramanis, O. M. Anli), *Proceedings of the 42nd IEEE Conference on Decision and Control*, pages 5478–5485, December 2003, Maui, Hawaii.
- [P108] “Enforcing Service-Level Constraints in Supply Chains with Assembly Operations” (with C. del Vecchio), *Proceedings of the 42nd IEEE Conference on Decision and Control*, pages 5490–5495, December 2003, Maui, Hawaii.
- [P109] “New Scheduling Policies for Multiclass Queueing Networks: Applications to Peer-To-Peer Systems” (with C. Su and M.C. Caramanis), *Proceedings of the 42nd IEEE Conference on Decision and Control*, pages 1604–1609, December 2003, Maui, Hawaii.
- [P110] “Target-Pursuing Policies for Open Multiclass Queueing Networks” (with C. Su and M.C. Caramanis), *Proceedings of the IEEE INFOCOM Conference*, pages 196–206, April 2003, San Francisco, California.
- [P111] “Distributed Resource Allocation in Multiservice Communication Networks Using Pricing” (with Y. Liu), **Invited**, *Proceedings of the 41st IEEE Conference on Decision and Control*, pages 2023–2028, December 2002, Las Vegas, Nevada.
- [P112] “Threshold-Based Control for Make-to-Stock Models: A Synergy between Large Deviations and Perturbation Analysis” (with Y. Liu, C.G. Cassandras, and P. Zhang), *Proceedings of the 40th IEEE Conference on Decision and Control*, pages 4523–4528, December 2001, Orlando, Florida.
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- [P115] “Large Deviations-based Asymptotics for Inventory Control in Supply Chains” (with Y. Liu), **Invited**, *Proceedings of the 39th IEEE Conference on Decision and Control*, pages 528–533, December 2000, Sydney, Australia.
- [P116] “Congestion-Dependent Pricing of On-line Internet Services” (with J.N. Tsitsiklis), **Invited**, *Proceedings of the 38th IEEE Conference on Decision and Control*, pages 4026–4031, December 1999, Phoenix, Arizona.
- [P117] “Controlling Make-to-Stock Manufacturing Systems: A Large Deviations Approach” (with D. Bertsimas), **Invited**, *Proceedings of the 38th IEEE Conference on Decision and Control*, pages 462–467, December 1999, Phoenix, Arizona.

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- [P119] “On Estimating Buffer Overflow Probabilities under Markov-modulated Inputs” (with S. Vassilaras), **Invited**, *Proceedings of 37th Annual Allerton Conference on Communication, Control, and Computing*, pages 306–315, September 1999, Monticello, Illinois.
- [P120] “Performance Analysis and Admission Control in Multimedia Communication Networks”, **Invited**, *Proceedings of the 36th IEEE Conference on Decision and Control*, pages 1786–1791, December 1997, San Diego, California.
- [P121] “Buffer Overflow Probabilities in Multiclass ATM Switches” (with D. Bertsimas and J.N. Tsitsiklis), *Proceedings of 34th Annual Allerton Conference*, pages 712–721, October 1996, Monticello, Illinois.
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- [P123] “Scheduling of Multiclass Queueing Networks: Bounds on Achievable Performance” (with D. Bertsimas and J.N. Tsitsiklis), **Invited**, *Proceedings of the Workshop on hierarchical control for real-time scheduling of manufacturing systems*, 1992, Lincoln, New Hampshire.
- [P124] “Congestion Avoidance in ATM Networks” (with E.D. Sykas, G.K. Mourtzinou, and K.M. Vlakos), *Proceedings of the IEEE INFOCOM Conference*, pages 905–914, May 4-8, 1992, Florence, Italy.

### **Abstracts Presented in Conferences**

- [A1] “Learning predictive and prescriptive models from data”, *First Call to Arms Workshop on COVID-19*, NSF, NeTS Program, Monday April 13, 2020 (online).
- [A2] “Alleviating Traffic Congestion: From Data to Models and Proposed Solutions”, *Chinese Congress of Automation Control*, November 24, 2019, Hangzhou, China.
- [A3] “From Data to Models and Proposed Solutions”, **Invited Talk**, *Workshop on Control for Networked Transportation Systems (CNTS)*, July 9, 2019, Philadelphia, Pennsylvania.
- [A4] “Distributionally Robust Learning with Applications to Health Analytics”, **Invited Talk**, *2nd Information Modeling & Control of Complex Systems (IMaCCS) Workshop*, June 3–4, 2019, Ohio State University, Columbus, Ohio.
- [A5] “Using Machine Learning to Build a Highly Specific Prediction Model of Conception” (with Tingting Xu and Shruthi Mahalingaiah), *New England Fertility Society Annual Meeting*, May 3–4, 2019, Omni Mt. Washington, Bretton Woods, New Hampshire.
- [A6] “Congestion Maps: A visual interactive data-driven platform tracking annual traffic conditions in the Eastern Massachusetts area” (with Salomon Wollenstein Beteach and Christos Cassandras), *Boston Area Research Initiative Spring Conference*, April 26, 2019, Boston, Massachusetts.
- [A7] “Automatic Extraction of Incidental Pulmonary Nodule Findings in Radiology Reports” (with Henghui Zhu, Amir M. Tahmasebi), *Annual Meeting of the Society for Imaging Informatics in Medicine (SIIM)*, June 26 – June 28, 2019, Denver, Colorado.
- [A8] “Algorithmic Approaches to Personalized Health Care” (with R. Chen, T. Xu, H. Zhu), *NSF PI Meeting*, Smart Health & Wellbeing Program, September 24–26, 2018, Arlington, Virginia.

- [A9] “Automatic Inference of Anatomy from Context in Radiology Reports using Deep Learning” (with Henghui Zhu, Sandeep Dalal, Amir M. Tahmasebi), *3rd Annual Scientific Conference on Machine Intelligence in Medical Imaging (C-MIMI)*, September 9 – September 10, 2018, San Francisco, California.
- [A10] “Robust Regression under the Wasserstein Metric”, (with Ruidi Chen), **Invited Talk**, *American Mathematical Society Northeast Meeting*, April 21–22, 2018, Northeastern University, Boston, Massachusetts.
- [A11] “Inverse Equilibrium Problems and Price-of-Anarchy Estimation in Transportation Networks”, **Invited Talk**, *2nd Information Modeling & Control of Complex Systems (IMaCCS) Workshop*, June 1–2, 2017, Ohio State University, Columbus, Ohio.
- [A12] “A Decentralized Primal Dual Method for Large-Scale Sparse Support Vector Machines”, (with T. Brisimi, W. Shi, A. Olshevsky), **Invited Talk**, *SIAM Conference on Optimization*, May 22–25, 2017, Vancouver, Canada.
- [A13] “From Data to Less Congested Boston Roads”, (with Jing Zhang, Sepideh Pourazarm, Christos G. Cassandras), *Boston Area Research Initiative Spring Conference*, March 10, 2017, Boston, Massachusetts.
- [A14] “Data-Driven Model Estimation in Biochemical Networks from Observed Equilibria”, **Invited Talk**, *Workshop on Control and Observability of Network Dynamics*, Mathematical Biosciences Institute, Ohio State University, April 11–15, 2016, Columbus, Ohio.
- [A15] “Predictive Health Analytics”, **Invited Talk**, *Academy of Finland/US NSF Joint Programme on Personalised Health — From Genes to Society*, March 17–18, 2016, Helsinki, Finland.
- [A16] “Sensor Data and Analytics Enabling Smarter Cities”, *NSF Morocco/ US Workshop on Sensors and Wireless Networks for Smart Cities*, **Invited Talk**, January 5–7, 2016, Rabat, Morocco.
- [A17] “Show me the Data! Smart-Analytics Enabling Inference and Predictions”, **Invited Talk**, *NSF Workshop on Smart Cities*, December 3–4, 2015, Arlington, Virginia.
- [A18] “Classification in the Presence of Hidden Clusters with an Application in Hospitalization Prediction” (with Wuyang Dai, Theodora Brisimi, Tingting Xu, Taiyao Wang, Venkatesh Saligrama), *NIPS 2015 Workshop on Machine Learning in Healthcare*, December 11, 2015, Montreal, Canada.
- [A19] “Data-Driven Model Estimation in Network Systems from Observed Equilibria” (with D. Bertsimas, V. Gupta, Q. Zhao, A. Stettner, D. Segrè), **Invited Talk**, Symposium in Honor of Erol Gelenbe, September 2015, Imperial College, London, United Kingdom.
- [A20] “Algorithmic Approaches to Personalized Health Care” (with W. Adams, T. Brisimi, T. Xu, T. Wang), **Invited Talk**, PI Meeting, NSF Smart and Connected Health Program, June 30–July 1, 2015, Washington, DC.
- [A21] “Data-Driven Cyber-Physical Model Estimation from Observed Equilibria” (with D. Bertsimas, V. Gupta, Q. Zhao, A. Stettner, D. Segrè), **Invited Talk**, Oberwolfach Mathematical Institute, February 2015, Oberwolfach, Germany.
- [A22] “Reverse Engineering Bacterial Metabolism via Inverse Optimization” (with Q. Zhao, A. Stettner, E. Reznik, and D. Segrè), **Invited talk**, INFORMS Conference, November 9–12, 2014, San Francisco, CA.
- [A23] “Predicting Hospital Admissions for Cardiac Conditions at the Boston Medical Center” (with W. Dai, T. Brisimi, V. Saligrama, T. Mela, and W. Adams), **Invited talk**, *BU-U. of Warwick Workshop on Improving Health Care System Efficiency*, November 21–22, 2013, Boston, MA.

- [A24] “A cyberphysical infrastructure for the ‘smart city’” (with C. G. Cassandras, A. Bestavros, A. Kfoury, R. X. Gao, W. B. Gong), *NSF CPS PI Meeting*, October 17-18, 2013, Washington, DC.
- [A25] “Graph-theoretic conflict resolution with applications in wireless networks and protein docking”, **Invited talk**, *Systems Control and Optimization: a workshop in honor of Professor John Tsitsiklis*, Symi, Greece, July 2013.
- [A26] “Medication dosage control for Cardiac Surgical Patients” (with Q. Zhao), **Invited Talk**, *Control and Adaptation: A 30-Year Journey, A Workshop in honor of Petros Ioannou*, University of Cyprus, Cyprus, June 2013.
- [A27] “Algorithmic Approaches to Personalized Health Care” (with T. Brisimi, W. Dai, Q. Zhao), *NSF PI Meeting*, Smart Health & Wellbeing Program, June 4–5, 2013, Washington, DC.
- [A28] “A new distributed algorithm for side-chain repacking in protein-protein association” (with M. Moghadasi, D. Kozakov, A. Mamonov, P. Vakili, and S. Vajda), *17th Annual International Conference on Research in Computational Molecular Biology (RE-COMB)*, April 7–10, 2013, Beijing, China.
- [A29] “A new message-passing algorithm for the maximum weighted independent set with applications in wireless networks and protein docking”, *Information Theory and Applications Workshop*, February 10–15, 2013, San Diego, California.
- [A30] “Composite Hypothesis Testing Error Exponents with Applications to CBRN Release Localization” (with R. T. Locke), *Stochastic Networks Conference*, June 18–22, 2012, Cambridge, Massachusetts.
- [A31] “Inverse Optimization: A New Perspective on the Black-Litterman Model” (with V. Gupta and D. Bertsimas), *INFORMS Annual Meeting*, November 13–16, 2011, Charlotte, North Carolina.
- [A32] “Tachyphylaxis in post-cardiac surgical patients receiving bivalirudin – a retrospective dynamic study using a PKPD model” (with Thomas Edrich, Gyorgi Frenzl, and Jim Rawn), *Proceedings of the 41st Critical Care Congress, Society of Critical Care Medicine*, February 4 – 8, 2011, Houston, Texas.
- [A33] “Optimizing the Transportation System’s Response Capabilities”, (with C.G. Cassandras), *DHS Science Conference*, March 30–April 1, 2011, Washington, DC.
- [A34] “A Least Squares Temporal Difference Actor-critic Algorithm with Applications to Warehouse Management”, (with R. Moazzez-Estanzini), **Invited**, *INFORMS Northeast Regional Conference*, May 6–7, 2011, Amherst, Massachusetts.
- [A35] “Distributed Wireless Sensor Networks for Long-term surveillance missions”, (with C.G. Cassandras), **Invited**, *DOE NNSA University and Industry Technical Interchange Review Meeting (UITI 2010)*, December 7 – 9, 2010, Knoxville, Tennessee.
- [A36] “Wireless Sensor Networks for Localization and Coverage Control”, (with C.G. Cassandras), **Invited**, *DOE NNSA University and Industry Technical Interchange Review Meeting (UITI 2009)*, December 2 – 3, 2009, Clearwater Beach, Florida.
- [A37] “New Results on Distributed wireless sensor networks for long-term deployments” (with C.G. Cassandras), **Invited**, *DOE NNSA University and Industry Technical Interchange Review Meeting (UITI 2008)*, December 2 – 4, 2008, The Canyons, Utah.
- [A38] “Localization in Sensor Nets: Adventures in Decision Theory and Facility Location” (with D. Guo), **Invited**, *INFORMS Annual Meeting*, October 12–15, 2008, Washington, D.C.
- [A39] “Event-driven Sensing for Enterprise Reconfigurability and Optimization” (with C. Cassandras, A. Bestavros, R. Gao, and W. Gong), **Invited**, *INFORMS Annual Meeting*, October 12–15, 2008, Washington, D.C.

- [A40] “Integrated understanding of the metabolic and gene regulatory systems of *Shewanella oneidensis* MR-1” (with Qasim Beg, David Byrne, Michael Driscoll, Frank Juhn, Yang Shen, Jeremiah Faith, Timothy Gardner, and Daniel Segre), *108th General Meeting of the American Society of Microbiology*, June 1–5, 2008, Boston, Massachusetts.
- [A41] “Systematic identification of regulatory mapping and optimal metabolic engineering strategies in *Shewanella oneidensis* MR-1” (with D. K. Byrne, Q. K. Beg, M. E. Driscoll, F. S. Juhn, Y. Shen, J. J. Faith, D. Segre., T. S. Gardner), *Genomics: Annual Contractor-Grantee Workshop*, Department of Energy, February 10-13, 2008, Bethesda, Maryland.
- [A42] “Robust sensor network localization via composite hypothesis testing”, **Invited**, *Information Theory and Applications Workshop*, January 27 - February 1, 2008, University of California, San Diego, California.
- [A43] “Distributed wireless sensor networks for long-term deployments” (with C.G. Cassandras), **Invited**, *DOE NNSA University Conference*, November 27 - 28, 2007, Central Florida Research Park, Orlando, Florida.
- [A44] “Docking refinement by the underestimation of free energy funnels” (with Y. Shen, P. Vakili, and S. Vajda), *4th Conference on Modeling of Protein Interactions (MPI 2007)*, Sep. 30 - Oct. 2, 2007, Lawrence, Kansas.
- [A45] “A multistep approach to protein-protein docking” (with D. Kozakov, Y. Shen, R. Brenke, D. Beglov, P. Vakili, S. Vajda), *234th American Chemical Society National Meeting*, August 19-23, 2007, Boston, Massachusetts.
- [A46] “New Approaches to Protein-Protein Docking” (with D. Kozakov, R. Brenke, Y. Shen, S.R. Comeau, P. Vakili, S. Vajda), *3DSIG Structural Bioinformatics and Computational Biophysics Meeting*, in conjunction with the *Conference of the International Society for Computational Biology*, July 19-20, 2007, Vienna, Austria.
- [A47] “Statistical Anomaly Detection in Internet Traffic and Sensor Network Topology”, **Invited Plenary**, *National Colloquium for Information Systems Security Education*, June 5, 2007, Boston, MA.
- [A48] “Refinement of rigid-body protein docking predictions using semi-definite underestimation” (with Y. Shen, P. Vakili, and S. Vajda), *3rd Critical Assessment PRedicted Interaction (CAPRI) Evaluation Meeting*, April 20-21, 2007, Toronto, Canada. (Poster presentation, **awarded 1st prize**).
- [A49] “New approaches to protein-protein docking” (with S. Vajda, D. Kozakov, R. Brenke, S. R. Comeau, Y. Shen, P. Vakili), *232nd American Chemical Society National Meeting*, September 10-14, 2006, San Francisco, California.
- [A50] “Sensor Networks: Localization, Transmission Scheduling, and Energy-Aware Routing with QoS Guarantees”, **Invited**, *Workshop on Challenges and Opportunities in Distributed Sensor Networks*, Center for Nonlinear Studies, Los Alamos National Laboratory, March 9–10, 2006, Los Alamos, New Mexico.
- [A51] “Joint Transmission Scheduling and Routing for Low-Power Wireless Sensor Networks is Polynomially Solvable”, **Invited**, *Computer Communications Workshop*, October 2005, Huntington Beach, California.
- [A52] “A semi-definite programming based underestimation method for global optimization in molecular docking” (with Y. Shen, S. Vajda, and P. Vakili), *3rd Conference on Protein Interactions in Genomics*, June 26-28, 2005, Lawrence, Kansas.
- [A53] “Statistical Location Detection in Sensor Networks”, **Invited**, *Workshop on Rare events in communication networks*, EURANDOM, February 2005, Eindhoven, The Netherlands.
- [A54] “Multiservice Loss Networks: From pricing to distributed resource allocation”, **Invited**, *EURO/INFORMS International Joint Meeting*, July 6–10, 2003, Istanbul, Turkey.

- [A55] “Pricing and Congestion Control in Multiservice Loss Networks” (with Y. Liu), **Invited**, *17th IEEE Annual Computer Communications Workshop*, October 2002, Santa Fe, New Mexico.
- [A56] “Pricing of Real-Time Services in Multiservice Communication Networks” (with Y. Liu), **Invited**, *Workshop on Computer-Aided Modeling, Analysis, and Design of Communication Links and Networks (CAMAD)*, May 2002, New York City, New York.
- [A57] “Revenue Management in Multiservice Communication Networks” (with Y. Liu), **Invited**, *INFORMS Conference*, November 2001, Miami, Florida.
- [A58] “New scheduling policies for multiclass queueing networks” (with M. Caramanis and C. Su), **Invited**, *INFORMS Conference*, November 2001, Miami, Florida.
- [A59] “Target-pursuing policies for multiclass queueing networks” (with M. Caramanis and C. Su), *INFORMS 11th Applied Probability Conference*, July 2001, New York, New York, page 21.
- [A60] “Importance Sampling for the Estimation of Buffer Overflow Probabilities in Large Communication Switches” (with S. Vassilaras), *INFORMS 11th Applied Probability Conference*, July 2001, New York, New York, page 19.
- [A61] “Static Pricing in Multiservice Communication Networks” (with Y. Liu), *INFORMS 11th Applied Probability Conference*, July 2001, New York, New York, page 23.
- [A62] “Inventory Control in Supply Chains: A Large Deviations Approach” (with Y. Liu), **Invited**, *INFORMS Conference*, November 2000, San Antonio, Texas.
- [A63] “Large Deviations-based Asymptotics for Inventory Control in Make-to-Stock Manufacturing Systems and Supply Chains”, *Conference on Stochastic Networks*, University of Wisconsin-Madison, June 2000, Madison, Wisconsin.
- [A64] “On the Estimation of Effective bandwidths from Measurements” (with S. Vassilaras), **Invited**, *INFORMS Conference*, November 1999, Philadelphia, Pennsylvania.
- [A65] “Revenue Management and the Internet” (with J.N. Tsitsiklis), **Invited**, *INFORMS Conference*, November 1998, Seattle, Washington.
- [A66] “Optimal control of make-to-stock systems: A large deviations approach” (with D. Bertsimas), *INFORMS Conference*, April 1998, Montreal, Canada.
- [A67] “Revenue Management in Network Services” (with J.N. Tsitsiklis), **Invited**, *Proceedings of the Fourth INFORMS Telecommunications Conference*, March 1998, Boca Raton, Florida.
- [A68] “Congestion Probabilities and Admission control”, *Proceedings of the 9TH INFORMS Applied Probability Conference*, June 1997, Cambridge, Massachusetts, page 169.
- [A69] “On the Large Deviations Behaviour of Acyclic Single Class Networks and Multiclass Queues” (with D. Bertsimas and J.N. Tsitsiklis), **Invited**, *Royal Statistical Society Workshop on Stochastic Networks*, August 1-11, 1995, Edinburgh, U.K.
- [A70] “Branching Bandits and Klimov’s Problem” (with D. Bertsimas and J.N. Tsitsiklis), **Invited**, *Proceedings of the 8TH INFORMS Applied Probability Conference*, June 1995, Atlanta, Georgia.
- [A71] “On the Large Deviations Behaviour of Acyclic Networks of G/G/1 Queues” (with D. Bertsimas and J.N. Tsitsiklis), *Proceedings of the Third INFORMS Telecommunications Conference*, March 1995, Boca Raton, Florida.
- [A72] “Branching Bandits and Klimov’s Problem: Achievable Region and Side Constraints” (with D. Bertsimas and J.N. Tsitsiklis), *ORSA/TIMS conference*, April 1994, Boston, Massachusetts.
- [A73] “Scheduling of Multiclass Queueing Networks: Bounds on Achievable Performance” (with D. Bertsimas and J.N. Tsitsiklis), *ORSA/TIMS conference*, November 1992, San Francisco, California.



## Technical Reports

- [R1] “Performance Benchmarks for Sensor Networks”, Technical Report, The Sensor Network Consortium, February 2005.
- [R2] “Efficient Resource Allocation and Yield Management in Internet Services” (with P. Kavassalis, and J.N. Tsitsiklis), Technical Report, *Internet Telephony Consortium, MIT*, 1997, Cambridge, MA.
- [R3] “Large Deviations in High Speed Communication Networks”, Technical report (Ph.D. Thesis), Laboratory for Information and Decision Systems, 1996, MIT, Cambridge, MA.
- [R4] “Scheduling of Multiclass Queueing Networks: Bounds on Achievable Performance”, Technical report (M.S. Thesis), Laboratory for Information and Decision Systems, 1993, MIT, Cambridge, MA.

## Selected Invited Courses and Tutorials

- [C1] “Intro to Math Programming” (6.251/15.081), **Invited Course**, *Massachusetts Institute of Technology*, Fall 2017.
- [C2] “Introduction to Linear Programming”, **Invited Guest Lecture to Computational Biology Students**, Boston University, Boston, Massachusetts, April 2015.
- [C3] “Production Models”, **Invited Mini-Course**, Athens University of Economics and Business, Summer Session, *Executive M.S. program*, Andros, Greece, July 2000.
- [C4] “Queueing Network Models”, **Invited Mini-Course**, Athens University of Economics and Business, *Executive M.S. program*, Athens, Greece, May 1999.
- [C5] “QoS and Admission Control: Large deviations-based admission control”, **Invited Tutorial**, *Workshop on Control Methods in Communication Networks* (with V. Anantharam, T. Basar, and R. Srikant), 37th IEEE Conference on Decision and Control, December 1998, Tampa, Florida.

## Selected Invited Lectures in Academia

- [L1] “Predicting COVID-19 Outcomes from Patient Data”, **Invited Talk**, *Department of Mathematics, University of Arizona*, May 26, 2020, Tuscon, Arizona.
- [L2] “A Quantitative Research Agenda for Forced Displacement”, **Invited Talk**, *Research on Tap, Boston University*, March 3, 2020, Boston, Massachusetts.
- [L3] “From Data to Personalized Predictions and Prescriptions”, 8th Annual BU CTSI Symposium, *Clinical and Translation Science Institute, Boston University*, December 3, 2019, Boston, Massachusetts.
- [L4] “Distributionally Robust Learning with Applications to Health Analytics”, **Invited Seminar**, *Department of Automation, Tsinghua University*, November 29, 2019, Beijing, China.
- [L5] “Learning from Data to Select Optimal Decisions and Policies”, **Invited Seminar**, *School of AI and Automation, Huazhong University*, November 27, 2019, Wuhan, China.
- [L6] “Distributionally Robust Learning with Applications to Health Analytics”, **Invited Seminar**, *School of AI and Automation, Huazhong University*, November 27, 2019, Wuhan, China.
- [L7] “Distributionally Robust Learning with Applications to Health Analytics”, **Invited Seminar**, *School of Management, Fudan University*, November 26, 2019, Shanghai, China.

- [L8] “Distributionally Robust Learning with Applications to Health Analytics”, **Invited Lecture**, *Workshop on Modeling, Analysis, and Control of Complex Networks and Cyber-Physical Systems (MACC)*, June 30, 2019, Ischia, Italy.
- [L9] “Distributionally Robust Learning with Applications to Health Analytics”, **Invited Seminar**, *Yale Institute for Network Science, Yale University*, April 17, 2019, New Haven, Connecticut.
- [L10] “From Data to Models and Proposed Solutions” **Invited Panel Presentation**, *Institute on Cities, Boston University*, March 26, 2019, Boston, Massachusetts.
- [L11] “Learning from Medical Data to Predict and Intervene”, **Invited Talk**, *Research on Tap, Boston University*, March 20, 2019, Boston, Massachusetts.
- [L12] “Health Analytics for Personalized Predictions and Prescriptions”, **Invited Talk**, *Boston University Data Science Day*, February 6, 2019, Boston, Massachusetts.
- [L13] “Learning Predictive Models from Observed Network Equilibria: From Transportation to Metabolic Networks”, **Invited Talk**, *Huazhong University of Science and Technology*, July 17, 2018, Wuhan, China.
- [L14] “Distributionally Robust Learning and Applications to Predictive and Prescriptive Health Analytics”, **Invited Talk**, *Huazhong University of Science and Technology*, July 17, 2018, Wuhan, China.
- [L15] “Learning Predictive Models from Observed Network Equilibria: From Transportation to Metabolic Networks”, **Invited Talk**, *Department of Automation, Shanghai Jiatong University*, July 16, 2018, Shanghai, China.
- [L16] “Distributionally Robust Learning and Applications to Predictive Health Analytics”, **Invited Talk**, *Channing Laboratory, Harvard Medical School*, May 25, 2018, Boston, Massachusetts.
- [L17] “Health Analytics for Personalized Predictions and Prescriptions”, **Invited Talk**, *Boston University Medical School*, March 28, 2018, Boston, Massachusetts.
- [L18] “Predictive and Prescriptive Analytics for Hospital Readmissions after General Surgery”, **Invited Talk**, *Digital Health Initiative, Boston University*, March 22, 2018, Boston, Massachusetts.
- [L19] “Predictive Health Analytics”, **Invited Talk**, *School of Public Health, Boston University*, November 8, 2017, Boston, Massachusetts.
- [L20] “Inverse Equilibrium Problems and Price-of-Anarchy Estimation in Transportation Networks”, **Invited Lecture**, *University of Grenoble-Alpes*, September 4, 2017, Grenoble, France.
- [L21] “Data-Driven Model Estimation from Observed Equilibria: What transportation networks and bacterial cells have in common?”, **Invited Lecture**, *School of Computing, Informatics, and Decision Systems Engineering, Arizona State University*, May 5, 2017, Phoenix, Arizona.
- [L22] “Data-Driven Price-of-Anarchy Estimation in Transportation Networks”, **Invited Lecture**, *Department of Electrical and Computer Engineering and Institute for Transportation Studies, University of California, Berkeley*, January 27, 2017, Berkeley, California.
- [L23] “Predictive Health Analytics”, **Invited Talk**, *Center for Future Technologies in Cancer, Boston University*, January 19, 2017, Boston, Massachusetts.
- [L24] “What do bacterial cells actually want and how can they collaborate with other species?”, **Invited Lecture**, *Department of Mechanical Engineering, Massachusetts Institute of Technology*, June 28, 2016, Cambridge, Massachusetts.

- [L25] “Data-Driven Model Estimation from Observed Equilibria: What transportation networks and bacterial cells have in common?”, **Invited Lecture**, *Department of Electrical and Systems Engineering*, University of Pennsylvania, June 15, 2016, Philadelphia, Pennsylvania.
- [L26] “Data-Driven Model Estimation in Biochemical Networks from Observed Equilibria”, **Invited Lecture**, *Department of Electrical and Computer Engineering*, Georgia Institute of Technology, March 8, 2016, Atlanta, Georgia.
- [L27] “Predictive Health Analytics”, **Invited Lecture**, *Department of Industrial and Systems Engineering*, Georgia Institute of Technology, March 7, 2016, Atlanta, Georgia.
- [L28] “Predictive Health Analytics”, **Invited Lecture**, *Sloan School of Management*, Massachusetts Institute of Technology, February 8, 2016, Cambridge, Massachusetts.
- [L29] “Predictive Health Analytics”, **Invited Lecture**, *LIDS Student Conference*, Massachusetts Institute of Technology, January 29, 2016, Cambridge, Massachusetts.
- [L30] “Predictive Health Analytics”, **Invited Lecture**, *LIDS Student Conference*, Massachusetts Institute of Technology, January 29, 2016, Cambridge, Massachusetts.
- [L31] “Predictive Health Analytics”, **Invited Talk**, *Boston University Data Science Symposium*, Boston University, January 22, 2016, Boston, Massachusetts.
- [L32] “Analytics Enabling “Smarter” Health Care”, **Invited Lecture**, *Department of Control*, Zhejiang University, China, April 24, 2014.
- [L33] “Conflict resolution using graphs with applications in wireless networks and protein docking”, **Invited Lecture**, *Department of Automation*, Tsinghua University, China, April 21, 2014.
- [L34] “Graph-theoretic conflict resolution with applications in wireless networks and protein docking”, **Invited Lecture**, *Institute of Informatics and Telecommunications*, National Center for Scientific Research (DEMOKRITOS), Greece, February 2014.
- [L35] “Analytics Enabling ‘Smarter’ Health Care”, **Invited Lecture**, *Department of Biomedical Engineering*, Boston University, Boston, Massachusetts, January 2014.
- [L36] “Graph-theoretic conflict resolution with applications in wireless networks and protein docking”, **Invited Lecture**, *Coordinated Sciences Laboratory*, University of Illinois, Urbana-Champaign, September 2013.
- [L37] “Graph-theoretic conflict resolution with applications in wireless networks and protein docking”, **Invited Lecture**, *KIOS Research Center*, University of Cyprus, Cyprus, June 2013.
- [L38] “Conflict resolution as an Independent Set Problem with Applications in Wireless Networks and Protein Docking”, **Invited Lecture**, *Department of Applied Analysis and Complex Dynamical Systems*, Graduate School of Informatics, Kyoto University, Kyoto, Japan, May 2013.
- [L39] “Optimization Techniques for Protein Docking”, **Invited Lecture**, *Department of Chemistry*, Boston University, Boston, Massachusetts, November 2012.
- [L40] “The Maximum Weighted Independent Set Problem and Applications”, **Invited Lecture**, *Department of Informatics*, Athens University of Economics and Business, Athens, Greece, June 28, 2012.
- [L41] “On the Maximum Weighted Independent Set with Applications in Wireless Networks and Protein Docking”, **Invited Lecture**, *Department of Electrical and Computer Engineering*, The Ohio State University, Columbus, Ohio, March 6, 2012.
- [L42] “Optimization Techniques for Protein Docking”, **Invited Lecture**, *Department of Computer Science and Telecommunications*, University of Athens, Athens, Greece, January 13, 2011.

- [L43] “Detection and Optimization Problems in Wireless Sensor Networks”, **Invited Lecture**, *Operations Research Center*, Massachusetts Institute of Technology, Cambridge, Massachusetts, February 25, 2010.
- [L44] “Design and Optimization of Wireless Sensor Networks”, **Invited Lecture**, *Department of Electrical and Computer Engineering*, National Technical University of Athens, Athens, Greece, January 20, 2010.
- [L45] “Mathematics of Statistical Localization in Wireless Sensor Networks and Related Problems”, **Invited Lecture**, *Department of Mathematics*, University of Athens, Athens, Greece, June 16, 2009.
- [L46] “A New Statistical Localization Framework for Wireless Sensor Networks”, **Invited Lecture**, *Department of Electrical and Computer Engineering*, The Ohio State University, May 29, 2009.
- [L47] “Localization with Wireless Sensor Networks” **Invited Lecture**, *Department of Mechanical Engineering*, Worcester Polytechnic Institute, March 27, 2008.
- [L48] “Protein docking by optimizing noisy funnel-like functions”, **Invited Lecture**, University of Bridgeport, Bridgeport, Connecticut, November 8, 2007.
- [L49] “Optimization of Wireless Sensor Networks”, **Invited Lecture**, *Athens Information Technology (AIT) Center*, Athens, Greece, March 12, 2007.
- [L50] “Optimization for Protein-Protein Docking”, **Invited Lecture**, *Operations Research Center*, Massachusetts Institute of Technology, November 30, 2006.
- [L51] “Optimization of Wireless Sensor Networks”, **Invited Lecture**, *Department of Electrical and Computer Engineering*, Boston University, Boston, Massachusetts, November 2006.
- [L52] “Optimization of Wireless Sensor Networks”, **Invited Lecture**, *Department of Mathematical Engineering*, Université catholique de Louvain, Louvain-la-Neuve, Belgium, October 2006.
- [L53] “Wireless Sensor Networks: A playground for optimization methodologies”, **Invited Lecture**, *Dipartimento di Ingegneria*, Università degli Studi del Sannio, Benevento, Italy, September 2006.
- [L54] “Optimization Adventures in the Wonderland of Wireless Sensor Networks”, **Invited Lecture**, *Department of Electrical and Computer Engineering*, University of Connecticut, November 2005.
- [L55] “Optimizing Wireless Sensor Networks”, **Invited Lecture**, *Graduate School of Business*, Stanford University, April 2004.
- [L56] “Multi-service Communication Networks: What’s the “right” time-scale for pricing and resource allocation decisions ?”, **Invited Lecture**, *School of Business*, Columbia University, November 2003.
- [L57] “Supply Chain Inventory Control Lessons: Distributional Information Matters !”, **Invited Lecture**, *School of Business*, Columbia University, November 2003.
- [L58] “Resource Allocation in Sensor Networks”, **Invited Lecture**, *Department of Electrical and Computer Engineering*, Northwestern University, October 2003.
- [L59] “Supply Chain Inventory Control with Quality of Service Guarantees”, **Invited Lecture**, *Graduate School of Business*, University of Chicago, October 2003.
- [L60] “Multi-service Communication Networks: Resource Allocation through Pricing”, **Invited Lecture**, *Department of Electrical Engineering*, Yale University, April 2003.
- [L61] “Multi-service Communication Networks: What’s the “right” time-scale for pricing and resource allocation decisions ?”, **Invited Lecture**, *Information Systems Laboratory*, *Department of Electrical Engineering*, Stanford University, March 2003.

- [L62] “On the Pricing of Differentiated Internet Services: A Revenue Management Perspective”, **Invited Lecture**, *Graduate School of Industrial Administration*, Carnegie Mellon University, March 2002.
- [L63] “Inventory Control for Supply Chains with Service Level Constraints: A Large Deviations Approach”, **Invited Lecture**, *Department of Mechanical, Industrial and Manufacturing Engineering*, Northeastern University, February 2002.
- [L64] “Near-optimal charging mechanisms for multiservice communication networks”, **Invited Lecture**, *Department of Electrical and Computer Engineering*, Purdue University, October 2001.
- [L65] “Quality of Service: A Unifying Theme”, **Invited Lecture**, *Division of Engineering and Applied Sciences*, Harvard University, November 2000.
- [L66] “Estimating Effective Bandwidths”, **Invited Lecture**, *Department of Electrical and Computer Engineering*, University of Massachusetts at Amherst, November 1999.
- [L67] “QoS Provisioning in Multimedia Communication Networks”, **Invited Lecture**, *Department of Industrial Engineering and Management Sciences*, Northwestern University, June 1999.
- [L68] “Probabilistic Service Level Guarantees in Make-to-Stock Manufacturing Systems”, **Invited Lecture**, *Operations Management Seminar*, Massachusetts Institute of Technology, March 1999.
- [L69] “Congestion-Dependent Pricing of Internet Services”, **Invited Lecture**, *Operations Research Seminar*, Massachusetts Institute of Technology, March 1999.
- [L70] “Revenue Management in the Internet”, **Invited Lecture**, *Finance Seminar*, School of Management, Boston University, March 1999.
- [L71] “Admission Control in High Speed Communication Networks”, **Invited Lecture**, *Computer Science Department*, Boston University, December 1998.
- [L72] “Providing Statistical QoS in Multimedia Networks (Effective bandwidths and beyond)”, **Invited Lecture**, *Center for Satellite and Hybrid Communication Networks*, University of Maryland at College Park, April 1998, Maryland.
- [L73] “Large Deviations and their applications in the traffic management of High-Speed Communication Networks”, **Invited Lecture**, *Networking Seminar, Department of Electrical and Computer Engineering*, University of Michigan, October 1996, Ann Arbor, Michigan.

### Selected Invited Lectures in Industry and Government Agencies

- [L74] “Learning Hierarchical Control Policies from Observed Trajectories”, **Invited Talk**, ONR Science of Autonomy Workshop, August 13, 2020, on-line.
- [L75] “Neuro-Autonomy: Neuroscience-Inspired Perception, Navigation, and Spatial Awareness for Autonomous Robots”, **Invited Talk**, ONR Unmanned Maritime Systems Technology Program Review, January 27–30, 2020, Miramar Beach, Florida.
- [L76] “Data-Driven Models of Human Behavior in Transportation Systems”, (with C.G. Cassandras), **Invited Talk**, NSF CPS PI Meeting, November 14, 2017, Arlington, Virginia.
- [L77] “Predictive Health Analytics”, **Invited Talk**, *Philips Innovation Research Center*, January 18, 2017, Cambridge, Massachusetts.
- [L78] “Optimal Selection of Cell Metabolic Functionality”, **Invited Talk**, ARO Metabolic MURI Meeting, University of Texas, Austin, October 2016.
- [L79] “Predicting hospitalizations based on Electronic Health Records”, **Invited Talk**, to a French Delegation in the U.S. from the French National Assembly and the health care system, led by the European Social Protection Observatory (OEPS), July 13, 2016, Boston Medical Center, Boston, Massachusetts.

- [L80] “Predictive Health Analytics”, **Invited Lecture**, *Edith Nourse Rogers Memorial Veterans Hospital*, March 4, 2016, Bedford, Massachusetts.
- [L81] “Learning and Optimizing Animal Policies for Navigating Forest-like Terrains”, **Invited Talk**, ONR MURI Meeting, University of Washington, Seattle, October 2015.
- [L82] “Optimization Techniques for Animal-Inspired Trajectories”, **Invited Talk**, ONR MURI Meeting, University of Maryland, College Park, September 2014.
- [L83] “Anomaly detection methods for cyber-security awareness”, **Invited Talk**, Army Research Laboratory, September 2014, Adelphi, Maryland.
- [L84] “Inverse FBA: Learning Cellular Objectives from Fluxes”, **Invited Talk**, ARO Metabolic MURI Meeting, University of Texas, Austin, May 2014.
- [L85] “Turning Constraint-Based Modeling on Its Head: Learning Cellular Objectives from Fluxes”, **Invited Talk**, ARO Metabolic MURI Meeting, University of Texas, Austin, June 2013.
- [L86] “Algorithmic approaches to personalized health care”, **Invited Talk**, Brigham and Women’s Hospital, Boston, MA, May 2013.
- [L87] “Large-Scale Methods for Bio-Inspired Robot Motion Planning and Control”, **Invited Talk**, ONR Airfoils MURI Meeting, ONR, Washington, DC, April 2013.
- [L88] “Predicting Hospitalization from Electronic Health Records”, **Invited Talk**, Boston Medical Center, Boston, November 2012.
- [L89] “Predicting Bacterial Growth Conditions via Inverse Optimization and Machine Learning Techniques”, **Invited Talk**, ARO MURI Meeting, University of Texas, Austin, October 2012.
- [L90] “A BU Toolbox for Cyber Anomaly Detection”, **Invited Talk**, Army Research Laboratory, October 2012, Adelphi, Maryland.
- [L91] “Data Harvesting using Mobile Wireless Sensor Networks”, **Invited Talk**, Oak Ridge Laboratory, September 2012, Oak Ridge, Tennessee.
- [L92] “Energy Management of Wireless Sensor Networks”, **Invited Talk**, Oak Ridge Laboratory, September 2012, Oak Ridge, Tennessee.
- [L93] “A Market-Based Mechanism Enabling Buildings to Provide Demand Side Regulation Service”, **Invited Talk**, Oak Ridge Laboratory, September 2012, Oak Ridge, Tennessee.
- [L94] “Optimized Strategies for Bio-Inspired Robot Motion Planning and Control”, **Invited Talk**, ONR MURI Meeting, University of Maryland, College Park, June 2012.
- [L95] “A Coordinated Approach to Cyber-Situation Awareness based on Traffic Anomaly Detection”, **Invited Talk**, Army Research Laboratory, November 2011, Adelphi, Maryland.
- [L96] “Anomaly Detection for Data Security and Algorithms for Disease Prevention and Management”, EMC Corp.-Boston University Meeting, January 2011, Boston, Massachusetts.
- [L97] “AIRFOILS: Real-time Optimization for Animal Inspired Agile Flight”, **Invited Talk**, ONR MURI Kickoff Meeting, University of Washington, Seattle, October 7, 2010.
- [L98] “On Energy Management in Sensor Networks”, **Invited Talk**, Ember Inc.-Boston University Meeting, May 2010, Boston, Massachusetts.
- [L99] “Statistical Anomaly Detection with Applications in Cybersecurity”, **Invited Lecture**, *Information Science & Technology Center*, Los Alamos National Laboratory, March 24, 2010, Los Alamos, New Mexico.

- [L100] “On Statistical Anomaly Detection of Cyber-Security Threats”, **Invited Talk**, Army Research Laboratory, October 2009, Adelphi, Maryland.
- [L101] “Wireless Sensor Networks: Promises and Challenges”, **Invited Talk**, NECINA Wireless Special Interest Group, June 2008, Waltham, Massachusetts.
- [L102] “Localization of Hazardous Sources in Sensor Fields”, DOE Review meeting, June 2008, Boston, Massachusetts.
- [L103] “Next Generation Localization in Wireless Sensor Networks”, *The Sensor Network Consortium*, May 2008, Boston, Massachusetts.
- [L104] “Control and Optimization of Wireless Sensor Networks”, **Invited Lecture**, *Los Alamos National Laboratory*, March 2008, Los Alamos, New Mexico.
- [L105] “Minimal Energy Routing with Latency QoS Guarantees”, *The Sensor Network Consortium*, November 2006, Boston, Massachusetts.
- [L106] “Sensor networks and applications in homeland security”, **Invited Talk**, Symposium on “UK Technologies for Security” organized by the United Kingdom government, October 30, 2006, *UK Consulate*, Boston, Massachusetts.
- [L107] “The Center for Information and Systems Engineering and the Sensor Networks Consortium”, **Invited Talk**, *Holst Centre*, IMEC Netherlands, October 2006, Eindhoven, Netherlands.
- [L108] “Systems-level opportunities for much needed efficiency gains in sensor networks”, **Invited Talk**, *ARRM06 Industry & IMEC Review Meeting*, October 2006, Leuven, Belgium.
- [L109] “Localization with Sensor Networks and related challenges”, **Invited Talk**, *United Technologies Research Center*, October 2006, Hartford, Connecticut.
- [L110] “Energy-Aware Sensor Network Routing with QoS Guarantees”, **Invited Talk**, *MITRE Corp.*, June 2006, Bedford, Massachusetts.
- [L111] “The role of optimization in sensor networks: Localization and energy-aware routing”, **Invited Talk**, *Netted Sensors Workshop*, October 2005, MITRE Corp., McLean, Virginia.
- [L112] “Research Challenges in RFIDs and Sensor Networks”, **Invited Panelist**, *IDC RFID Update Conference*, June 2005, Boston, Massachusetts.
- [L113] “Localization for Sensor Networks: Accurate or Robust (or both) ?”, *The Sensor Network Consortium*, May 2005, Boston, Massachusetts.
- [L114] “Performance evaluation of Sensor Networks”, *The Sensor Network Consortium*, May 2005, Boston, Massachusetts.
- [L115] “Statistical Location Detection and Optimal Routing in Sensor Networks”, **Invited Talk**, *General Electric Labs*, January 2005, Niskayuna, New York.
- [L116] “Establishing the Sensor Network Consortium”, *Inaugural Meeting*, *The Sensor Network Consortium*, November 2004, Boston, Massachusetts.
- [L117] “Sensor Networks Applications in Robot Navigation”, **Invited Talk**, *Aberdeen Proving Ground*, May 2004, Aberdeen, Maryland.
- [L118] “Military Supply Chains: A 10,000-Foot View of Algorithmic and Methodological Challenges”, **Invited Lecture**, *Manufacturing Engineering Emerging Technologies Seminar*, *Boston University*, November 2002, Boston, Massachusetts.
- [L119] “Inventory Control in Supply Chains”, **Invited Lecture**, *Solectron*, August 2002, North Andover, Massachusetts.
- [L120] “Pricing Differentiated Internet Services”, **Invited Lecture**, *Sun Microsystems Labs*, April 2002, Burlington, Massachusetts.

- [L121] “Optimizing Multiservice Communication Networks”, Genuity-BU meeting, March 2002, Boston, Massachusetts.
- [L122] “Pricing the Internet: Can simplicity induce optimality ?”, **Invited Lecture**, *IBM T.J. Watson Research Center, Mathematical Sciences*, March 2001, Yorktown Heights, New York.
- [L123] “Quality of Service in Communication and Manufacturing Systems”, **Invited Lecture**, *Scientific Computing Group, Los Alamos National Laboratory*, February 2001, Los Alamos, New Mexico.
- [L124] “Quick Simulation for the Estimation of the Cell Loss Probability in Large Switches”, **Invited Talk**, Nokia Research Center, February 2001, Boston, Massachusetts.
- [L125] “Leaky Bucket Control”, **Invited Talk**, Nokia Research Center, June 2000, Boston, Massachusetts.
- [L126] “Resource Allocation Issues in Multiservice Communication Networks”, **Invited Talk**, Nokia Research Center, May 1999, Boston, Massachusetts.
- [L127] “Customer-oriented Supply Chain Management”, *Industrial Advisory Board Meeting*, Dept. of Manufacturing Engineering, Boston University, September 1998, Boston, Massachusetts.
- [L128] “Resource and Revenue Management in Internet Services”, **Invited Talk**, *Workshop of the MIT Internet Telephony Consortium*, June 1998, Helsinki, Finland.
- [L129] “Quality of Service Provisioning in Multimedia Communication Networks”, **Invited Talk**, *Basic Research Institute in the Mathematical Sciences (BRIMS)*, Hewlett-Packard Labs, June 1997, Bristol, U.K.
- [L130] “Efficient Resource Allocation and Revenue Management of Internet Services”, **Invited Talk**, *Workshop of the MIT Internet Telephony Consortium*, June 1997, Bristol, U.K.
- [L131] “Right on Schedule”, *Industrial Advisory Board Meeting*, Dept. of Manufacturing Engineering, Boston University, March 1997, Boston, Massachusetts.
- [L132] “Yield Management and Internet Telephony”, *MIT Internet Telephony Consortium*, MIT, November 1996, Cambridge, Massachusetts.

### Other Selected Presentations

- [L133] “Selecting Optimal Decisions via Distributionally Robust Nearest-Neighbor Regression” (with Ruidi Chen), *Poster presentation, 8th Annual CTSI Translational Science Symposium: From Server to Bedside: Advancing Health and Healthcare Through Data Science*, Clinical & Translational Science Institute, Boston University, December 3, 2019, Boston, Massachusetts, (**awarded the CTSI 2nd Prize**).
- [L134] “More Data, More Problems?”, **Invited Panelist**, *MEDSTART Conference*, Tufts Medical School, December 2, 2017, Boston, Massachusetts.
- [L135] “Detecting Data Exfiltration from a Networked Infrastructure” (with Jing Zhang), *Advanced Cyber Security Center, Annual Conference*, November 2016, Boston, Massachusetts.
- [L136] “Algorithmic Approaches to Personalized Health Care” (with T. Brisimi, W. Dai, T. Wang, T. Xu), *2016 New England Machine Learning day*, Poster Presentation, Microsoft Research, May 2016, Cambridge, Massachusetts.
- [L137] “Predicting hospital re-admissions for surgical patients” (with T. Wang, T. Xu, T. Brisimi, G. Kasotakis), *5th Annual Translational Research Symposium*, “In Memory of David C. Seldin”, Poster Presentation, Boston University, March 28, 2016.



- [L138] “Botnet Detection Using Social Graph Analysis” (with J. Wang), Poster presentation, 12th Annual National Academies Keck Futures Initiative (NAKFI) conference, “Collective Behavior: From Cells to Societies”, National Academies, November 2014, Irvine, California.
- [L139] “Turning Constraint-Based Modeling on Its Head: Learning Cellular Objectives from Fluxes” (with Q. Zhao, D. Segre, A. Stettner), Poster presentation, Scholars Day, April 2014, (**awarded the CISE 1st Prize**).
- [L140] “Robust Anomaly Detection in Dynamic Networks” (with J. Wang), Poster presentation, Scholars Day, April 2014, (**awarded the CISE 2nd Prize**).
- [L141] “A multi-stage Monte Carlo minimization-based approach to the protein docking refinement problem” (with M. Moghdasi, A. Mamonov, P. Vakili, S. Vajda, D. Kozakov), Poster presentation, Scholars Day, April 2014, (**awarded a CISE honorable mention**).
- [L142] “Modeling and Prediction of Heart-Related Hospitalization Using Electronic Health Records Data” (with W. Dai, T. Brisimi, and V. Saligrama), Poster presentation, Scholars Day, April 2014, (**awarded a CISE honorable mention**).
- [L143] “Flexible Refinement of Protein-Ligand Docking on Manifolds” (with H. Mirzaei, D. Kozakov, S. Vajda, P. Vakili), Poster presentation, Boston University Science and Engineering Day, April 2013 (**awarded a CISE 2nd Prize**).
- [L144] “A New Approach to Rigid-Body Minimization with Applications to Molecular Docking” (with H. Mirzaei, D. Kozakov, S. Vajda, P. Vakili), Poster presentation, Boston University Science and Engineering Day, April 2012 (**awarded a CISE Honorable Mention**).
- [L145] “The Capacity of Sparse Ad Hoc Networks under Controlled Mobility” (with Reza Moazzez-Estanjini), Poster presentation, Boston University Science and Engineering Day, March 2010 (**awarded a CISE Honorable Mention**).
- [L146] “SDU: Protein docking by the underestimation of binding free energy funnels” (with Y. Shen, S. Vajda, P. Vakili), Poster presentation, *4th Conference on Modeling of Protein Interactions (MPI 2007)*, Sep. 30 - Oct. 2, 2007, Lawrence, Kansas.
- [L147] “A Semi-Definite programming-based Underestimation method for global optimization in molecular docking” (with Y. Shen, S. Vajda, P. Vakili), Poster presentation, Boston University Science and Engineering Day, March 2005 (**awarded the CISE first prize**).
- [L148] “Pricing and Resource Allocation in Multiservice Broadband Communication Networks”, **Invited Talk**, NSF PI Workshop, Networking Research Program, November 2000, NSF Division of Advanced Networking Infrastructure and Research, Irvine, California.
- [L149] “Controlling Congestion in Multimedia Networks”, **Invited Talk**, 1997 George E. Nicholson paper competition (**awarded 2nd prize**), *INFORMS* conference, May 1997, San Diego, California.

### Theses Supervised

- Ph.D. Theses:

- [TP1] Tingting Xu, “Machine Learning for Effective Predictions and Prescriptions in Health Care”, Ph.D. in Systems Engineering, Boston University, May 2020.
- [TP2] Taiyao Wang, “Data Analytics and Optimization Methods in Biomedical Systems: From Microbes to Humans”, Ph.D. in Systems Engineering, Boston University, May 2020.

- [TP3] Henghui Zhu, “Making Decisions Based on Context: Models and Applications in Cognitive Sciences and Natural Language Processing”, Ph.D. in Systems Engineering, Boston University, December 2019.
- [TP4] Ruidi Chen, “Distributionally Robust Learning under the Wasserstein Metric”, Ph.D. in Systems Engineering, Boston University, September 2019.
- [TP5] Jing Zhang, “Detection and Optimization Problems with Applications in Smart Cities”, Ph.D. in Systems Engineering, Boston University, September 2017.
- [TP6] Theodora Brisimi, “Centralized and Distributed Learning Methods for Predictive Health Analytics”, Ph.D. in Electrical and Computer Engineering, Boston University, September 2017.
- [TP7] Qi Zhao, “Control and Optimization Methods in Biomedical Systems: From Cells to Humans”, Ph.D. in Systems Engineering, Boston University, May 2016.
- [TP8] Mohammad Moghadasi, “Optimization methods for side-chain positioning and macromolecular docking”, Ph.D. in Systems Engineering, Boston University, May 2015.
- [TP9] Wuyang Dai, “Detection and prediction problems with applications in personalized health care”, Ph.D. in Electrical and Computer Engineering, Boston University, January 2015.
- [TP10] Jing Wang, “Anomaly detection and dynamic decision making for stochastic systems”, Ph.D. in Systems Engineering, Boston University, January 2015.
- [TP11] Fuzhuo Huang, “On the maximum weighed independent set problem with applications in wireless sensor networks”, Ph.D. in Systems Engineering, Boston University, January 2013.
- [TP12] Yingwei Lin, “Optimized dynamic vehicle routing policies with applications”, Ph.D. in Electrical and Computer Engineering, Boston University, May 2012.
- [TP13] Ronald Taylor Locke, “Anomaly detection with applications in environmental and cyber security”, Ph.D. in Systems Engineering, Boston University, May 2012.
- [TP14] Reza Moazzez Estanjini, “Vehicle Scheduling and Routing For Data Transport in Wireless Sensor Networks”, Ph.D. in Systems Engineering, Boston University, May 2011.
- [TP15] Binbin Li, “Optimizing Energy Consumption: From Wireless Sensor Networks to Large “Smart” Buildings”, Ph.D. in Systems Engineering, Boston University, May 2011.
- [TP16] Yin Chen, “From Networks to Proteins: Modeling and Optimization with Markovian Models”, Ph.D. in Systems Engineering, Boston University, January 2011.
- [TP17] Ruomin Wu, “Maximum lifetime routing and resource allocation in wireless sensor networks”, Ph.D. in Systems Engineering, Boston University, January 2011.
- [TP18] Xiangdong Song, “Scheduled Multiple Access Control for Wireless Sensor Networks”, Ph.D. in Systems Engineering, Boston University, January 2010.
- [TP19] Dong Guo, “A New Statistical Localization Framework for Wireless Sensor Networks”, Ph.D. in Systems Engineering, Boston University, May 2009.
- [TP20] Seong-Cheol Kang, “Robust Linear Optimization under Distributional Information”, Ph.D. in Systems Engineering, Boston University, January 2008.
- [TP21] Yang Shen, “Global Optimization Methods for Protein Interaction Prediction”, Ph.D. in Systems Engineering, Boston University, January 2008.
- [TP22] Wei Lai, “Optimizing Wireless Sensor Networks”, Ph.D. in Systems Engineering, Boston University, January 2007.
- [TP23] Jian Shao, “Optimal Resource allocation in multi-class service systems using pricing”, Ph.D. in Systems Engineering, Boston University, January 2005.
- [TP24] Chang Su, “Target-pursuing policies for scheduling and routing in multiclass queueing networks”, Ph.D. in Systems Engineering, Boston University, May 2004.

- [TP25] Yong Liu, “Pricing and Resource Allocation in Communication Networks and Supply Chains”, Ph.D. in Systems Engineering, Boston University, May 2002.
- [TP26] S. Vassilaras, “Measurement-based Quality of Service Provisioning in Multimedia Telecommunication Networks”, Ph.D. in Electrical and Computer Engineering, Boston University, January 2002.
- M.S. Theses:
  - [TM1] Yimin Yu, “On transmission scheduling in wireless networks and route discovery for a fleet of robots”, M.S. in Manufacturing Engineering, Boston University, September 2004.
  - [TM2] Ying Liu, “Analysis of Regulation Mechanisms in Communication Networks”, M.S. in Manufacturing Engineering, Boston University, January 2003.
  - [TM3] H. Huang, “Yield Management in the Manufacturing and Service Industries”, M.S. in Manufacturing Engineering, Boston University, January 1998.

### **Postdoctoral Students**

#### **Supervised**

- [PD1] Panagiotis Andrianesis, 2017–2019.
- [PD2] Chuangchuang Sun, 2018–2019.
- [PD3] Shi Pu, 2018–2019.
- [PD4] Xiangyu Meng, 2017–2019.
- [PD5] Manjesh Kumar Hanawal, 2013–2015.
- [PD6] Armin Ataei, 2013–2015.
- [PD7] Artem Mamonov, 2012–2014.
- [PD8] Ebrahim Nasrabadi, 2012–2013.
- [PD9] Rezaul Alam Chowdhury, 2012–2013.
- [PD10] Keyong Li, 2007–2010.
- [PD11] Yang Shen, 2008.