

MICHAEL C. CARAMANIS

Boston University

College of Engineering

Department of Mechanical Engineering and Division of Systems Engineering

15 St Mary's Street, Boston Ma. 02446

Tel.+1 (617) 353-3247; fax -5548;

e-mail: [mcaraman@bu.edu](mailto:mcaraman@bu.edu), URL: [www.bu.edu/pcms/caramanis](http://www.bu.edu/pcms/caramanis)

**Education:**

- 1968-1971 Stanford University, Palo Alto, California. B.S. in Chemical Engineering, completed in three years. Graduated with distinction.
- 1971-1976 Harvard University, Cambridge, Massachusetts, Division of Engineering and Applied Physics. Master of Science in Engineering, June 1972. Ph.D. in Engineering, June 1976 (Major: Decision and Control Theory. Minors: Microeconomics and Development Economics).

**Work Experience:**

- 7/76-6/77 Greek Ministry of Education. Consultant on World Bank funded 3rd Educational Project, and visiting lecturer National Technical University of Athens.
- 6/77-9/79 National Energy Council, Ministry of Coordination and Planning, Athens, Greece. Deputy Director of the Scientific Secretariat in 1978 (15 members, 6 Ph.D., 6 M.S., 3 administrative). Responsibilities included coordination of research, identification and evaluation of research projects, transformation of research results to Energy Policy proposals, and representation to the International Energy Agency.
- 9/79-12/82 Research Scientist, M.I.T. Energy Laboratory, Deputy Manager, Utility Systems Program. Research manager of EPRI funded project for the development of a flexible, modular, environmentally sensitive state of the art Electric Generation Expansion Analysis System (EGEAS, EPRI 1529). Research on Introduction of Non-Dispatchable Technologies in Generation Expansion Planning, Probabilistic Electricity Production Costing Algorithms and Optimal Electricity Pricing.
- 1/83-9/88

- & 9/90-1/91 Visiting Research Scientist, Massachusetts Institute of Technology, Electrical Engineering and Computer Science Department.
- 9/82-9/92 Associate Professor of Manufacturing Engineering, Boston University, College of Engineering.
- 9/95-Fall 2005 Associate Chairman, Department of Manufacturing Engineering
- 10/01-9/05 Director, Center for Information and Systems Engineering (CISE)
- 2/05-3/09 President, Greek Regulatory Authority for Energy
- 10/04-10/08 Chair, Investment Group, Energy Charter, Brussels
- 9/94-Present Director, Production Control of Manufacturing Systems (PCMS) Laboratory
- 9/92-6/2008 Professor of Manufacturing Engineering, Boston University, College of Engineering.
- 6/08-Present Professor of Mechanical Engineering and Systems Engineering, Boston University, College of Engineering

**Research Interests:**

- Design of Energy Markets
- Production Planning and Control of Manufacturing Systems Operating Under Uncertainty.
- Dynamic Scheduling of Production Systems
- Enterprise Integration of Production System Planning and Control
- Stochastic Control and Mathematical Programming.
- Power System planning and Probabilistic Production Costing
- Real Time Pricing of Electricity and Market Design
- Marginal Costing of Power Transmission Services.

**Teaching:**

- Control Systems (undergraduate)
- Dynamic Programming and Stochastic Control (graduate)
- Manufacturing System Design (graduate)
- Statistics and Quality Engineering (undergraduate)
- Probability and Statistics (graduate)
- Factory of the Future (undergraduate)

- Production System Analysis (graduate)

### **Research Support:**

- Supported by the Electric Power Research Institute for the development of the EGEAS software. 1979-82, \$1.2M.
- Supported by the US Department of Energy and the New York State Research and Development Administration for the study of Marginal Wheeling Costs. 1985-89, \$200K.
- Was awarded two Boston University seed research grants.
- Received a \$400K National Science Foundation award over the period 1987-1989 for research in manufacturing systems design.
- Was the leader of a successful proposal to the National Science Foundation which received a three year award (1989-1992) of \$600K under NSF's *Strategic Manufacturing Initiative*.
- Led a second successful effort for NSF funding under the second round of the *Strategic Manufacturing Initiative*, \$600K (1993-1997).
- PI/PP on NSF *Knowledge and Distributed Intelligence* (KDI) Initiative award, \$1,16M (1998-2002).
- Received two gifts from Pratt & Whitney UTC for a total of \$20K (1997 and 1998)
- Received a Grant from the Alcoa Foundations, \$20K (1998-1999)
- CoPI on NSF IGERT award, Multidisciplinary Approach to the Integration of High Performance Computing in Science Education, \$2.67M (2002-2007)
- CoPI on NSF award, “Planning, Coordination, and Control of Supply Chains”, \$350K (2003-2007)
- PI on NSF EFRI SEED award, “Framework for Advanced Sustainable Building Design. Smart Micro-grid Enabled Buildings Interacting with Utility-Side-of-the-Meter Electricity Markets”, \$2M (2010-2015)
- PI on ARPA-E award, “Topology Control for Infrastructure Resilience to the Integration of Renewable Generation” Initially as sub to CRA, \$188K (March 2012), then Prime moved to Boston University in January \$1.2M with duration extended to June 30, 2014, new budget \$1 million. Additional funding of \$1M was applied for and approved in September 2013. Current total budget \$2.2 with new performance period expanded to June 2015
- PI on sub through NEG to ARPA-E grant on Gas and Electricity Coordination (GECO), April 2016 to April 2018, \$321K.

### **Awards and Distinctions:**

1969-1971                      Honor Scholarships, Stanford University

1971	Stauffer Award for ranking first in Senior class, Chemical Engineering Department, Stanford University.
1971	Elected to Tau Beta Pi, Gamma Chapter.
1971-1973	Division of Engineering and Applied Physics Scholarship, Harvard University
2004	College of Engineering Service Award, Boston University

### Memberships and Other Professional Activities:

-*IIE Transactions on Design and Manufacturing*, Editor Jan. 1997-December 2000, member of editorial board since January 2001.

-*Robotics and Computer Integrated Manufacturing*, member, editorial board since Jan. 1999

-*Membership*: IEEE and Operations Research Society, senior member IIE

-*Member of Conference Committee* and Session Organizer, Third ORSA/TIMS Conference on Flexible Manufacturing Systems, Cambridge MA. August 1989.

-*Organizing Committee Co-Chair*, Workshop on Hierarchical Control for Real-Time Scheduling of Manufacturing Systems, Sponsored by the National Science Foundation, Lincoln NH, October 1992

-*Program Co-Chair*, TIMS/ORSA Joint National Meeting, Boston, April 1994

-*Chair, Invited Cluster* on Hierarchical Scheduling and Control, 11 sessions hosting 50 presentations at the TIMS/ORSA April 1994 National meeting.

-*Chair*, *Inform*s October 95, two sessions on Production System Design, May 96, Tutorial on Enterprise Integration

-*Member Organizing Committee*, 1996 Japan-U.S.A. Symposium on Flexible Automation, Boston, MA July 7-10, 1996

-*Member Program Committee*, Computer Integrated Manufacturing and Automation Technology, CIMAT '96, Institute National Polytechnique de Grenoble, France May 29-30, 1996

-*Organizing Committee Co-Chair*, 9th Applied Probability Conference, Boston MA, June 30-July 2, 1997

-*Member Program Committee*, 1998 IEEE International Conference on Systems, Man, and Cybernetics, La Jolla, Ca. October 11-14 1998

-*Member Program Committee* RPI International Conference on Agile, Intelligent, and Computer-Integrated Manufacturing, RPI October 7-9, 1998

-*Member Program Committee* DARPA-JFACC Symposium on Advances in Enterprise Control, San Diego, CA November 15-16, 1999

-*Referee*: *Management Science*, *International Journal of Production Research*, *Journal of DEDS*, *Operations Research*, *International Journal of Energy Systems*, *International Journal of Flexible Manufacturing Systems*, *JOTA*, *IEEE Transactions on PS, AC and SMC*, *IIE Transactions*.

-United Nations Development Project: Commissioned to assist with the adoption of the EGEAS software by the India Central Power Authority, New Delhi, 1986. Also commissioned to assist the pertinent Chilean agencies with the marginal costing of electric power and transmission services, Santiago, 1991.

-*Consultant*: Stone and Webster Engineering Corporation, Boston, MA; Stone and Webster Management Consultants inc., New York, NY; International Communication Systems (ICS),

Atlanta, GA; Meta Systems inc., Cambridge, MA; Xenergy, Burlington, Ma; TCA, Cambridge, MA; Puget Power and Light Co., Seattle, Washington; Consolidated Edison Co. of New York, NY; Pacific Gas and Electric Co. San Francisco, CA; Central Maine Power Company, Augusta, ME; National Grid Company, London, England; Public Service of Indiana; Southern Services Co.; Colonial Pipeline Co.; Tennessee Valley Authority, Excelergy, GME Italy.

-*CDC Invited Session Tracks Organizer* on Smart Grid Control Applications: 2011, 2012 and 2013 CDC.

-*IEEE Report Writing Working Group, Invited Participant: Smart Grid Vision for Control Systems, 2012-2013*

- Member of NSF Sponsored Cyber Physical Systems Virtual Organization

### **Selected Invited Lectures**

MIT, Laboratory for Manufacturing Productivity, 1988, 1993, Laboratory for Information and Decision Systems, 1990; University of Pennsylvania, Department of Systems Engineering, 1990; University of Maryland, 1991; Harvard University, Division of Applied Sciences, 1991; NSF Workshop on DEDS, Amherst, 1991; NSF Workshop on Hierarchical Control, Lincoln NH, 1992; Tufts University College of Engineering, 1992; Analog Devices Semiconductor Division, Wilmington MA, 1992; GE Lynn, Aircraft Engines Division, 1992, 1993; DEC, Maynard, 1992, Shrewsbury, 1993; MIT, Operations Research Center, 1993; George Mason University, School of Information Technology and Engineering, May 1996; Northeastern University, Dept of Mechanical Eng and OR, May 1997; Fraunhofer Gesellschaft, Aachen, Germany, invited lecture, February 1999; Eindhoven University of Technology, Faculty of Technology Management, The Netherlands, Invited Lecture, February 1999; Harvard University, Committee on the Environment, China Project Workshop, June 1-3, 1999, invited respondent; Lehigh University, Department of Industrial and Manufacturing Systems Engineering, invited seminar, May 5, 2000; University of Washington, Seattle WA, Workshop on Radio Frequency identification tags (RFIDs), invited speaker, June 20, 2003; MIT, E51-315 course on Operations Research applications to Energy, Invited Lecture on Adoption of Hybrid Electric Vehicles, April 27, 2009; November 5, 2012 invited by the Boston University Student Energy Society to give a seminar to its members on “The Smart Grid and its Potential for Energy and Environmental Sustainability”;

### **Selected Invited Seminars, Workshops and Presentations**

Workshop on Informatics and Energy Savings, Rome, 1982; Royal Institute of Technology, on EGEAS software, Stockholm, 1983; ENDESA, on Electricity production Costing and Pricing, Madrid, 1983; Linkoping Institute of Technology on Electricity Pricing, 1985; Energy Engineering Associates Ltd., on Marginal Transmission Costing, Paris 1990, on Spot Pricing of Electricity, London, 1990; Second Annual Transmission Symposium, Washington D.C. 1990; University of Minnesota, Institute for Mathematics and Applications, 1993; Geneva Forum on Logistics, An Advanced International Program in Engineering Management, University of Geneva, June 26-30, 1995; Tutorial on Enterprise Integration, INFORMS May 1996; NSF workshop on Supply Chain Management in Electronic Commerce, Gainesville for October 19-21, 1998; International Workshop on “Discrete event systems” (WODES ‘98), Cagliari, Sardinia, August 26-28, 1998; IIE Research Conference, Banf Canada, May 1998; RPI International Conference, October 1998; IEEE Robotics &

Automation Conference, Detroit, MI, May 10-15,1999; IIE Research Conference, Phoenix Arizona, May 1999; INFORMS Philadelphia, November, 7-10, 1999; DARPA-JFACC Symposium on Advances in Enterprise Control, San Diego, CA November 1999; CDC , December 1999; 38<sup>th</sup> IEEE Conference on Decision and Control, Phoenix Arizona, Dec. 7-10, 1999; 2000 AAA Meeting, February 17, 2000; New England Complex Systems Institute, International Conference on Complex Systems, Invited Keynote Address, May 24, 2000; 3<sup>rd</sup> Aegean International Conference on the Design and Analysis of Manufacturing Systems, invited speaker, Tinos, Greece, May 19-22, 2001; Applied Probability Conference, N.Y., N.Y., July 2001; INFORMS, Miami, Florida, November 2001; National Conference on Industrial Engineering and Management, Tel-Aviv, Israel, March 12-13, 2002, invited key note speaker; IBM Watson Research Center, Yorktown Hight, NY. Invited seminar, June 13, 2003; Euro Informs July 6-10 2003, invited presentation; The role of DEPA in the Greek Gas Market development and in the Eastern gas transit to Europe, June 2004 CEERA Meetings, Istanbul Turkey, invited presentation; **Marginal-Cost-Based Guidelines for Setting Transit Fees in the Eurasian Trade of Natural Gas and Electricity**, NARUC 5<sup>th</sup> NARUC/CEER Energy Regulators' Roundtable Washington DC, February 12-13, 2005, invited presentation; **Prospects of a Regional Gas Regulatory Framework Fostering a Sustainable Market-Based Investment Climate**, GIE Annual Conference, Athens, 3 November 2005, invited presentation; **Striving for Generation Adequacy in Greece's Emerging Electricity Market: Transition Period and Long Term Market Design**, EMART energy Conference, Nice, November 10, 2005, invited presentation; **Investment Needs/Prospects in Southeastern Europe and a Capacity Adequacy Mechanism Design** NARUC Winter Committee Meetings, Committee on International Relations February 12, 2006, invited presentation; **Security of Supply and Diversification of Sources of Supply in Europe**, NARUC Winter Committee Meetings, Committee on International Relations February 18, 2007, invited panel presentation; **Market design and Energy Conservation**, Panel Coordinator, World Energy Forum III, October 9 2006, Washington DC, invited presentation; **Cross Border Electricity Trade in Europe**, Federal Energy Regulatory Commission, October 10, 2006, Invited Lecture; **Design of a Spot Market for Regulation reserves**, PJM Independent System Operator, October 12, 2006, Philadelphia, PN, invited lecture; **Workshop on "The Energy Regulators Community in the Mediterranean Basin"**, Rome May 29, 2006, invited presentation on **"The development of the SEE Electricity Market- ECSEE Treaty"**; **European Union Club**, April 20, 2007, invited Lecture on **"Can the already visible limits to Wind Generation's contribution to Green House Gas mitigation be lifted?"**; **Conference of Mechanical and Electrical Engineers**, Athens, May 16, 2007, **Wind Energy Penetration, Green House Gasses, and the Transportation Sector: Prospects of Favorable Synergies**; **4<sup>th</sup> Poverty Reduction Strategies Western Balkans Forum**, Athens, June 27, 2007, invited lecture on **"Regional co-operation in the energy sector: Perspectives for the western Balkans and the European Union"**; **SAE Forum**, Washington DC, November 17, 2007, Invited Lecture on **"The Geopolitical Role of Energy Markets in Eurasia and the Role of Greece in the Development of the Southern Natural Gas Transportation Corridor"**; **Conference of the Hellenic American Chamber of Commerce**, **The time of the Greek Economy**, Athens December 3-4, 2007, Invited Lecture of **Energy and the Environment**; **EU-US Energy Regulator's Roundtable**, Athens Dec 5-6, 2007, Invited Lecture on **"Update on South East Europe and the role of the ECRB"**; **ELETAEN Workshop on Energy and the Environment**, Athens, February 15, 2008, **Impediments to and Solutions for the Widespread Introduction of Clean Energy Generation**; **The European Community Electricity Regulation and Green Initiative**, Invited Lecture to the US

Energy Bar Association, Troutman Sanders LLP, Washington DC, October 27, 2008; The Liberalization of Greek Energy Markets: Load Management and the Electrification of the Transportation Sector, Ministry of Exterior International Conference, Athens, Greece, July 8, 2008; Progress in the Competiveness of the European Power Markets, International Energy Conference, Athens, Greece, May 22, 2008; Commercialization of Renewable Electricity Generation Technologies: Lifting Adoption Barriers, European Union, US Roundtable, New Orleans, Louisiana, 14 November 14, 2008; Geopolitics of Energy in Eurasia, European Studies Center, Harvard University, March 31, 2009; Invited to Tufts Energy Forum's 4th Annual Tufts Energy Conference, Tufts U., March 28, 2009; Invited to give a seminar on PHEV load management at the Renewable Energy National Laboratory, Denver Colorado, May 4, 2009; Invited to give a seminar on PHEV load management at the Los Alamos National Laboratory, New Mexico, May 5, 2009; Invited to NSF-NIST-DOE workshop on the Smart Grid, a Cyber Physical Energy System, Baltimore, June 3-4, 2009; World Forum on Energy Regulation WFER IV, Invited Keynote presentation, on Market Extensions for Renewable Generation and Distributed Storage Synergies Athens Greece, October 18-21, 2009; Invited to participate in WNYC's program "Please Explain Electrical Power System" along with Cornell U. Professor of EE Robert Thomas, October 30, 2009, 1:00PM-2:00PM; Invited to Pardee's house seminar, on "Is the Future Renewable?" to lead a discussion along with along with professor William Moomaw of Tufts U. Fletcher School, Boston University, November 17, 2009; Invited to IEEE Demystifying the Smart Grid Symposium, to talk on "The Smart Grid Broadly Construed as a Cyber-Physical Electric Power System Business Platform", MIT, November 21, 2009; Invited to the Jones Seminar Series on Science, Technology and Society to present on the "Widespread adoption of Intermittent Renewable Energy Generation, the Smart Grid and Electric Vehicles: Barriers and Synergies", Dartmouth College. February 19, 2010; Invited presentation at the INFORMS National Meetings, Austin Texas, Nov. 8, 2010. "Renewable Generation Intermittency and Demand Provided Reserves: Are Market Solutions Viable?" Session organized by Professors Uday Shandbhang and Sean Meyn, U.I.U.C.; Invited talk to NEU ECE, Feb 11, 2011 and Yale E&CS, Feb 18, 2011, on Intermittent Renewable Generation, Distributed Resources and Demand Response: Are Smart Grid Enabled Market Solutions Viable? ; Invited Lecture on Market Based Demand Response in Smart Grid Supported Power Markets: Power System Requirements and Computational Method Implications, MIT Seminar on Computational Methods for Sustainability, September 29, 2011; Invited Presentation on Flexible Demand Response in Smart Grid Supported Power Markets, 25th Annual CCW, Smart Grid Session, Hyannis MA, October 10, 2011; Invited Lecture on Market Based Demand Response and efficiency gain opportunities in Smart Grid Supported Electric Power Systems, and Panel participation, United Kingdom Consulate General in Boston, UK/US Innovations in Smart Grids Workshop October 31, 2011; Invited Lecture on "Distributed Demand Control and Power Market Reform" in Optimization and Control For Smart Grids, 32<sup>nd</sup> CNLS Annual Conference, Santa Fe, New Mexico, May 21-25, 2012; Invited lecture on "Power Market Reform in the Presence of Flexible Schedulable Distributed Loads" Allerton Conference, October 1-5, 2012, CSL at UIUS; Invited Lecture on "Centralized Topology Control and Enhanced Distribution Network LMPs for T&D Resilience", INFORMS, Phoenix Az, October 13-17, 2012; Invited lecture on "Power Market Participation of Flexible Loads and Reactive Power Providers: Real Power, Reactive Power, and Regulation Reserve Capacity Pricing at T&D Networks", DIMACS Workshop, at Rutgers University, January 21, 2013; Invited talk on "Power Market Extended from Transmission (HV) Only to Distribution (LV) Participants", Stanford Workshop in Sympy, Greece, July 29-30, 2013; Invited plenary talk on "Multi-period Electricity Markets and Demand Response" at the first Virtual Control Conference <http://www.vcc-13.org/>, Sept 25, 2013; Invited talk on "Short Term Marginal Cost Based Real and Reactive Power Pricing in Distribution Networks: Modeling, Benefits and Computational Challenges" at the NSF

sponsored Workshop on Control, Computing, and Signal Processing Challenges in Future Power Systems, Washington DC, November 15-16, 2013; Invited to participate at the 2013 National Workshop on Energy Cyber-Physical Systems, Washington DC, December 16-17, 2013; Invited Keynote address on “Smart Grids: An American Perspective on a New Marginal-Cost-Market-Based Platform”, Workshop on Smart Grids and Dynamic Pricing Opportunities for the Energy Transition, EPFL, June 18, 2014; Plenary talk on “Power Market Reform for Smart Grid and Renewable Generation Adoption”, 3rd International Symposium and 25th National Conference on OR, Volos, Greece, 26-28 June 2014; Invited Plenary talk on “Power Market Reform for Smart Grid and Its Impact on Electricity Consumers”, Energy-Aware Operations in Manufacturing and Service Enterprises, 2014 Biennial Workshop in Service Engineering (BeWiSE), September 16-17, Philadelphia, USA; Invited lecture to the Stanford Smart Grid Seminar on “Spatiotemporal Marginal Costing on T&D Electricity Networks: How are Electricity Markets Different from Other Network Based Markets?” Stanford, CA, November 6, 2014; Invited seminar presentation to Fraunhofer Sustainable Energy Systems, on “Renewables and Distributed Energy Resources: Synergy through Distribution Marginal Cost Based Prices”, Boston, MA, May 21, 2015; Invited lecture to the Harvard JFK Energy Policy Seminar, on “Extending Locational Marginal Cost Pricing to Retail Electricity Markets and Distributed Energy Resources”, Cambridge, MA, September 21, 2015; Invited keynote to NEPower Systems Seminar, on “Renewables and Distributed Energy Resources: Synergy Through Marginal Cost Based Prices Extending from Wholesale to Retail Markets”, Avon, CT, September 22, 2015; Invited presentation to the 80<sup>th</sup> Harvard Electricity Policy Group (HEPG) plenary, Panel One “Computational Frontiers in Electricity Markets: Not Your Grandfather’s Economic Dispatch”, Houston TX October 1, 2015; Invited Seminar to the Brattle, Brattle Group, Economics Seminar, on “Extending Locational Marginal Cost Pricing to Retail Electricity Markets and Distributed Energy Resources”, Cambridge, MA, October 16, 2015; NSF Workshop on Smart Cities , invited presentation on Marginal Cost Pricing on Distribution Networks, Washington DC, Dec 3, 2015; Panel participant DOE EAC, March 17, 2016, Washington DC. Invited key note address of PJM Grid 20/20: focus on Distributed Energy Resources conference, Chicago, September 21, 2016; Invited panelist, Sloan Foundation Sponsored U. of Chicago workshop on the economic and technical challenges for the future of electricity distribution, October 6, 7 2016; Invited presenter on Nov 3-4, 2016 Workshop on Architecture and Economics of Power Grid: Logistics, Texas A&M;

## **PUBLICATIONS:**

### A. Articles Published in Refereed Journals

- A1 S. Cavounides and M. Caramanis, "External Economies in Engineering Economic Planning"; Technical Chronicle, 4 1977, pp 50-54, Athens, Greece (in Greek).
- A2 M. Caramanis and S. Cavounides, "Application of Decision Theory in Soil Mechanics"; Technical Chronicle, 1979, pp 48-53, Athens, Greece (in Greek).
- A3 Y. Ioannides and M. Caramanis, "Capital-Labor Substitution in a Developing Country: the Case of Greece - A Note"; 1979 (101-110) European Economic Review. pp 101-110.
- A4 M. Caramanis and Y. Ioannides, "Sources of Growth and The Contribution of Education, Sex and Age to the Growth Rate of the Greek Economy"; Greek Economic Review, Vol.2, No. 2, pp 143-162, August 1980.



- A5 M. Caramanis, "Elasticity of Substitution between Capital and Disaggregated Labor: A Cost Function Application of Greek Industry Data at the Firm Level"; Greek Economic Review, Vol.3, No.2, pp. 187-196, August 1981.
- A6 M. Caramanis, R. Tabors, K. Nochur and F. Scheweppe, "The Introduction of Non-Dispatchable Technologies as Decision Variables in Long-Term Generation Planning Models"; IEEE Transactions on Power Apparatus and Systems (PAS). Vol. PAS-101, No. 8, pp. 2658-2667, August 1982.
- A7 M. Caramanis, R. Bohn and F. Scheweppe, "Optimal Spot Pricing: Practice and Theory"; IEEE Transactions on PAS, Vol. PAS-101, No. 9, pp. 3234-3245, September 1982.
- A8 M. Caramanis, "Investment Decisions and Long-Term Planning Under Electricity Spot Pricing"; IEEE Transactions on PAS, Vol. PAS-101, No. 12, pp. 4640-4648, December 1982.
- A9 M. Caramanis, J. Stremel, W. Fleck and S. Daniel, "Probabilistic Production costing: An Investigation of Alternative Algorithms"; International Journal of electrical Power and energy Systems. Vol. 5, No. 2, pp. 75-86, April 1983.
- A10 M. Caramanis, "Analysis of Non-Dispatchable Options in the Generation Expansion Plan"; IEEE Transactions on PAS. Vol. PAS-102, No. 7, pp. 2098-2103, July 1983.
- A11 P. Cavoulacos and M. Caramanis, "Energy and other Factor Input Demand in Greek Manufacturing 1963-1975"; Greek Economic Review Vol. 5, No. 2 pp. 158-181, August 1983.
- A12 M. Caramanis, J. Stremel and L. Charny, "Modeling Generation Unit Size and Economies of Scale in Capacity expansion with an Efficient Real Number Representation of Capacity Addition"; IEEE Transactions of PAS. Vol. Pas-103 No. 3, pp. 506-515, March 1984.
- A13 J. Bloom, M. Caramanis and L. Charny, "Long-Range Generation Planning Using Generalized Benders' Decomposition: Implementation and Experience"; Operations Research. Vol. 32, No. 2, pp. 290-312, March-April, 1984.
- A14 R. Bohn, M. Caramanis and F. Scheweppe, "Optimal Pricing in Electrical Networks Over Space and time"; The Rand Journal of Economics. vol, 15, No. 3, pp 360-376, Fall 1984.
- A15 F. Scheweppe, M. Caramanis, and R. Tabors, "Evaluation of Spot Price Based Electricity Rates" IEEE Transactions on PAS. Vol. PAS-104, No. 7, pp. 1644-1655, July 1985.
- A16 M. Caramanis, "Production costing of Interconnected Electrical Utilities Under Spot Pricing"; Large Scale Systems: Theory and Applications, 9 (1985) pp. 1-18.
- A17 M. Caramanis, F. Scheweppe and R. Bohn, "The Cost of Wheeling and Optimal Wheeling Rates"; IEEE Transactions on Power Systems (PS). Vol. PWRS-1, No. 1, pp. 63-73, February 1986.
- A18 E. Ramsden, M. Ruane, A. Mavretic, M. Caramanis and H. D'Angelo, "The Use of Hardware Simulators in Modeling Networks"; Large Scale Systems; Complex Systems in Manufacturing, 11 (1986) pp 149-164.
- A19 M. Caramanis, "Production System Design: A Discrete Event Dynamic System and Generalized Benders' Decomposition Approach"; International Journal of Production Research. Vol. 25, No. 8, 1987, pp. 1223-1234.
- A20 M. Caramanis, R. Bohn, and F. Scheweppe, " System Security Control and Optimal Pricing of electricity"; International Journal of Electrical Power and Energy Systems; Vol. 9, No. 4, pp 217-224, October 1987.
- A21 H. D'Angelo, E. Ramsden, M. Caramanis, S. Finger, A. Mavretic and Y. Phillis, "Event Driven Model of Unreliable Production Lines with Storage", International Journal of Production Research, Vol. 26, No. 7, pp. 1173-1182, July 1988.
- A22 M. Caramanis, N. Roukos and F. Scheweppe, "WRATES: A Tool for Evaluating the Marginal Cost of Wheeling"; IEEE Transactions on PS, Vol. 4, No. 2, pp 594-605, May 1989.

- A23 R. Tabors, F. Schweppe and M. Caramanis, "Utility Experience with Real Time Rates"; IEEE Transactions on PS, Vol. 4, No. 2, pp 463-471, May 1989.
- A24 A. J. Coneho, M. Caramanis and J. A. Bloom "An Efficient Algorithm for Optimal Reservoir Utilization in Probabilistic Production Costing" IEEE Transactions on PS, Vol 5, No. 2, pp 439-447, May 1990.
- A25 M. Caramanis and A. Sharifnia, "Near Optimal Manufacturing Flow Controller Design," The International Journal of Flexible Manufacturing Systems, Vol. 3, No. 3/4, pp 321-336, 1991.
- A26 A. Sharifnia, M. Caramanis, S. B. Gershwin, "Dynamic Set-up Scheduling and Flow Control in Manufacturing Systems" Discrete Event Dynamic Systems: Theory and Applications, Vol. 1, No. 2, pp 149-175, 1991.
- A27 M. Caramanis and G. Liberopoulos, "Perturbation Analysis for the Design of Flexible Manufacturing System Flow Controllers," Operations Research, Vol. 40, No. 6, pp 1107-1125, Nov-Dec 1992.
- A28 G. Liberopoulos and M. Caramanis, "Production Control of Manufacturing Systems with Production Rate Dependent Failure Rates," IEEE Transactions on Automatic Control, Vol. 39, No. 4, pp. 889-895, April 1994.
- A29 G. Liberopoulos and M. Caramanis, "Infinitesimal Perturbation Analysis for Second Derivative Estimation and Design of Manufacturing Flow Controllers," Journal of Optimization Theory and Applications, Vol. 81, No. 2, pp. 297-327, May 1994.
- A30 G. Liberopoulos and M. Caramanis, "Dynamics and Design of a Class of Parameterized Manufacturing Flow Controllers", IEEE Transactions on Automatic Control, Vol 40, No. 6, pp 1018-1028, June 1995.
- A31 G. Liberopoulos and M. Caramanis "Numerical Investigation of Optimal Policies for Production Flow Control and Set-Up Scheduling: Lessons from Two-Part-Type Failure-Prone FMSs" International Journal of Production Research, Vol. 35, No. 8, pp 2109-2133, 1997.
- A32 C. Kaskavelis and M. Caramanis "Efficient Lagrangian Relaxation Algorithms for Real-Life-Size Job-Shop Scheduling Problems" IIE Transactions on Scheduling and Logistics, vol. 30, no 11, pp 1085-1097, November 1998.
- A33 E. Khmelnitsky and M. Caramanis "One-Machine n-Part-Type Optimal Set-up Scheduling: Analytical Characterization of Switching Surfaces" IEEE Transactions on Automatic Control, Vol. 43, No. 11, pp 1584-1588, November 1998.
- A34 M. Veatch and M. Caramanis "Optimal Average Cost Manufacturing Flow Controllers: Convexity and Differentiability" IEEE Transactions on AC Vol. 44, No. 4, pp 779-783, 1999.
- A35 M. Veatch and M. Caramanis "Optimal Manufacturing Flow Controllers: Zero-Inventory Policies and Control Switching Sets" IEEE Transactions on AC Vol. 44, No 5, pp 914-921, 1999.
- A36 Irad Ben-Gal and M. Caramanis "Sequential DOE via Dynamic Programming" IIE Transactions on Quality and Reliability Engineering, Vol. 34, No 12, 2002.
- A37 I. C. Paschalidis, C. Su, and M. C. Caramanis "Target-Pursuing Scheduling and Routing Policies for Multiclass Queueing Networks", IEEE Transactions on AC, V. 49, N 10, pp. 1709-1722, October 2004.
- A38 O. M. Anli, M. C. Caramanis, I. C. Paschalidis "Tractable Supply Chain Production Planning Modeling Non-Linear Lead Time and Quality of Service Constraints ". Journal of Manufacturing Systems. Vol 26 No. 2, pp 116-134, 2007.
- A39 Y.C. Paschalidis, B. Li, M. C. Caramanis "Demand-Side Management for Regulation Service Provisioning through Internal Pricing" IEEE Transactions on Power Systems, Vol. 27, No. 3, pp. 1531- 1539, August, 2012.

- A40 Pablo A. Ruiz, Justin M. Foster, Aleksandr Rudkevich, and Michael C. Caramanis, "Tractable Transmission Topology Control using Sensitivity Analysis" IEEE Transactions on Power Systems, Vol. 27, No. 3, pp. 1550-1559, August, 2012.
- A41 J. M. Foster, G. Trevino, M. Kuss, and M. C. Caramanis, "Plug-In Electric Vehicle Coordination with Renewable Generation: Theory and Application" IEEE Systems Journal, V 7 No 4, pp 881-888, 2013.
- A42 J. M. Foster, M. C. Caramanis "Optimal Power Market Participation of Plug-In Electric Vehicles Pooled by Distribution Feeder" IEEE Transactions on Power Systems, Vol. 28, No. 3, pp. 2065-2076, August, 2013.
- A43 E. Bilgin, M. Caramanis, I. Paschalidis, and C. Cassandras, "Provision of Regulation Service by Smart Buildings" IEEE TSG, V. 7, N3, pp1683-1693, 2016.
- A44 M. Caramanis, E. Ntakou, W. Hogan, A. Chakraborty and J. Schoene, "Co-Optimization of Power and Reserves in Dynamic T&D Power Markets with Non-Dispatchable Renewable Generation and Distributed Energy Resources" The Proceedings of IEEE, Vol. 104, No. 4, pp. 807-836, DOI:10.1109/JPROC.2016.2520758, April 2016
- A45 J. Baillieul, M. Caramanis, M. Ilic "Control Challenges in Microgrids and the Role of Energy-Efficient Buildings" The Proceedings of IEEE, Vol. 104, No. 4, pp. 692-696, DOI:10.1109/JPROC.2016.2532241, April 2016
- A46 E. A. Goldis, P. A. Ruiz, M. Caramanis, X. Li, C. R. Philbrick, A. M. Rudkevich, "Shift Factor-Based SCOPF Topology Control MIP Formulations with Substation Configurations", IEEE TPS, V32, No. 2, pp. 1179-1190, 2017
- A47 P. A. Ruiz, E. A. Goldis, A. M. Rudkevich, M. Caramanis, C. R. Philbrick, and J. M. Foster, "Security-Constrained Transmission Topology Control MILP Formulation Using Sensitivity Factors", IEEE TPS, V32, No. 2, pp. 1597-1605, 2017.
- A48 F. Babonneau, M. Caramanis, Alain Haurie, "A linear programming model for power distribution with demand", Applied Energy, 181 pp. 83-95, 2016.

#### B. Selected Conference Papers, Monographs and Technical Reports

- B1 M. Caramanis, "Migration Economic development and National Planning: An Optimal Control Approach"; Ph.D. dissertation, Harvard University, May 1976.
- B2 R. Bohn, M. Caramanis, and F. Schweppe, "Optimal Spot Pricing of Electricity"; M.I.T. Energy Laboratory Working Paper, M.I.T.-EL 81-051wp, 1981.
- B3 M. Caramanis, "Investment Planning Under Optimal Spot Pricing of electricity"; M.I.T. Energy Laboratory Working Paper, M.I.T.-EL 81-051WP, 1981.
- B4 M. Caramanis, F. Schweppe, and R. Tabors, "The Introduction of Non-Dispatchable Technologies As Decision Variables in Long-Term Capacity Expansion Planning"; Conference Proceedings on Electric Generating System Expansion Analysis, March 5-6, 1981, The Ohio State University, Mechanical Engineering Department.
- B5 M. Caramanis, F. Schweppe, and R. Tabors, "Electric Generation Expansion Analysis System"; Volumes 1 and 2, prepared for the Electric Power Research Institute, August 1982, Report No EPRI EL-2561.
- B6 M. Caramanis, R. Tabors, and F. Schweppe, "Information Technology and Optimization of Electricity Generation, Consumption and Distribution: The Case of Homeostatic Control"; Presented at the International Workshop on Informatics and Energy Saving, Opportunities and Challenges, Rome, June 21, 1982.

- B7 M. Caramanis and R. Tabors, "Utility Spot Pricing study: Wisconsin"; Prepared for the Public Service Commission of Wisconsin and the U.S. Department of Energy, Final Report, June 1982.
- B8 F. Schweppe, M. Caramanis, and R. Tabors, "Utility Spot Pricing Study: California"; Prepared for Pacific Gas and Electric and Southern California Edison Co. December 1982.
- B9 R. Bonn, F. Schweppe, and M. Caramanis, "Using Spot Pricing to Coordinate Partially Deregulated Utilities, Customers and Generators"; in *Electric Power Strategic Issues: Deregulation and Diversification*, James Plummer, ed. VA: Public Utility Reports 1983.
- B10 M. Caramanis, "System Security Control and Optimal Pricing of Electricity: A prices versus Quantities Investigation", Boston University, College of Engineering Working Paper. Presented in the ORSA TIMS April 1985 meeting, Boston, Mass.
- B11 M. Caramanis, "Pricing Strategy in Electric Power Systems"; A Bridge between Control Science and Technology, 9th World Congress of the International Federation of Automatic Control, Proceedings, Budapest, Hungary July 2-6, 1984.
- B12 H. D'Angelo, M. Caramanis, S. Finger, A. Mavretic, Y. Phillis, and E. Ramsden, "Event-driven model of an unreliable production line with storage"; Summer Computer Simulation Conference, Boston, July 1984.
- B13 F. Schweppe, R. Bohn, and M. Caramanis, "Wheeling Rates: An Economic-Engineering Foundation"; M.I.T.-LEES Technical Report, 1986.
- B14 M. Caramanis and A. Sharifnia, "Analytical Derivation of Near-Optimal Production Flow Control Policies for Flexible Manufacturing Systems", presented at the ASME Annual Meeting, Boston, Mass., December 1987, published in *Intelligent and Integrated Manufacturing Analysis and Synthesis*, ASME Publication No. PED-Vol. 25, December 1987, pp 451-460.
- B15 S. Gershwin, M. Caramanis and P. Murray, "Simulation Experience with a Hierarchical Scheduling Policy for a Simple Manufacturing System"; Proceedings of the 27th IEEE Conference on Decision and Control, Vol. 3, 88CH2531-2, pp. 1841-1849, Austin Texas, December 1988.
- B16 M. Caramanis, "Analysis and Design of Production Systems" Presented at the NSF Grantees Conference on Advances in Manufacturing Systems Integration and Process, Berkeley California, January 9-13, 1989.
- B17 M. Caramanis, "Development of a Science Base for Planning and Scheduling Manufacturing Systems" Supplement to the Proceedings of NSF Design and Manufacturing Systems Conference, Arizona State University, Mechanical and Aerospace Engineering Dept., 33 pages, Tempe Arizona, January 8-12, 1990.
- B18 A Schoen, M. Caramanis, J. Flood, J Charkow "An Evaluation of the Feasibility of Real Time Pricing of Electricity for Commercial Customers", Proceedings of the Ninth Annual Conference-Advanced Workshop in Regulation and Public Utility Economics," New Jersey, May 30-June 1, 1990.
- B19 M. Caramanis, A. Sharifnia, Hu J. and Gershwin S., "Development of a Science Base for Planning and Scheduling Manufacturing Systems: First Year Progress Report," Proceedings of the 1991 NSF Design and Manufacturing Systems Conference, The University of Texas at Austin, Texas, pp. 27-40, January 9-11, 1991.
- B20 G. Liberopoulos and M. Caramanis, "Control of Stochastic Manufacturing Systems: A Simulation-based Approach Using Perturbation Analysis for Second Derivative Estimation," Proceedings of the 1991 Automatic Control Conference, Boston, June, 1991.
- B21 M. Caramanis, R. Tabors, and B. Daryanian, "Real Time Pricing as a Component of Least-Cost Power Strategies," Proceedings of the American Power Conference, 1991.

- B22 M. Caramanis, "Transmission Access and Pricing" The Transmission Symposium Proceedings and Papers 1990, Washington D.C. October, 1990, Published by Public Utilities Reports Inc. and The Management Exchange Inc., pp 29-32, 1991.
- B23 M. Caramanis, "Development of a Science Base for Planning and Scheduling Manufacturing Systems: Second year Progress Report" Proceedings of the 1992 NSF Design and Manufacturing Systems Conference, Georgia Institute of Technology, School of Industrial and Systems Engineering, Atlanta, Georgia, pp. 833-836, January 8-10, 1992.
- B24 J. Hu and M. Caramanis, "Near-Optimal Set-Up Scheduling for Flexible Manufacturing," Proceedings of the Third International Conference on Computer Integrated Manufacturing pp. 192-201, RPI, Troy, NY, May 20-22, 1992.
- B25 M. Caramanis, "Development of a Science Base for Planning and Scheduling Manufacturing Systems" Proceedings of the 1993 NSF Design and Manufacturing Systems Grantees Conference, pp. 975-980, University of North Carolina at Charlotte, January 6-8, 1993.
- B26 M. Caramanis, "STRATMAN: Development and Application of a Science Base for Manufacturing System Operation and Design", Proceedings of the 1994 NSF Design and Manufacturing Grantees Conference, Cambridge, MA, January 5-7, 1994. SME Publishers. pp 251-252, 1994
- B27 M. Caramanis, and R. Tabors, "Transmission Pricing: Can it be done in Real Time?", Proceedings: 1994 Innovative Electricity Pricing, February 1994, Electric Power Research Institute, TR-103629, pp207-220, 1994
- B28 C. Kaskavelis and M. Caramanis, "Application of a Lagrangian Relaxation Based Scheduling Algorithm to a Semiconductor Testing Facility", Proceedings of the Fourth International Conference on Computer Integrated Manufacturing and Automation Technology, Troy, NY, IEEE Computer Society Press, pp.106-112, October 10-12, 1994
- B29 C. Kaskavelis and M. Caramanis, "A Lagrangian Relaxation Based Algorithm for Scheduling Multiple-Part-Production-Systems: Industrial Implementation Experience" Proceedings of the 1994 Japan-U.S.A. Symposium on Flexible Automation V. 1, pp. 173-180, Kobe, Japan, July 11-18, 1994
- B30 M. Caramanis, J. Q. Hu, A. Sharifnia, P. Vakili, and S. Gershwin, "Highlights of NSF Grant DDM-9215368: Enterprise Integration Efforts and Impact on User Companies", Proceedings of the 1995 NSF Design and Manufacturing Grantees Conference, SME Publishers, January 1995
- B31 M. Caramanis, J. Q. Hu, A. Sharifnia, P. Vakili, and S. Gershwin, "Summary of NSF STRATMAN Grant DDM-9215368: Theoretical Results and Industrial Application of the Distributed Production System Control Effort", Proceedings of the 1996 NSF Design and Manufacturing Grantees Conference, SME Publishers, January 1996
- B32 M. Caramanis, and R. D. Tabors "Wholesale Pricing of Capacity, Energy, and Ancillary Services in a Retail Wheeling Environment", Proceedings: 1996 EPRI Conference on Innovative Approaches to Electricity Pricing, EPRI TR-106232, pp. 12-1 to 12-17, March 1996
- B33 C. Kaskavelis and M. Caramanis "Integration of the Production Planning and Control Decision Process in a Manufacturing Enterprise" Proceedings of the 1996 Japan-U.S.A. Symposium on Flexible Automation ASME, V2. pp 1411-1418, Boston, July 7-10, 1996
- B34 K. Egilmez, A. Sharifnia, and M. Caramanis "Scheduling a Circuit Pack Testing Facility with Complex Constraints: An Enhanced Fluid Model Approximation with Flow Nets" Proceedings of the 1996 Japan-U.S.A. Symposium on Flexible Automation. ASME, V2. pp 1245-1252, Boston, July 7-10, 1996
- B35 M. Caramanis, "Production Planning and Control for Enterprise Integration at a Pratt & Whitney Plant" Proceedings of the 1997 NSF Design and Manufacturing Grantees Conference, January 1997

- B35 M. Caramanis, "Production Planning under Dynamic Lead Times and Distributed Production Control: A Case Study at the North Berwick, Maine, Pratt and Whitney Plant" Proceedings of the 1998 NSF Design and Manufacturing Grantees Conference, January 1998
- B36 M. Caramanis and O. Anli "Dynamic Production Planning and Control for Enterprise Integration" *Proceedings of the International Workshop on "Discrete event systems"* (WODES '98) Cagliari, Sardinia, August 26-28, 1998
- B38 M. Caramanis and O. Anli "Manufacturing Supply Chain Coordination through Synergistic Decentralized Decision Making" *Proceedings of the RPI International Conference on Agile, Intelligent, and Computer-Integrated Manufacturing*, RPI, October 7-9, 1998
- B39 M. Caramanis and O. Anli "Dynamic Lead Time Modeling for JIT Production Planning", *Proceedings of the IEEE Robotics & Automation Conference*, Detroit, MI. May 10-15, 1999, Vol 2, pp. 1450-1455
- B40 M. Caramanis, I. Ch. Paschalidis, and O. M. Anli "A Framework for Decentralized Control of Manufacturing Enterprises" *Proceedings of the DARPA-JFACC Symposium on Advances in Enterprise Control*, San Diego, CA, pp., 99-109, November 1999.
- B41 M. Caramanis and O. Anli "Modeling Work In Process versus Production Constraints for Efficient Supply Chain Planning: Convexity Issues", *Proceedings of the 38<sup>th</sup> CDC*, Dec. 7-10, 1999, Phoenix Arizona, pp. 900-906.
- B42 M. Caramanis, H. Pan, and O. Anli "Is there a Trade off between Lean and Agile Manufacturing? A Supply Chain investigation" *Proceedings, 3<sup>rd</sup> Aegean International Conference on design and analysis of manufacturing systems*, Tinos Island, Greece, May 19-22, 2001, pp 1-10.
- B43 M. Caramanis, H. Pan, O. Anli "A Closed Loop Approach to Efficient and Stable Supply-Chain Coordination in Complex Stochastic Manufacturing Systems" *Proceedings of the 2001 American Control Conference*, Arlington VA, June 25-27, 2001, pp. 1381-1388.
- B44 I. Paschalidis, Chang Su, M. Caramanis "Target-Pursuing Policies for Open Multiclass Queueing Networks" *transactions of IEEE Infocom*, San Francisco, CA, April 1-3, 2003.
- B45 Ioannis Ch. Paschalidis, Chang Su, and Michael C. Caramanis "New Scheduling Policies for Multiclass Queueing Networks: Applications to Peer-to-Peer Systems", *Proceedings of the 42<sup>nd</sup> IEEE CDC*, Dec. 2003, pp. 1604-1609.
- B46 M. C. Caramanis, O. M. Anli, I. C. Paschalidis "Supply Chain Production Planning with Dynamic Lead Time and Quality of Service Constraints", *Proceedings of the 42<sup>nd</sup> IEEE CDC*, Dec. 2003, pp. 5478-6485.
- B47 M. C. Caramanis, I. C. Paschalidis, O. M. Anli, "Production Coordination and Control of Supply Chains: Preliminary Results and Proof of Concept", *NSF Grantees Conference*, Dallas TX January 2004.
- B48 M. C. Caramanis, C. Wu, I. Ch. Paschalidis Production "Planning and Quality of Service Allocation across the Supply Chain in a Dynamic Lead Time Model", *48<sup>th</sup> IEEE CDC*, Dec. 2009, pp. 7137-7144.
- B49 M. C. Caramanis, J. Foster "Management of Electric Vehicle Charging to Mitigate Renewable Generation Intermittency and Distribution Network Congestion", *48<sup>th</sup> IEEE CDC*, Dec. 2009, pp. 4717-4722
- B50 R. D. Tabors, G. Parker, M. C. Caramanis "Development of the Smart Grid: Missing Elements in the Policy Process", *IEEE Hawaii International Conference on System Sciences*, (HICSS-43) Jan. 2010, pp. 978-0-7695-3869-3/10-1-6.
- B51 J.M. Foster, M.C. Caramanis, Energy Reserves and Clearing in Stochastic Power Markets: The Case of Plug-In-Hybrid Electric Vehicle Battery Charging, *Proceedings of 49<sup>th</sup> IEEE Conference on Decision and Control*, pp.1037-1044 Dec 2010

- B52 M.C. Caramanis, J. M. Foster, and E. A. Goldis, “Load Participation in Electricity Markets: Day-Ahead and Hour-Ahead Market Coupling with Wholesale/Transmission and Retail/Distribution Cost and Congestion Modeling”, *Proceedings First IEEE Conference on Smart Grid Communications*, Gaithersburg, Maryland, USA, pp 513-518, Oct. 6, 2010.
- B53 M.C. Caramanis, J.M. Foster, “Coupling of Day Ahead and Real Time Power Markets for Energy and Reserves Incorporating Local Distribution Network Costs and Congestion”, *Proceedings, 48<sup>th</sup> annual Allerton Conference on Communication, Control and Computing*, September 28-October 1, 2010, pp. 42-49.
- B54 P. A. Ruiz, J. M. Foster, A. Rudkevich, and M. C. Caramanis, “On Fast Transmission Topology Control Heuristics”, *Proceedings, of the 2011 IEEE PES General Meeting*, pp. 1-8, July 26-29, 2011, Detroit, Michigan, USA.
- B55 A. Savvides, Y. Paschalidis and M. Caramanis, “Cyber-Physical Systems for Next Generation Intelligent Buildings”, *Proceedings of 2nd International Conference on Cyber-Physical Systems*, Chicago, IL, April 12-16, 2011, Volume 8 Issue 2, pp. 35-38, June 2011
- B56 M. C. Caramanis, J. M. Foster, “Uniform and Complex Bids for Demand Response and Wind Generation Scheduling in Multi-Period Linked Transmission and Distribution Markets”, *Proceedings of the 50th CDC*, pp. 4340-4347, Dec. 2011.
- B57 Y.C. Paschalidis, B. Li, M. C. Caramanis “Market-Based Mechanism for Providing Demand-Side Regulation Service Reserves” *Proceedings of the 50th CDC*, pp. 21-26, Dec 2011.
- B58 J. M. Foster, P. A. Ruiz, A. Rudkevich and M. C. Caramanis, “Economic and Corrective Applications of Tractable Transmission Topology Control”, *Proceedings, 49<sup>th</sup> Annual Allerton Conference on Communication, Control and Computing*, pp. 1302-1309, September 27-30, 2011.
- B59 Michael Caramanis, Ioannis Ch. Paschalidis, Christos Cassandras, Enes Bilgin, and Elli Ntakou “Provision of Regulation Service Reserves by Flexible Distributed Loads”, *Proceedings, 51st IEEE Conference on Decision and Control*, December 10-13, 2012. Maui, Hawaii, USA, pp. 3694-3700.
- B60 Pablo A. Ruiz, Aleksandr Rudkevich, Michael C. Caramanis, Evgenyi Goldis, Elli Ntakou, and C. Russ Philbrick “Reduced MIP Formulation for Transmission Topology Control” *Proceedings, 50<sup>th</sup> Annual Allerton Conference on Communication, Control and Computing*, pp 1073-1079, October 1-5, 2012
- B61 Michael C. Caramanis, Evgeniy Goldis, Pablo A. Ruiz, and Alexandr Rudkevich, “Power Market Reform In the Presence of Flexible Schedulable Distributed Loads. New Bid Rules, Equilibrium and Tractability Issues” *Proceedings, 50<sup>th</sup> Annual Allerton Conference on Communication, Control and Computing*, pp. 1089-1096 October 1-5, 2012
- B62 Hao Chen, Can Hankendi, Michael Caramanis, and Ayse K. Coskun “Dynamic Server Power Capping for Enabling Data Center Participation in Power Markets” *Proceedings of the ICCAD’13*, pp 122-129, 2013.
- B63 Evgeniy A. Goldis, Xiaoguang Li, Michael C. Caramanis, Bhavana Keshavamurthy, Mahendra Patel, Aleksandr M. Rudkevich, Pablo A. Ruiz, “Applicability of Topology Control Algorithms (TCA) to a Real-Size Power System”, *Proceedings, 50th Annual Allerton Conference on Communication, Control and Computing*, pp. 1349-1352, October, 2013
- B64 Enes Bilgin, Michael C. Caramanis, “Decision Support for Offering Load-Side Regulation Service Reserves in Competitive Power Markets”, *Proceedings of the 52nd Conference on Decision and Control*, pp. 5628-5635 December 2013
- B65 Enes Bilgin, Michael C. Caramanis, Ioannis Ch. Paschalidis “Smart Building Real Time Pricing For Offering Load-Side Regulation Service Reserves” *Proceedings of the 52nd Conference on Decision and Control*, pp. 4341-4348, December 2013

- B66 Hao Chen, Ayse K. Coskun, and Michael C. Caramanis “Real-Time Power Control of Data Centers for Providing Regulation Service” Proceedings of the 52nd Conference on Decision and Control, pp. 4314-4321 December 2013
- B67 Hao Chen, Michael C. Caramanis and Ayse K. Coskun, “The Data Center as a Grid Load Stabilizer”, pp. 105-112, 19th Asia and South Pacific Design Automation Conference (ASP-DAC) 2014
- B68 Elli Ntakou, Michael Caramanis, “Price Discovery in Dynamic Power Markets with Low-Voltage Distribution-Network Participants” Proceedings the 2014 IEEE PES Transmission & Distribution Conference & Exposition, 15 - 17 April 2014, Chicago, IL, USA
- B69 Elli Ntakou, Michael Caramanis, “Distribution Network Electricity Market Clearing: Parallelized PMP Algorithms with Minimal Coordination”, Proceedings of the 53rd Conference on Decision and Control, pp. 1687-1694, December 2014
- B70 B. Zhang, M.C. Caramanis, and J. Baillieul, 2014. “Optimal price-controlled demand response with explicit modeling of consumer preference dynamics,” in Proceedings of the 53<sup>rd</sup> IEEE Conference on Decision and Control, December 15-17, 2014, Los Angeles, CA, USA, pp. 2481-2486. DOI:10.1109/CDC.2014.7039767.
- B71 E. A. Goldis, M. Caramanis, C. R. Philbrick, A. M. Rudkevich, P.A. Ruiz, "Security-Constrained MIP Formulation of Topology Control Using Loss-Adjusted Shift Factors," System Sciences (HICSS), 2014 47th Hawaii International Conference on , vol., no., pp.2503,2509, 6-9 Jan. 2014
- B72 H. Chen, M. C. Caramanis and A. K. Coskun, "Reducing the data center electricity costs through participation in smart grid programs," Green Computing Conference (IGCC), 2014 International, Dallas, TX, 2014, pp. 1-10.
- B73 Evgeniy A. Goldis, Xiaoguang Li, Michael C. Caramanis, Aleksandr M. Rudkevich, Pablo A. Ruiz, "AC-Based Topology Control Algorithms (TCA) – A PJM Historical Data Case Study" System Sciences (HICSS), 2015 48th Hawaii International Conference on , 6-9 Jan. 2015
- B74 Elli Ntakou, Michael Caramanis, “Distribution Network Spatiotemporal Marginal Cost of Reactive Power”, Proceedings of the IEEE PE General Conference, July, 2015.
- B75 A. M. Rudkevich, M. C. Caramanis, E. A. Goldis, X. Li, P. A. Ruiz, R. D. Tabors, “Financial Transmission Rights in Changing Power Networks,” in *Proceedings of the 49th Hawaii International Conference on System Sciences*, Koloa, HI, Jan. 2016
- B76 Hao Chen, Bowen Zhang, Michael C. Caramanis, and Ayse K. Coskun "Data Center Optimal Regulation Service Reserve Provision with Explicit Modeling of Quality of Service Dynamics” 2015 CDC, Proceedings. pp, 7207-7213.
- B77 Elli Ntakou and Michael Caramanis, “Enhanced Convergence Rate of Inequality Constraint Shadow Prices in PMP Algorithm Cleared Distribution Power Markets” Proceedings, 2016 American Control Conference, 2016.
- B78 R. D. Tabors, M. Caramanis, E. Ntakou, G. Parker, M. VanAlstyne, P. Centolella, R. Hornby, “Distributed Energy Resources: New Markets and New Products” System Sciences (HICSS), 50th Hawaii International Conference on, Jan. 2017

#### C. Book Chapters/Book Reviews/Newsletters/Reports:

- C1 M. Caramanis, "Capital, Energy, and Labor Cross-Substitution Elasticities in a Developing Country: The Case of Greek Manufacturing," in Energy Policy Planning B. Bayraktar, E. Cherniavsky, M. Laughton and L. Ruff, eds., Plenum Press, New York, 1981.
- C2 F. Schweppe, M. Caramanis and R. Bohn, "Evaluation of Spot Price Based Rates" in Load Management, S. Talukdar and C. Gellings, eds. IEEE Press, 1987.



- C3 M. Caramanis, "Electricity Generation Expansion Planning in the Eighties: Requirements and Available Analysis Tools"; Studies in Management Science and Systems series, Energy Models and Studies special issue, B. Lev, ed., North Holland 1983, pp. 541-562. Refereed collection of papers.
- C4 A. Sharifnia, M. Caramanis and S. Gershwin, "Dynamic Set-up Scheduling and Flow Control of Flexible Manufacturing Systems"; in Flexible Manufacturing Systems: Operations Research Models and Applications, K. E. Stecke and R. Suri eds. pp 327-332, Elsevier Science Publishers B.V., Amsterdam, 1989.
- C5 M. Caramanis and A. Sharifnia, "Design of Near Optimal Flow Controllers for Flexible Manufacturing Systems"; in Flexible Manufacturing Systems: Operations Research Models and Applications, K. E. Stecke and R. Suri eds. pp 321-326, Elsevier Science Publishers B.V., Amsterdam, 1989.
- C6 Junjie Hu, and M. Caramanis, "Dynamic Set-Up Scheduling of Flexible Manufacturing Systems: Design and Stability of Near Optimal General Round Robin Policies", in Discrete Event Systems, Manufacturing Systems, and Communication Networks, P.R. Kumar and P.P. Varaiya eds, The IMA Volumes In Mathematics and its Applications, Volume 73, pp 73-104, Springer-Ferlag New York, 1995
- C7 Michael C. Caramanis, "Review of Dynamic Programming and Optimal Control, Athena Scientific, 1995" Interfaces, Vol 26 No 2, pp. 113-115, March-April 1996
- C8 O. Anli, M. Caramanis, and I. Paschalidis "Supply Chain Production Planning Modeling Facility Lead Time and Quality of Service", in Analysis, Control and Optimization of Complex Dynamic Systems, El Kebir Boukas and Roland P. Malhame, eds. Kluwer Academic Publishers (2005) pp. 106-136.
- C10 M. Caramanis, "It Is Time for Power Market Reform to Allow for Retail Customer Participation and Distribution Network Marginal Pricing", IEEE Smart Grid Newsletter, March 2012, <http://smartgrid.ieee.org/march-2012>
- C11 R. Tabors, G. Parker, P. Centolela, M. Caramanis "White Paper on Developing Competitive Electricity Markets and Pricing Structures" Prepared for NYSERDA and NYS Department of Public Service, April 2016. accessible at <http://www.bu.edu/pcms/caramanis/NYPSC%20TCR%20WhitepaperApril2016.pdf>

In Progress/under review:

- M. Caramanis "Multiple Time Scale Decomposition in the Production Planning of Stochastic Manufacturing Supply Chain Systems", Boston University, Department of Manufacturing Engineering, Working Paper.
- M. C. Caramanis, J. Wang, I. C. Paschalidis "Enhanced Fluid Approximation Models Discrete Part Dynamics while Enabling Efficient Monte Carlo Simulation-based I.P.A" CISE Technical Report, Spring 2003.
- M. C. Caramanis, J. Wang, I. C. Paschalidis "Enhanced Stochastic Fluid Approximation Tracks Discrete Part Dynamics with Remarkable Accuracy and Allows I.P.A Estimation" Under review, submitted for publication.
- Michael C. Caramanis, Evgeniy Goldis, Pablo A. Ruiz, and Alexandr Rudkevich, "Strategic Bidding in Day Ahead Power Markets: Stability of Resulting Hierarchical Game and Divergence from Social Optimality" to be Submitted to IEEE TPS, 2014
- E. Bilgin and M. Caramanis "Load-Side Fast Reserve Provisioning in the Hour-Ahead Power Markets" submitted for publication in IEEE Transactions on Power Systems. 2016

- Bowen Zhang, Michael C. Caramanis, and John Baillicul “Optimal Provision of Distributed Reserves Under Dynamic Energy Service Preferences” Submitted to IEEE Transactions on AC, 2016
- R. Chen, I. C. Paschalidis, and M. C. Caramanis, “Strategic Equilibrium Bidding for Electricity Suppliers in A Day-Ahead Market Using Inverse Optimization”, Submitted to the 2017 CDC
- F. S. Yanikara, E. Goldis, and M. Caramanis, “ Strategic Behavior In Energy And Reserve Co-Optimizing T&D Markets With Ev Participants”, Submitted to the 2017 CDC

Books:

F. Schweppe, M. Caramanis, R. Tabors and R. Bohn, Spot Pricing of Electricity. Kluwer Academic Publishers, 355 pages. First Edition 1988, Second Edition 1995.

Ph.D. Theses Supervised as Major Advisor:

- George Liberopoulos “Flow Control of Failure Prone Manufacturing Systems: Controller Design Theory and Applications”, Ph.D. Thesis in Manufacturing Engineering, Boston University, 1993. Currently Professor of Production Systems, and department chair, University of Thessaly, Greece
- Junjie Hu, “Optimal and Near Optimal Set-Up Scheduling in Flow Control Problems”, Ph.D. Thesis in Manufacturing Engineering, Boston University, 1994.
- Kaan Egilmez “Continuous Approximation Models for Production Control of Manufacturing Systems” Ph.D. Thesis in Manufacturing Engineering, Boston University, 1997 (Co advised with Prof. Ali Sharifnia)
- Elizabeth Anne Lehrer “Continuous-Flow Controlled Distributed Scheduling Policies of Manufacturing Systems with Setups”, Ph.D. Thesis in Manufacturing Engineering, Boston University, 1997. (Co advised with Prof. Ali Sharifnia)
- Christos A. Kaskavelis “Integration of the Production Planning and Control Decision Process in Manufacturing Systems”, Ph.D. Thesis in Manufacturing Engineering, Boston University, 1998. Currently CEO of Velti inc. a multinational Information Technology corporation with offices in Boston, New York, London, Athens, and Istanbul.
- Irad Ben-Gal “Design of Experiments: An Information Theoretical Approach”, Ph.D. Thesis in Manufacturing Engineering, Boston University, 1999 (Co advised with Prof. Lev Levitan), Currently Professor of Industrial Engineering at Tel Aviv University, department editor of IIE Transactions on Quality and Reliability Engineering, Experimental Design & Process Optimization department.
- Osman Murat M. Anli, “Supply Chain Production Planning: Modeling Dynamic Lead Times and Efficient Inter-Cell Inventory Policies,” Ph.D. Thesis in Manufacturing Engineering, Boston University, Jan. 2004. Currently Professor of Production Engineering at Isik University, Istanbul.
- Haidong Pan, “Optimization of Manufacturing Supply Chains Incorporating Dynamic Lead Time and Lot Size Modeling,” Ph.D. Thesis in Manufacturing Engineering, Boston University, January 2004. Currently Hoodong Corporation, [www.hoodong.com](http://www.hoodong.com) a multinational corporation based in Beijing, P. R. China.
- Jun Wang, “Enhanced Stochastic Fluid Approximation Approaches for Accurate Performance Measurement and Efficient I.P.A. Estimation,” Ph.D. Thesis in Systems Engineering, Boston University, Dec. 2007.
- Chang Chen Wu, “Production Planning and Quality of Service Allocation across the Supply Chain in a Dynamic Lead Time Model,” Ph.D. Thesis in Systems Engineering, Boston University, May 2009.

-Justin M. Foster, “Control Systems In Power Markets: Demand Response, Transmission Topology Control, And Renewable Integration” Ph.D. Thesis, Boston University Division of Systems Engineering, May 2012. Recipient of College of Engineering Societal Impact Dissertation Award. Currently with Edison Mission.

-Enes Bilgin, “Participation of Distributed Loads in Power Markets that Co-Optimize Energy and Reserves” Ph.D. Thesis Boston University Division of Systems Engineering, May 2014. Currently with AMD, Austin TX.

-Evgeniy Goldis, “Topology Control Algorithms in Power Systems”, Thesis in Systems Engineering, Boston University Division of Systems Engineering, September 2015. Currently, with NEG, Boston, MA.

-Bowen Zhang, “Role of Control, Communication, and Markets in Smart Building Operation” Ph.D. Thesis in Systems Engineering, Boston University Division of Systems Engineering, September 2015. (Co supervised with John Baillieul) Currently with CES Cambridge MA.

-Hao Chen, “Improving Data Center Efficiency through Smart Grid Integration and Intelligent Analytics” Ph.D. Thesis in Electrical and Computer Engineering, September 2016. (Co supervised with Ayse Coskun) Currently with Amazon Web Services.

-Elli Ntakou, “Distribution Power Markets: Detailed Modeling and Tractable Algorithms” Ph.D. Thesis in Systems Engineering, January 2017. Currently with Energy Security Analysis Inc. (EASI), Wakefield, MA.